Voluntary entry into the value-added tax system

Bedeković, Mladena; Petrović, Sanja; Vidas, Ivana

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INTERDISCIPLINARY MANAGEMENT RESEARCH XVI
INTERDISZIPLINARE MANAGEMENTFORSCHUNG XVI

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Vorwort

Es ist uns ein Vergnügen, das Konferenzband "Interdisciplinary Management Research XVI/ Interdisziplinäre Managementforschung XVI" vorstellen zu können. Ein Buch aus dieser Reihe ist zum ersten Mal 2005 erschienen, als Resultat der Zusammenarbeit zwischen der Wirtschaftsfakultät in Osijek, Kroatien und der Hochschule Pforzheim, Deutschland, und insbesondere durch das Magisterstudium des Management. Die Zusammenarbeit der zwei genannten Partnerinstitutionen ist unter anderem durch jährliche wissenschaftliche Symposien gekennzeichnet, auf welchen interessante Themen aus verschiedenen Bereichen der Wirtschaft und des Managements vorgestellt und folglich in einem Band veröffentlicht werden. Jedes Jahr ziehen die wissenschaftlichen Symposien Akadamiker anderer kroatischer, sowie ausländischer Universitäten, einschließlich Deutschland, Ungarn, Polen, Rumänien, Slovenien, Montenegro, Bosnien und Herzegovina, Serbien, Indien, Irland, Czechien, Island, Israel, Italien, Sudafrica, Kanada, Litauen, Kosovo, Türkei, Belgien, Schweiz, USA, Slowakei, Schweden, Dänemark, Mazedonien, Mexico, Zypern und Großbritannien an, die ihren wissenschaftlichen und profesionellen Beitrag zur Diskussion über zeitgenössische Fragen aus dem Bereich des Managements leisten. Die Aktualität der behandelten Fragen, der internationale Charakter im Hinblick auf Themen und Autoren, die höchsten Standards der Forschungsmethodologie sowie die Kontinuität dieser Konferenzreihe wurden auch von der internationalen akademischen Gemeinde erkannt, weswegen sie auch in internationalen Datenbanken, wie Clarivate Web of Science, Thomson ISI, RePEc, EconPapers und Socionet, zu finden ist.

Die neueste Ausgabe von "Interdisciplinary Management Research XVI/ Interdisziplinäre Managementforschung XVI" umfasst 100 Arbeiten geschrieben von 244 Autoren. Der Erfolg früherer Ausgaben ging über die Grenzen der Länder hinaus, deren Autoren schon traditionell Teil der Reihe waren. Jedes der Autoren leistete einen bedeutenden Beitrag zu diesem fachübergreifenden Managementforum.

Als Herausgeber dieses Bandes hoffen wir, dass diese Reihe auch weiterhin Akademiker und Profesionelle dazu bewegen wird, in Forschung und Beruf die höchsten Standards zu beanspruchen, und dass es weiterhin als Ansporn zu weiteren Formen von Zusammenarbeit unter Teilnehmern dieses Projektes dienen wird.

Dražen Barković, professor emeritus
Prof. Dr. Bodo Runzheimer

Foreword

It is our pleasure to introduce the book "Interdisciplinary Management Research XVI/ Interdisziplinäre Managementforschung XVI" to you. The first volume appeared in 2005 as a result of co-operation between the Faculty of Economics in Osijek (Croatia) and Pforzheim University (Germany), particularly through the postgraduate programme "Management". The co-operation between these partnering institutions has been nurtured, amongst else, through annual scientific colloquiums at which interesting topics in various fields of economics and management have been presented and later published in the proceedings. Over the years, the scientific colloquiums have drawn the attention of academic scholars from other Croatian universities, as well as from other countries including Australia, Germany, Hungary, Poland, Romania, Slovenia, Montenegro, Bosnia and Herzegovina, Serbia, India, Ireland, Czech Republic, Iceland, Israel, Italy, South Africa, Canada, Lithuania, Kosovo, Turkey, Belgium, Switzerland, USA, Slovakia, Sweden, Denmark, Macedonia, Mexico, Cyprus and the United Kingdom each making a contribution in academic and professional discussion about contemporary management issues. Actuality and importance of the issues discussed, the international character of the book in terms of authors and topics, the highest standards of research methodology and continuity in publishing have been recognized by the international academic community, resulting in the book of proceedings being indexed in world-known data bases such as Clariavate Web of Science, Thomson ISI, RePEc, EconPapers, and Socionet.
The latest edition, i.e. ""Interdisciplinary Management Research XVI/ Interdisziplinäre Managementforschung XVI" encompasses 100 papers written by 244 authors. The success of former editions has echoed beyond the traditionally participative countries and authors.

As editors we hope that this book will continue to encourage academic scholars and professionals to pursue excellence in their work and research, and to provide an incentive for developing various forms of co-operation among all involved in this project.

Dražen Barković, professor emeritus
Prof. Dr. Bodo Runzheimer

GENERAL MANAGEMENT

POLICE MANAGERS' LEADERSHIP STYLES – TASK-ORIENTED OR PEOPLE-ORIENTED LEADERSHIP?

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Abstract

The purpose of management is to achieve organizational goals optimally. That is primarily realized through adequate interaction between managers (leaders) and executors (followers). Leadership and following depend on several factors, primarily on managers' and executors' qualities, manner of internal communication within the organization, but most certainly on leadership styles used by managers (leaders). Regarding the latter, empirical research was conducted to determine police officers' perceptions of police managers' leadership styles. The research instrument used was the Leadership Self-Assessment Questionnaire (R. Blake and J. Mouton). *This instrument measured two dimensions of leadership* – task orientation and people orientation. *Research results were presented in a matrix* – managerial grid. *The grid consists of four quadrants, each representing one of the typical leadership styles. On this occasion, the above-mentioned questionnaire was used oppositely, i.e., it did not examine police managers' perceptions and self-assessment, but police officers (followers) were questioned about the police managers' leadership styles. The questionnaire aimed to get a bigger picture of the police managers' leadership styles, not the leadership style of a specific (individual) manager. Respondents were police officers – students of the specialist graduate professional study program of Criminal Investigation at the Police College in Zagreb. 54 respondents participated in the questionnaire. Research results showed that there is a perception of the prevailing presence of an indolent (reduced) leadership style of police managers* (Impoverished Leader), *characterized by their relatively low concern for both people and tasks. The level of representation of other leadership styles from the managerial grid* (Authoritarian Leader, Country Club Leader, and Team Leader) *in respondents' perceptions* *is insignificant. Improving the leadership capacities of managers in the police is of great importance. It can be achieved, primarily, through processes of selection and education of police managers. This research is specific (inverse) and limited in character, but its results may be a relevant basis for conducting further research on leadership and management issues in the police.*

Keywords: *police managers, leadership styles, managerial grid, police officers' perception*

JEL Classification: J53, M10

1. INTRODUCTION

The police provide protection services to citizens. Providers of this service are police officers, who transfer protection services to citizens personally and directly. The functioning of "service-oriented" organizations depends primarily on the characteristics and performance of their employees. All employees are important for meeting organizational goals. However, employees have different roles and responsibilities in organizations. Employees in organizations are usually classified into two basic categories: executives and executors. Logically, such a classification of human resources is also present in the police organization in an explicit manner.

Based on the Police Act (Article 43), positions of police officers in the Ministry of the Interior of the Republic of Croatia are classified into *three categories*, namely: 1. executive police officers, 2. senior police officers, 3. junior police officers. More details on this categorization are contained in the *Regulation on Classification of Positions of Police Officers*.

The functionality of human resources in organizations largely depends on the management of these organizations. The purpose of management is to achieve organizational goals by appropriately engaging its human and material resources. Police managers are responsible for achieving the organizational goals of the police organization. Managerial responsibility is manifested through the prism of the five fundamental functions of management that they perform. In addition to the realization of the other four fundamental functions of management (*planning, organizing, human resource management, controlling*), police managers have a special responsibility for the implementation of the *leading* function. This function of management has a distinct interpersonal character, and the intensity and quality of engagement of police officers (subordinate to managers) largely depend on it.

The essence of leadership is following, i.e. the willingness of people to follow and observe what they were told or ordered by its leaders. Leadership can be defined as a sort of influence on people, in a way that they try to complete the tasks set by the leader eagerly and enthusiastically. Therefore, leadership is the art of influencing people, so that they strive to achieve the organizational goals willingly and enthusiastically (Sikavica, Bahtijarević-Šiber, Pološki Vokić 2008: 459, 462).

Leadership is determined by the following three key factors: manager, employees and organizational goals. Leadership skills imply the aspirations of managers to combine these factors optimally. Leadership also depends on managers' qualities. Leadership qualities are highly expressed in some managers, some managers possess fewer leadership qualities, while the rest of them possess almost none. Not every manager possesses leadership skills. The ideal situation is when the same person is both a good manager and a good leader.

In addition to their qualities, behavior, manners, and attitude towards subordinate employees are also important characteristics of managers. Characteristic behavior patterns of managers in achieving leadership functions are called *leadership styles*. Extreme leadership styles, opposite to one another, are *autocratic* and *democratic*. They are not acceptable in general, except for certain situations and circumstances. A balanced approach to leadership, coherence, balance, i.e. any moderate approach is usually considered desirable, realistic and acceptable.

The same applies when leadership is considered through the prism of the other two leadership style extremes: exclusive *task orientation* or *people orientation*. Leadership styles which include a pronounced imbalance between these two focuses are not good. Favoring one focus at the expense of another has a detrimental effect on the organization and its functionality in the long term.

When it comes to leadership styles of police managers regarding the intensity of their orientation on tasks and people, a survey was conducted using a questionnaire. Respondents were police officers – students of the specialist graduate professional study program of Criminal Investigation at the Police College in Zagreb. 54 respondents participated in the questionnaire. The research instrument used was the Leadership Self-Assessment Questionnaire (*authors: R. Blake and J. Mouton; Source: Boston University - Medical Campus - Faculty De-*

velopment & Diversity website), which measured two dimensions of leadership - task orientation and people orientation. On this occasion, the above-mentioned questionnaire was used oppositely, i.e., it did not examine police managers' perceptions and self-assessment, but police officers were questioned about the police managers' leadership styles.

Leadership is an extremely personal (individual, personalized) dimension of management. It includes interaction between differently classified people in an organization. The purpose of the interaction is to achieve organizational goals optimally. Interaction largely depends on the leadership styles of police managers and behavior patterns of police officers. People are subjects and objects of leadership and overall management.

2. RESEARCH METHODS

The conducted research is empirical, with an underlying theoretical context. It is based on data collected by a survey using a survey questionnaire. The basic technical (methodological) characteristic of this research is the reverse use of a standard questionnaire on leadership issues and leadership styles. Such a creative innovation or experiment in research conducting, due to a lack of the standardized paradigm, may in some sense represent a limitation or weakness of this research. Such an approach to research, on the other hand, may open new heuristic horizons in understanding leadership issues. The same research object (leadership), using the same instrument (Blake and Mouton questionnaire), is perceived oppositely – from followers' (police officers) point of view, and not through leaders' (police managers) self-assessment. Reverse manner of using the questionnaire is by no means a substitute for its original and standard use. Research results may only have additional (not primary or original) cognitive value about leadership as a research issue.

2.1. Sample

54 respondents participated in the questionnaire. Respondents were police officers – 2nd-year students of the specialist graduate professional study program of Criminal Investigation at the Police Academy, Police College in Zagreb.

In the questionnaire, they provided a few of their demographic characteristics that could be relevant regarding their opinions/attitudes expressed concerning the researched issues. The indicated characteristics of respondents are shown in Table 1.

Table 1. Demographic data of respondents

Demographic data (N=54)		N	%
Sex	Male	32	61.5
	Female	20	38.5
Age	Under 25	-	-
	25 – 30	14	25.9
	30 – 35	27	50.0
	35 – 40	7	13.0
	40 and above	6	11.1
Organizational unit – level	Police station	44	81.5
	Police administration	3	5.6
	Ministry of the Interior of the Republic of Croatia – General Police Directorate	7	13.0
Category of police administration	1st category	14	29.8
	2nd category	8	17.0
	3rd category	12	25.5
	4th category	13	27.7
Type of police station	Regular	15	34.9
	Combined	17	39.5
	Specialized	11	25.6
Category of police station	1st category	17	39.5
	2nd category	14	32.6
	3rd category	12	27.9
Years of service in the police	Up to 5 years	3	5.6
	From 5 to 10 years	22	40.7
	From 10 to 15 years	21	38.9
	From 15 to 20 years	3	5.6
	20 years and more	5	9.3
Current position category	Executive	8	14.8
	Officer	46	85.2
Years of service at executive positions in the police	Nothing	44	83.0
	Up to 1 year	2	3.8
	From 1 to 3 years	3	5.7
	From 3 to 7 years	4	7.5
	7 years and more	-	-

Source: Authors' data

The sex structure of respondents in the sample showed a significant overrepresentation of women and the underrepresentation of men in this research. In fact, according to the data from the Annual Report on the Work of the Ministry of the Interior for 2018 (p. 168), as at 31 December 2017, there were 18.3% of women (38.5% in the sample) and 81.7% of men (61.5% in the sample) in the structure of police officers.

The age structure of respondents showed that their prevailing age was between 30 and 35, while the average age of respondents in the sample was M = 33. The average age of respondents is significantly lower than the average age of the total population of police officers employed with the Ministry of the Interior, which, according to the Annual Report, as of 31 December 2017, was 40.3.

Respondents were predominantly employed at *the lowest hierarchical level* of the police organization (81.5% of them are police station employees). They came from all *four categories of police administrations*. They also came from *all three categories of police stations* (mostly from the first category) and all *three types of police stations* (mostly from combined stations).

The largest number of respondents came from the first category police administration (Zagreb County Police Administration). Concerning categories of police administrations in which the respondents were employed, we state that *the Police Act* (Article 10) stipulates that police administrations are established to perform police and other tasks in the territory Republic of Croatia. The area and headquarters of each police administration are determined by the Government of the Republic of Croatia using the regulation, based on indicators such as *the size of an area, population, number of criminal offenses and misdemeanors, characteristics of traffic routes, geographical position, and other significant safety indicators.* More details on this categorization are contained in the

Regulation on Areas, Headquarters, Types, and Categories of Police Administrations and Police Stations and also in the *Regulation on the Internal Organization of the Ministry of the Interior*.

The prevailing length of service spent in the police by the respondents in this survey was from 5 to 10 years and 10 to 15 years. The average length of service of respondents was M = 11.1 years. The above-mentioned years of the average length of service in the police indicate a relatively high level of relevance of opinions/attitudes expressed by respondents regarding the leadership styles of police managers.

The majority of respondents held executor (clerical, non-managerial) positions (85% of them), while a relatively small share of respondents in the sample held executive positions. Also, the majority of respondents did not have any work experience in executive positions in the police (83%), while others gained managerial experience mostly in a shorter period (up to 3 years).

2.2. Data collection method and instrument

The survey was conducted in the official police premises of the Ministry of the Interior, Police Academy, Police College in Zagreb, in January 2020, in classes held within the course Strategic Management.

The research was conducted using the *Questionnaire on Management in the Police – Police Managers' Leadership Styles*. The said questionnaire is a derived test instrument based on the platform and template of the original questionnaire – *The Blake and Mouton Managerial Grid - Leadership Self-Assessment Questionnaire (Source: Boston University - Medical Campus - Faculty Development & Diversity website)*. The used questionnaire consisted of an introductory and the main part. The introductory part provided informative contents – a brief description and purpose of the survey, an explanation of respondents' role and what was expected from them regarding the manner and approach to completing the questionnaire, the statement on the voluntariness of the survey, the guaranteed anonymity of respondents and the use of obtained data for the sole purpose of the scientific and research context.

The main part of the questionnaire consisted of two groups of questions: (a) demographic data of respondents, and (b) characteristics of police managers' leadership (18 statements).

The questionnaire used in this research is a sort of a derivative (custom version) of the original *Leadership Self-Assessment Questionnaire* (authors: Blake and Mouton). In this context and for transparency of conducted research, in the text below we stated the contents of both questionnaires *- the original and it's derivative*. The questionnaires consist of 18 statements about the behaviour and actions of managers. Respondents were asked to state their opinions on the *frequency of managers' behavior* described in each statement by selecting the appropriate intensity descriptor offered: 0-never, 1-rarely, 2-sometimes, 3-often, 4-very often and 5-always.

Please note that the main (essential) difference between the original and the derivative is that the original questionnaire examined the personal perceptions of police managers about their leadership styles (introspection or self-assessment), while the derivative questionnaire examined the police officers' perceptions of the leadership styles of police managers (on this occasion, the questionnaire was about the overall picture of leadership styles of police managers, not a leadership style of any particular/individual manager).

Original questionnaire

(*Leadership Self-Assessment Questionnaire*/authors: Blake and Mouton)

Statements:

1. I encourage my team to participate when it comes to decision-making time and I try to implement their ideas and suggestions.
2. Nothing is more important than accomplishing a goal or task.
3. I closely monitor the schedule to ensure a task or project will be completed on time.
4. I enjoy coaching people on new tasks and procedures.
5. The more challenging a task is, the more I enjoy it.
6. I encourage my employees to be creative about their job.
7. When seeing a complex task through to completion, I ensure that every detail is accounted for.
8. I find it easy to carry out several complicated tasks at the same time.
9. I enjoy reading articles, books, and journals about training, leadership, and psychology; and then putting what I have read into action.
10. When correcting mistakes, I do not worry about jeopardizing relationships.
11. I manage my time very efficiently.
12. I enjoy explaining the intricacies and details of a complex task or project to my employees.
13. Breaking large projects into small manageable tasks is second nature to me.
14. Nothing is more important than building a great team.
15. I enjoy analyzing problems.
16. I honor other people's boundaries.
17. Counseling my employees to improve their performance or behavior is second nature to me

18. I enjoy reading articles, books, and trade journals about my profession; and then implementing the new procedures I have learned.

Derived questionnaire

(a derivative of the original questionnaire used in this research)

Statements:

1. Police executives encourage their team to participate when it comes to decision-making time and they try to implement their ideas and suggestions.
2. Police executives act and behave as nothing is more important than accomplishing a goal or task.
3. Police executives closely monitor the schedule to ensure tasks or projects will be completed in time.
4. Police executives enjoy coaching other people (partners and employees) on new tasks and procedures.
5. The more challenging a task is, the more police executives enjoy it.
6. Police executives encourage their employees to be creative about their job.
7. When seeing a complex issue (task) through to completion, police executives ensure that every detail is accounted for.
8. Police executives easily carry out several complicated tasks (projects) at the same time.
9. Police executives enjoy reading articles, books, and journals about training, leadership, and psychology; and then putting what they have read into action.
10. When correcting mistakes, police executives do not worry about how employees will react to their objections or comments and they do not worry about jeopardizing relationships.
11. Police executives manage their time very efficiently.
12. Police executives enjoy explaining the intricacies and details of complex tasks or projects to their employees.
13. Breaking large projects into small manageable tasks is second nature to police executives.

14. Nothing is more important to police executives than building a great team.
15. Police executives enjoy analyzing problems, situations, and events.
16. Police executives honor other people's boundaries (constraints, limits) and take into account other people's capabilities in their engagement.
17. Counseling their employees to improve their performance or behavior is second nature to police executives.
18. Police executives enjoy reading articles, books, and journals about their profession; and then implementing the new procedures they have learned.

2.3. Statistical analysis methods

Data collected through empirical research were processed using statistical software for sociological research – SPSS 17 (Statistical Package for the Social Sciences) and Microsoft Excel. Obtained data were analyzed using descriptive statistical procedures (frequencies, percentages, mean values, ranks).

The main model of mathematical and statistical analysis in this research depended on the platform and rules of the original questionnaire – *Blake and Mouton Managerial Grid - Leadership Self-Assessment Questionnaire* (*Source: Boston University - Medical Campus - Faculty Development & Diversity website*). It consisted of the following three components:

(a) Classification of respondents' answers into two groups according to the numbers of questions (statements) in the questionnaire. The first group of questions was "people-oriented" and it included nine questions with the following numbers: 1, 4, 6, 9, 10, 12, 14, 16 and 17. The second group of questions was "task-oriented" and it covered the remaining nine questions with the following numbers: 2, 3, 5, 7, 8, 11, 13, 15 and 18.

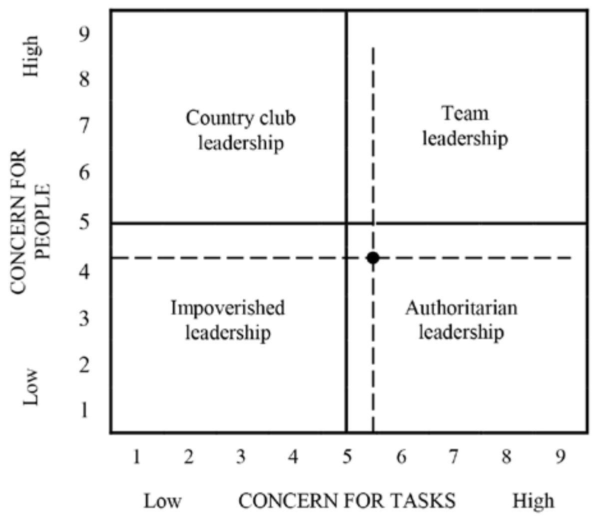
(b) Adding up the values of respondents' answers in a series or set of questions from the first, "people-oriented", group and then multiplying the sum by a coefficient of 0.2 to obtain the final result. The same operations were performed for the questions from the second, "task-oriented", group and the final result was obtained.

(c) Entering (filling in, listing) the final results into a matrix ("managerial grid"), consisting of two dimensions - horizontal (where final task-oriented results are entered) and vertical (where final people-oriented results are entered).

In 1969, R. R. Blake and J. S. Mouton developed the managerial grid which is based on two dimensions, the combinations of which generate different leadership styles. Since 1991, the authors have called this grid the leadership grid (Blake and Mouton, according to Donelly, Gibson, Ivancevich, according to Sikavica, Bahtijarević-Šiber, Pološki Vokić 2008: 493).

The point is to draw a vertical line toward the top of the matrix from a certain point on the horizontal axis, i.e. the point (value) that represents the final result of "managers' task orientation". Also, a horizontal line is to be drawn toward the right edge of the matrix from a certain point on the vertical axis, i.e. the point (value) that represents the final result of "managers' people orientation". The intersection of these two lines represent to which of the four extreme leadership styles, symbolized by four different quadrants in the matrix, the manager's leadership style belongs: Authoritarian Leader, Country Club Leader, Impoverished Leader, and Team Leader (see Figure 1.)

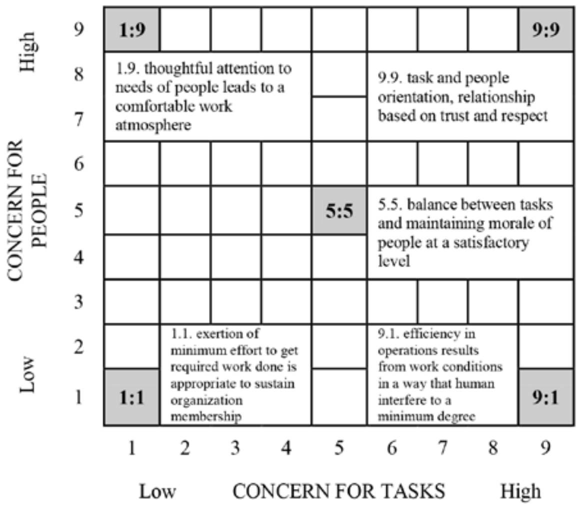
Figure 1. Leadership grid (managerial grid) – 4 quadrants



Source: Blake and Mouton Managerial Grid - Leadership Self-Assessment Questionnaire (Boston University - Medical Campus - Faculty Development & Diversity website)

A closer look and development of the leadership grid (managerial grid) shows that it consists of 9 rows and 9 columns, or a total of 81 fields (9 x 9), representing different categories of the four basic leadership styles (indicated by quadrants in the matrix). See Figure 2.

Figure 2. Leadership grid (managerial grid) – 81 fields



Source: Blake, Mouton, according to Koontz, Weihrich, according to Sikavica, Bahtijarević-Šiber, Pološki Vokić 2008:494.

3. RESULTS AND DISCUSSION

The main part of the research instrument - questionnaire, as indicated earlier, dealt with collecting respondents' opinions/attitudes toward certain specific aspects of managerial leadership behavior. The questionnaire consisted of 18 statements on behavior and actions of managers, about which the respondents should state their opinions on the frequency of managers' actions in a way described by each statement. They expressed their opinions by selecting the appropriate intensity descriptor offered for every behavior as follows: 0-never, 1-rarely, 2-sometimes, 3-often, 4-very often and 5-always.

Respondents' answers were processed using mathematical operations described in subsection 2.3. Statistical analysis methods. Summarized results are shown in Table 2. Legend: "people" column = sum of respondents' answers to questions: 1, 4, 6, 9, 10, 12, 14, 16, 17 (concern for people); "tasks" column = sum of respondents' answers to questions: 2, 3, 5, 7, 8, 11, 13, 15, 18 (concern for tasks).

The maximum number of points for one question is 5, for a group of questions (concern for people or concern for tasks) it is 45 (9 questions x 5 points) and the maximum possible final result for each group of questions is 9 (45 x 0.2).

Table 2. Results of surveying police officers' opinions on police managers' leadership styles

No.	People	People column x 0.2	Tasks	Tasks column x 0.2
1	9	*1,8*	15	*3*
2	20	*4*	22	*4,4*
3	15	*3*	16	*3,2*
4	18	*3,6*	17	*3,4*
5	25	*5*	29	*5,8*
6	14	*2,8*	16	*3,2*
7	10	*2*	11	*2,2*
8	11	*2,2*	15	*3*
9	12	*2,4*	13	*2,6*
10	13	*2,6*	15	*3*
11	17	*3,4*	17	*3,4*
12	13	*2,6*	16	*3,2*
13	13	*2,6*	14	*2,8*
14	5	*1*	10	*2*
15	14	*2,8*	17	*3,4*
16	11	*2,2*	16	*3,2*
17	18	*3,6*	20	*4*
18	8	*1,6*	17	*3,4*
19	13	*2,6*	11	*2,2*
20	24	*4,8*	16	*3,2*
21	16	*3,2*	23	*4,6*
22	30	*6*	25	*5*
23	19	*3,8*	24	*4,8*
24	17	*3,4*	14	*2,8*
25	14	*2,8*	13	*2,6*
26	19	*3,8*	15	*3*
27	20	*4*	20	*4*

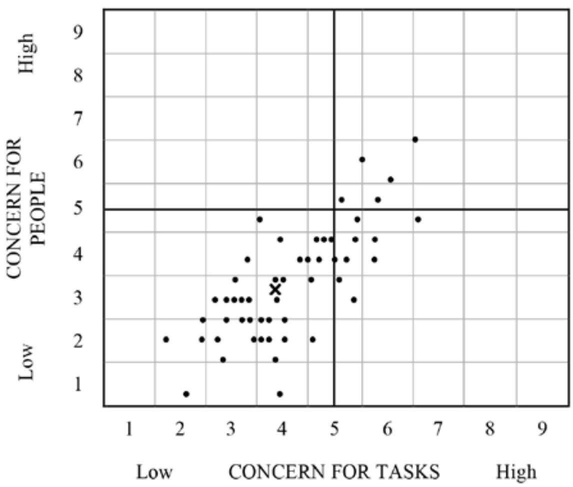
No.	People	People column x 0.2	Tasks	Tasks column x 0.2
28	22	*4,4*	21	*4,2*
29	20	*4*	21	*4,2*
30	14	*2,8*	13	*2,6*
31	25	*5*	26	*5,2*
32	24	*4,8*	25	*5*
33	10	*2*	20	*4*
34	14	*2,8*	13	*2,6*
35	18	*3,6*	23	*4,6*
36	28	*5,6*	27	*5,4*
37	27	*5,4*	23	*4,6*
38	18	*3,6*	23	*4,6*
39	21	*4,2*	25	*5*
40	15	*3*	15	*3*
41	15	*3*	12	*2,4*
42	10	*2*	14	*2,8*
43	19	*3,8*	26	*5,2*
44	22	*4,4*	18	*3,6*
45	8	*1,6*	11	*2,2*
46	17	*3,4*	17	*3,4*
47	10	*2*	12	*2,4*
48	19	*3,8*	19	*3,8*
49	33	*6,6*	29	*5,8*
50	10	*2*	6	*1,2*
51	23	*4,6*	20	*4*
52	5	*1*	18	*3,6*
53	22	*4,4*	21	*4,2*
54	23	*4,6*	24	*4,8*
Mean		3,4		3,6

Source: Authors' data

The table shows that the values of the final results of managerial "concern for people" range from 1 to 6.6, while the values of the final results of managerial "concern for tasks" range from 1.2 to 5.8. The average value of the final results of "concern for people" is 3.4, while that of "concern for tasks" is 3.6.

All combinations of individual values (final results) obtained in each of 54 questionnaires, as well as the average values of the entire sample of respondents, are shown in Figure 3 (illustration). Final results of "concern for people" are shown on the vertical axis (ordinate), while the final results of "concern for tasks" are shown on the horizontal axis (abscissa). Individual final results are indicated by dots (•), while the average final result is indicated by a cross (×).

Figure 3. Police managers' leadership grip – results of police officers' opinion survey



Source: Authors' data

Survey results showed that the vast majority of police officers, whose opinions were surveyed, found that police managers' leadership style corresponds to characteristics of the "impoverished leadership". That means that in the realization of their leadership function, police managers behave in a way that shows low concern for people and tasks.

Opinions of one part of respondents were directed toward a central position in the managerial grid (leadership grid), which implies that a specific group of respondents found that police managers exercise a balanced approach to leadership. Such an approach includes a sufficient level of intensity of managerial concern for both people and tasks.

More detailed differentiation of results obtained by this research is presented below. Differentiation is based on the following: a) redefining the set limits (dimensions) of the four fundamental quadrants of the managerial grid, b) forming the fifth (central) quadrant.

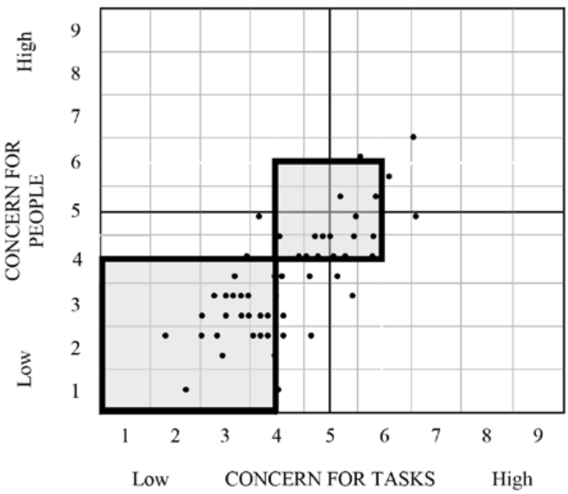
For example, the “impoverished leadership” quadrant can be narrowed down on both sides to include results with values from 1 to 4 (instead of 1 to 5). In this way, it will include all those cases in which the values of the two observed variables (concern for people and concern for tasks) fall within the indicated range. The other three quadrants can be narrowed down using the same model. Consequently, the fifth quadrant will be formed, which can be called “middle-of-the-road leadership” and which will include all those cases with the values of both variables ranging, for example, from 4 to 6. Results of the relevant research in such a redefined managerial grid (leadership grid) are shown in Table 3 and Figure 4.

Table 3. Results of police officers’ opinion survey - impoverished leadership and middle-of-the-road leadership

Leadership style	Number of cases	%
Impoverished leadership	33	61
Middle-of-the-road leadership	13	24
Other leadership styles	8	15
Total	54	100

Source: Authors’ data

Figure 4. Redefined police managers’ leadership grid – impoverished leadership and middle-of-the-road leadership



Source: Authors’ data

It is evident that even in the case of this redefined managerial grid (leadership grid), according to respondents' perceptions, the impoverished leadership style was prevalent in the population of police managers (61%). An encouraging piece of information was the relatively significant presence of the middle-of-the-road leadership style (24%). Other leadership styles were not significantly represented. Team leadership is an ideal that is difficult to achieve, but it should be pursued.

The most desirable place for a leader to be along the two axes at most times would be a 9 on task and a 9 on people -- the team leader. However, do not entirely dismiss the other three. Certain situations might call for one of the other three to be used at times. For example, by playing an impoverished leader, you allow your team to gain self-reliance. Be an authoritarian leader to instill a sense of discipline in an unmotivated worker. By carefully studying the situation and the forces affecting it, you will know at what points along the axis you need to be to achieve the desired result (*Blake and Mouton Managerial Grid - Leadership Self-Assessment Questionnaire*).

For a direct comparison of results, it would be useful in future research to carry out a survey based on specific managers' self-assessment of their leadership style (original questionnaire) and their subordinate police officers' assessment of the leadership of their specific manager (original questionnaire derivative).

About the results of this research, it is interesting to show and rank the average values for each of eighteen characteristics (behaviors) of managers included in statements of the relevant (derived) questionnaire.

The most common behaviors (characteristics) of police managers, according to police officers, were "When correcting mistakes, they do not worry about jeopardizing relationships with their employees." (M = 3.06 / 3 = often) (people orientation), "They closely monitor activities to ensure they will be completed in time." (M = 2.98) (task orientation) and "Nothing is more important for them than accomplishing results/goals." (M = 2.85) (task orientation). The least frequent behaviors (characteristics) of police managers were "They enjoy reading publications about leadership and then putting what they have read into action." (M = 1.15 / 1 = rarely) (people orientation), "They enjoy reading publications about their profession and then implementing what they have learned." (M = 1.33) and "The more challenging a task is, the more they enjoy it." (M = 1.52) (task orientation).

About the above-mentioned, it can be concluded that police managers act authoritatively in their relationship with police officers (using the formal powers arising from their function) and are not inclined to "work on themselves" in terms of expanding their leadership capacities by studying professional publications. The results also showed they are more focused on deadlines and results and that they lack self-education about their profession, which limits their capacities of coping with complex tasks they have to solve in a relaxing and affirmative manner.

Improving leadership skills in police management structures is necessary. There are two fundamental instruments for achieving the stated objective. The first instrument is *the selection of managers in the police system* and the second is *the education of police managers*. These instruments are analog and compatible with the fundamental leader and leadership theories.

All leadership theories can be reduced to three basic theories. According to the first theory, leaders are "born", not "made". It is believed that people are born with leadership traits and that some people are predetermined to become leaders. The second theory is "behavioral". It is believed that leadership skills can be taught and learned by exploring common elements in successful leaders' behaviors. The third theory is "situational". Leaders' behavior depends on situations that can change and there is no unique leadership style that would fit all situations (Sikavica, Bahtijarević-Šiber 2004:26).

3.1. Selection of managers in the police system

The Police Act regulates the selection of police executives under Chapter 9 "Appointment and Dismissal of Executive Police Officers" (Article 58-62). Job vacancies for executive police officers (police managers) are announced through *public vacancies* (General Police Director) or *internal vacancies* (other executives). The Ministry of the Interior announces public and internal vacancies by previously indicated provisions of *the Police Act* and based on *the Ordinance on the Internal Order of the Ministry of the Interior.* This Ordinance generally includes a description of tasks performed by police officers at certain positions, the required level, and type of qualifications for each position, the required police officer's traineeship and a basic salary coefficient for a certain position. Techniques, mechanisms and rules for the implementation of competition are regulated by *the Regulation on Announcing and Conducting a Public Competition and Civil Service Internal Advertisement*.

Candidates applying for internal advertisements or public competition must: *(a) meet the formal conditions* (application, CV, certificate on level of education, work experience, police profession), (b) *take the test* (assessment of knowledge, abilities, and skills) and (c) *attend an interview* (identification of interests, professional goals, motivation for work, work experience and results of work done so far).

The selection of managers in the police system is carried out in a bureaucratic manner. Contents of the procedure are insufficient and irrelevant; e.g. candidates' leadership skills and developmental potentials in terms of leadership are not tested, identified or evaluated at all. The selection procedure is carried out in a technically correct manner, satisfying the form generally stipulated by the provisions of valid legal regulations. The anomalies to be selected as the most important among other anomalies in the procedures of a selection of managers are the following: a) discretionary decision-making in the final selection of candidates from the rankings at the end of the procedure, and b) targeted and *a priori* adjustment of selection conditions referred to in the legal regulations to personal characteristics of individual candidates (e.g. adjustment of provisions related to the required scientific area in which the person has acquired university qualifications or provisions related to the length of service that the person has previously acquired in managerial positions).

The existing manager selection system needs to be improved by eliminating its anomalies and introducing more sophisticated methods.

3.2. Education of managers in the police system

Regarding the education of police officers in the field of management, two bylaws are particularly relevant: *Ordinance on Education of Police Officers* and *Regulation on Classification of Positions of Police Officers*.

Ordinance on Education of Police Officers (Article 2) stipulates that the Police Officers Education Plan shall be drawn up for each calendar year and it shall consist of three parts: (1) Plan of education, specialization, professional training and training conducted by the Ministry for police officers' needs, (2) Plan of conferences, symposia, fairs and professional meetings held outside the Ministry in the Republic of Croatia and abroad, to which police officers are referred by the Ministry; and (3) Plan of meetings held by individual work divisions for their own needs.

As a rule, during the recent period, all of these forms of education did not include education in leadership or management in general. Exceptions are possible, but they are rare and random; there is no systematic approach to educating police managers.

Regulation on Classification of Positions of Police Officers (Article 7-10) stipulates that police officers interested in executive positions must meet specific criteria (standard criteria), including "education". Following the above-mentioned, for example, officers interested in positions in the category of *chief executives* and *senior executives* must have completed a *high-level* training program for the performance of tasks of executive police officers.

The relevant training programs for the performance of executive police tasks have not been conducted for many years. The performance of programs for middle- and lower-level management has begun recently. It is a good thing that education for managers has begun after a relatively long period, however, the content, performance, and results of the currently implemented training program are still "questionable". Their character is more formal and general, and less substantive and systematic.

Leadership skills of police managers (leaders) - other than "genetic" predispositions - can and should be made, built and improved by a well-designed educational program, which should be conducted continuously in a meaningful, targeted and systematic manner.

Operational police managers (heads of police stations) who participated in the research carried out in 2018, also recognized leadership as a trait of managers in the context of management success as a *highly important variable*. 67 out of 106 (64.5%) police managers expressed such opinions on leadership (M = 5.62, min = 1, max = 7), which was described in the questionnaire as *success in assuring the acceptance of ideas and leading groups and individuals in achieving tasks and goals* (Orlović, 2019: 244). In the same year, a survey was conducted on the qualitative level of fundamental functions of management in the police with police officers as respondents. When it comes to police officers' perception, leading as a function of management in the police service is at a very poor (unsatisfactory) level (M = 1.69, min = 1, max = 5). From the police officers' point of view, a lack of knowledge, abilities, and skills related to leadership is evident in the case of police managers (Orlović, 2018: 297).

4. CONCLUSION

The role of managers in organizations is to set and achieve organizational goals. Managers fulfill their role by performing fundamental functions of management, including also the leading function. Leadership success also depends on leadership styles. Conducted research aimed to determine the police officers' perceptions of the leadership styles of police managers and, in the context of obtained results, initiate further research of the relevant matter to affirm, improve and develop leadership functions in the police management structures. The research instrument used was a derived *Leadership Self-Assessment Questionnaire (R. Blake and J. Mouton)*. Research results were presented (visually) in the managerial or leadership grid quadrants. In this research, the results were presented and analyzed in two versions of the above-mentioned grid. In the first version of the leadership grid, research results showed that, according to the police officers' perceptions, police managers predominantly practice impoverished leadership style (relatively low concern of managers for people and tasks). The other three leadership styles (Authoritarian Leader, Country Club Leader, and Team Leader) were only slightly represented. In the second version of result analysis, the revised leadership grid, with the fifth quadrant included in its center (middle-of-the-road leadership: balanced concern of managers for people and tasks), showed relatively encouraging research results as the perception of such (acceptable) leadership style of police managers was expressed by a quarter of respondents.

This research, as well as its results, is limited. Nevertheless, it can be stated that obtained results are indicative and that the necessity of improving the leadership capacities of police managers is undisputable. In this sense, the human resource management system in the police organization plays a key role, within which two key directions or areas of activity are pointed out: the first is *the selection of managers in the police system (transparent, systematic and fair procedure)* and the second is *the (permanent) education of police managers (formal, informal)*. All functions of management, especially leading or leadership, need to be surveyed from both relevant points of view: from the leader's (manager's) point of view and the executor's (officer's) point of view. The point is to approach the issues comprehensively and to understand them in their entirety. Expert and scientific research of leadership issues in the police forces can be a good basis for its better understanding by managers and executors, and thus for improvement of the leadership-managerial paradigm in the police practice. The related research also can and should be an appropriate basis for human resource management to make appropriate decisions about the improvement of police management and, thus the functioning of the police organization.

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EMPLOYEE STOCK OWNERSHIP AND AGENCY THEORY PROBLEM

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Abstract

Company management is permeated with relationship problems between the management and company owners and they are reflected in the conflict of interest of the mentioned interest groups. The agency theory, which emphasizes the conflict of interest in these two groups, explains this relationship quite well. In the context of ESOP and other forms of employee stock ownership, workers become owners of the company and are entitled to participate in net profit and decision-making processes on various business levels. This causes a shift in the traditional relationship between workers, management, and owners, resulting in the higher motivation of workers and identification with the owners' goals. In that sense, employee stock ownership is also a management strategy of a company, directed at optimal problem solving of issues in the relationship of business principals and their agents. The paper analyses the impact of ESOP and other forms of employee stock ownership implementation on solving problems defined by the agency theory.

Keywords: *Agency theory, employee stock ownership, ESOP*

JEL Classification: J54

1. INTRODUCTION

According to the agency theory, the organisational scheme of business activities with the lowest agency expenses is the one where company management is also its 100% owner. Agency problems arise when company management is not the owner, which may lead to a conflict of interests between the owner and the management (Welbourne & Cyr, 1999).

To overcome the problem highlighted by agency theory, company owners tend to include executive management in the company's ownership structure.

When reviewing the business organization and activities, it becomes evident that the company's existence is based on the trichotomy of interests split into management, owner and employees.

This paper investigates a specific shift within the context of the problem highlighted by the agency theory caused by the implementation of ESOP and various forms of employee stock ownership.

2. EMPLOYEE STOCK OWNERSHIP

The forms of employee stock ownership include a vast spectrum of employees included in the ownership structure of the employer, ranging from employee stock ownership as a form of financial participation in business results of the employer directed at stimulating executive and upper management as well as key employees to companies owned 100% by employees.

Because of the implementing form, *e.g.* implementation model and plans resulting in employees' inclusion in the ownership structure of a company they are employed in, the following basic forms of employee stock ownership can be identified:

1. direct and free-of-charge stock distribution, commonly related to income paid to employees in stocks,
2. stock purchase based on conditions more favorable than the market ones; mainly related to the result of business activities with the difference in market price paid from other sources of the employer,
3. stock options which allow employees to purchase a certain quantity of stocks at a fixed price for a set period,

4. SAYE - Save As You Earn, ESPP – Employee Stock Purchase Plans – saving plans to purchase stocks mainly under conditions more favorable than those on the market,
5. ESOP (Employee Stock Ownership Plan) – a special form of employee stock ownership developed in the USA, implemented through the trust to which the company transfers stocks and assets intended for purchasing stocks managed separately on the employees' accounts until they gain full rights for managing the assigned stocks.

Despite different factual forms of employee participation in business activities results, the focus of this paper is directed at the following forms:

- internal (based on the level of the company)
- collective (available to every employee or the majority of them in the company),
- continuous (continuous implementation),
- forms depending on business results (directly or indirectly).[1]

Comparative legal systems promote the development of employee stock ownership with numerous tax benefits. Some of the most significant ones are exemption from income tax on assigned stocks (partially or fully); exemption from tax on stocks and assets installed in the ESO scheme; exemption from tax on stock dividends in the ESOP trust; exemption from tax on saving interests intended for stock purchasing; exemption from tax on capital profit from the transfer of stock ownership to employees.

3. EMPLOYEE STOCK OWNERSHIP – GLOBAL TRENDS

Employee stock ownership plans have been widely present in developed economies of which many serve as role models for Croatia. In the USA, employee stock ownership plans have had significant progress in terms of legal regulations and tax incentives since the second half of the 20th century. They are

1 Although employees can enter the ownership structure in different ways, *i.e.* individual purchase of stocks by the employees, the focus of this paper is directed at the forms based on the foundations of collective and continuous implementation related to business results on company level. The mentioned distinctive features have been identified in the PEPPER report. See: Uvalić, M.(1991), p.11

also present in Europe, mainly in the countries of Anglo-Saxon legal tradition (UK, Ireland), and France, where the law prescribes certain mandatory forms of employee participation in the employer's business results.

Employee stock ownership plan (ESOP) has an important place in the USA where its implementation implies establishing trusts to which the company transfers stocks and assets intended for purchasing shares managed separately on the employees' accounts until they gain full rights for managing the assigned stocks.[2]

Based on the last available data for 2016, a total of 6,624 ESOPs have been implemented in the USA with total assets worth roughly 1.4 tln USD. Since the same company can implement several ESOPs at the same time, it is estimated that a total of 6,460 companies implemented these plans in 2016. ESOPs included 14.2 million employees – ESOP participants (National Centre for Employee Ownership, 2020).[3]

In the USA, the implementation of other ESOPs is widely distributed, *i.e.* Stock Options, Restricted Stock Options, 401(k) plans or Employee Stock Purchase Plans. Based on the General Social Survey from 2014 (National Center for Employee Ownership), a total of 22.9 million workers owned stocks in companies in the USA, which is 19.9% of the total workforce and 34.9% of those employed in joint-stock companies. An additional 8.5 million managed stock options, that is, 7.2% of the total workforce and 13.1% of the employed in joint-stock companies. A total number of workers in the USA territory, who own stocks in joint-stock companies based on the implementation of some of the plans of employee ownership, is estimated at 32 million.

The level of employee stock ownership in the EU is slightly lower compared to the USA, but it is constantly growing. The most elaborate surveys on employee stock ownership in the EU (2010 European Working Conditions Survey, 2010 CRANET, 2013 European Company Survey - ECS) point to con-

2 Employee stock ownership plan (ESOP) is a tax incentive pension plan of employee stock ownership in the USA designed by a Californian political economist, jurist, corporative and financial lawyer Louis Kelso. In the USA, ESOP has registered significant development since 1974, when the content of this ESOP was legally regulated on a federal level by the Employee Retirement Income Security Act (ERISA).

3 The last systematic data, collected and processed based on the data provided by the Department of Labour, which are collected mandatory through the implementation of ESO programme on a year level through the Form 5500 refer to 2016.

tinuous growth in employee stock ownership during 15 years preceding to the mentioned surveys, and all despite the economic and financial crisis. Based on the European Company Survey from 2013, the number of companies implementing ESOPs increased from 4.7% to 5.2% between 2009 and 2013.[4] Based on the data processed by the European Working Conditions Surveys (EWCS), implemented in 2005 and 2010, it has been confirmed that the number companies that had been implementing ESO plans increased from 2.3% to 3.3%.[5] CRANET Survey (Cranfield Network on International Human Resource Management), implemented in 2005 and 2010 show that the number of employee financial participation (EFP) increased from 17.7% to 19.9.[6]

The mentioned trends result from the focus, which is on the EU level directed at EFP in business activities results as well as other forms of employee stock ownership. The European Commission started a survey on Green Paper on Employee Participation from November 1975 (Green paper on employee participation and company structure of the European Community) and the Memorandum on Employee Participation in Asset Formation from August 1979 (Employee Participation in Asset Formation Memorandum by the Commission) which has been in the EC's focus since the first PEPPER report from 1991[7] and the Council Recommendation of July 27, 1992. In the meantime, three more PEPPER reports were published (PEPPER II 1997, PEPPER III 2006 and PEPPER IV 2009), and in 2012 the promotion of employee stock ownership was included in the EC's Action Plan to reform European company law and corporate governance, and it has also been taken into consideration within the framework of the European social model.

4 The mentioned research of the Eurofond Foundation is conducted in 30,000 companies in 30 European countries (country members and candidates). In total sample, big-sized companies are more present in relation to SMEs. Available at: https://www.eurofound.europa.eu/surveys/european-company-surveys

5 The mentioned research is conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound) on roughly 30,000 individuals in 30 European countries every 4-5 years. The research from 2010 included 43,816 individuals selected randomly in 34 European countries. Data available at: https://europa.eu/european-union/about-eu/agencies/eurofound_en /

6 The research includes the sample of companies with over 200,000 employees and it has been conducted by a network of universities coordinated by the Cranfield School of Management (Cranfield University, UK) every 4-5 years from 1992 to date. The research from 2010 included 6,258 companies from 20 EU member countries.

7 PEPPER acronym stands for Promotion of Employee Participation in Profits and Enterprise Results

Based on the data of the Annual Economy Survey of Employee Stock Ownership in European countries, made up of the European federation of employee share ownership for 2017, the share of employee stock ownership totaled 3.2%, the estimated value of roughly 400 billion euro, taking into account that ESO plans were implemented by a total of 86.6% of companies, which are considered big-sized enterprises based on the EFES methodology. The survey was conducted in 2,709 of the biggest European companies in 31 countries with a total of 36 million employees. Roughly 7.5 million employees owned shares in big-sized companies, plus approximately 1 million workers in SMEs, or in other words, a total of 8.5 million employees in the EU. The estimated value of the ownership share totaled 52,000 euro or 28,000,00 euro if the average value of stock ownership of the higher management is excluded (European Federation of Employee Share Ownership, 2017, 8). The value of average employee stock ownership increased from 12,200 euros to 28,000 euros (130%) between 2009 and 2017.

Although a more elaborate comparative legal overview exceeds the limits of this paper, it needs to be mentioned that different forms of legal regulation and tax incentives on employee stock ownership have been more or less present in the majority of EU member countries. Considering different regulations, some EU member countries (France, Belgium, UK, and Slovenia) prescribe elaborate rules for implementing EFPs. Other countries (Germany, the Netherlands, and Poland) prescribed only a few rules relating to the mentioned area, while the rest of the countries (Luxemburg, Portugal, Sweden, and Croatia) do not prescribe a separate regulation. Therefore, ESO plans are implemented within the normative legal framework of companies and the general tax context. The study from 2014, developed by a foreign professional workgroup gathered by the European Commission, concluded that during the past decade the number of passive members in the EU, without separate legal regulation of this field, decreased from one half to approximately one-third of the member countries (Lowitzsch, J. et al, 2014).

4. EMPLOYEE STOCK OWNERSHIP IN CROATIA – CONTEXT OF TRANSITIONAL HERITAGE AND NEW DEVELOPMENT OF THE SUI GENERIS MODEL

Considering different scopes of countries where the European Company Survey and CRANET Survey were conducted (periodically), the PEPPER IV report aimed at collecting relevant data from all 27 member countries and two accession candidates (Turkey – in the time of the survey was conducted and Croatia). General conclusions of the PEPPER IV report from 2009 pointed to a major increase in EFP during the previous decade[8]. However, it was surprising that the difference in distribution between the western and eastern parts of Europe was slightly less expressed compared with the anticipated results (Lowitzsch, J., 2008, 186).

Notwithstanding, considering the distribution of employee stock ownership in older EU member countries (EU 15) and new member countries of South and East Europe (EU 12), there are differences in the implementations' motifs as well as content and effects of the ESO implementation.

Table 1 Main differences in the EU

Old members [9]	New members [10]
Longer tradition (since the '50s)	Development since the '90s
The wider spectrum of implementation forms	Employee stock ownership established mainly within the privatization framework
Active promotion mainly as an extension of politics	Employee stock ownership as a mean of privatization and development of other forms based on ad hoc principle
Empirical research point to positive effects	Empirical research is limited, and conclusions are ambiguous

Source: Lowitzsch, J., The PEPPER IV Report: Benchmarking of Employee Participation in Profits and Enterprise Results in the Member and Candidate Countries of the European Union, Institute for Eastern European Studies, Free University of Berlin, Berlin, 2008, p. 187

8 Based on the PEPPER IV report 1999-2005, the number of companies, which implemented some form of ESO plans, increased from 13% to 18% on a EU level. Implementation of profit sharing increased from 29% to 35%. However, a more considerable share of employee population, included by the implementation, is present only in a few EU countries (Lowitzsch, J., 2008, 216).

9 Old EU member countries included in the PEPPER IV report are: Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxemburg, the Netherlands, Austria, Portugal, Finland, Sweden and the UK.

10 New EU member countries included in the PEPPER IV report are: Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia. Countries candidates observed in this context are Croatia and Turkey.

Based on new trends of member countries and within the framework of the PEPPER IV report, candidate countries were also considered, *i.e.* Croatia and Turkey. The sample of the new members, except for Turkey, Cyprus and Malta, presents countries with social heritage in which a considerable number of workers gained stock ownership as part of the privatization of formerly state-owned companies.

Croatia shares the experience of new EU members. Privatization in Croatia is marked by the fact that many employees were allowed to acquire stocks of former companies, while social-political context went in favor of individuals taking over the biggest number of companies privatized in the mentioned manner.

The context of the negative heritage of conversion and privatization slowed down the idea and development of the employee stock ownership concept in Croatia and resulted in the lack of benefits of the development of employee stock ownership for the entire society.

In the post-transitional period, employee stock ownership in Croatia developed mainly based on the sui generis model and as separately designed solutions in the form of distributing stocks or stock options for purchasing, the transition of stocks to the employees and participation in decision-making.[11]

5. POSITIVE EFFECTS OF EMPLOYEE STOCK OWNERSHIP

With the expansion of ESOP and other forms of employee stock ownership, the interest of the scientific public in various aspects of its implementation has been growing since the '70s of the 20th century. Academic writings on ESOP and other forms of employee financial participation are at the same time vast, based on the number of implemented studies, but also proportionally limited, based on the range, scope and broader influence of the conducted studies (Freeman, 2007).

[11] Examples of companies in Croatia that implemented certain forms of ESOs are: *AD Plastik d.d., Dalekovod d.d., Elektropromet d.d., Herbos d.d., Hotel Osmine d.d., Jadranka d.d. Mali Lošinj, Kraš d.d., Pliva d.d., Tankerska Plovidba d.d., Tehnika d.d., Zagrebačka banka* and other. See Darko Tipurić et al.: *ESOP i hrvatsko poduzeće*; Sinergija nakladništvo, Zagreb, March 2004.

The starting point of the implementation of the employee stock ownership program is inevitably linked to the economic context and indicators monitoring the employees' inclusion in employee stock ownership. Numerous economic studies, implemented primarily in countries where employee stock ownership is present to a larger extent, tend to consider the advantages and disadvantages of employee stock ownership implementation on the individual level of companies, including the employee's perspective and the entire society.

Because of individual benefits, the majority of the implemented economic studies highlight that the distribution of stocks to employees already presents direct material benefit for the employees, whereas a share of the implemented studies point to higher salaries and other material income the employees of the companies implementing ESO programs achieve compared to other companies (Brown, McHardy, McNabb & Taylor, 2011, Blasi, Conte & Kruse, 1996, Kardas, Scharf & Keogh, 1998). Concerning employees, employee stock ownership increases employment safety as well as work motivation and identification with the employer which ultimately leads to increased satisfaction with the working position (Freeman, 2007). The studies directed towards establishing a connection between employee stock ownership and the number of working days lost due to absence from work, almost uniformly point to positive effects of the ESO implementation as well as a correlation with a smaller number of lost working days concerning other comparable companies. However, the studies also point to a potentially positive relation to the decreased number in work-related injuries (Kundić, Smajla, 2019).

From the perspective of companies, positive aspects of ESO implementation based on the conducted economic studies are mentioned, *i.e.* increased productivity and profitability connected to decreased expenses of the organization, supervision, and management (Kumbhakar & Dunbar, 1993, Rosen, & Quarrey, 1987). Certain studies point to stronger market sustainability as well as the resilience of companies, especially in the conditions of economic crisis (Park, Rhokeun, Kruse & Sesil, 2004). In contemporary economies, founded on the high-tech industry, the human factor, *e.g.* educated and sophisticated structure, presents an important precondition for surviving on the global market. Furthermore, a more stable employment structure represents a positive aspect from the perspective of human resource management. Also, companies implementing ESO programs are ascribed stronger organizational loyalty, motivation, and diligence of the employees (Akerlof & Kranton, 2005). Some studies point to profitability from the perspective of shareholders, that is, higher asset yield for the shareholders (Blasi, Kruse & Bernstein, 2003).

Besides the above mentioned, the studies which investigated positive aspects for the society point to an impact on the decrease in wealth inequality and development of economic democracy as preconditions for the development of political democracy in society. (Freeman, 2007).

The majority of the conducted studies point to a stronger connection between the positive aspects of employee stock ownership with greater employee participation in decision making on company level (Quarrey & Rosen, 1993, Kardas, Scharf & Keogh, 1998). Moreover, the scope of potential implementation impact of ESO will undoubtedly depend on implemented variables, *i.e.* share in the total number of employees participating in the ownership structure, level of ownership share the employees participate within total ownership structure and the difference in the size of ownership share between the employees.

6. AGENCY THEORY

The issue of the ownership/management relation has been discussed by the field of corporative governance since 1976 when Jensen and Meckling developed the agency theory. Corporate governance is a term relating to a set of mechanisms for aligning the interests of the investors and executing bodies in a company as well as protecting the investors' interests (Eling & Marek, 2011), that is, it serves for mitigating the conflict between the manager and the owner of a company.

Based on the theory of agents or the agency theory, the principal or the owner hires a manager to take charge of the company, and this manager also participates in the decision-making process (Jensen & Meckling, 1976). The principal has to hire a third party in case he/she does not have the required know-how and management skills or lacks the knowledge or time for management (Goić, 1995). Hiring an agent, who receives a bonus for performing work, presents an expense for the principal. This is an indirect expense, which does not result from real costs or payments, but rather from making decisions on the company's affairs and business activities that do not pursue the interest of the interest group the agents make these decisions for (Orsag, 2015). The expense of the agency is an opportunity cost since a certain interest group would achieve higher value if the problems of the agent did not occur (Orsag, 2015).

The agency theory explains the confronted relations of the two sides which occur when the agent does not act in the interest of the owner but makes decisions in his interest. The agency relationship is based on the agreement based on which one person (principal) hires another person (agent) to perform certain tasks. The agent is paid for the performed work, and the financial result, as well as the business risk, is on the principal who provides the capital and assets for performing the task (Bahtijarević-Šiber & Sikavica, 2001).

The theory assumes that if an agent exists in the company, the wealth of the principal will not be maximized since both the agent and the principal have different goals, different approaches to information and different risk tendency (Tipurić, 2008). The goals of the owner are reflected in maximizing the value of assets, that is, achieving the highest possible profit to ensure a higher return on investment with optimal risk-taking. The goals of the manager related to its income and safety of the company's business activities which is why they can act to their benefit and not in the interest of the owner. The managers, who are not owners, act more freely when making decisions and using company resources compared with those managers who are also owners of the company (Demsetz, 1983). When the management forces its interest at the expense of the owner, this leads to a decrease in the company's value and expense of the agent since the company's value will be lower than in the case when it is managed by its owners (Orsag, 2015).

If the company's ownership is dispersed so much that it is difficult to control the management, a problem occurs when the company's assets are used to the manager's interest, and the value for the owner is not increased. In that case, the managers could be more motivated to take on bigger risks. This problem can be solved if the managers are allowed to participate in the ownership structure, which will bring the managers and the owners' interests closer together (Javid & Iqbal, 2008). Berle and Means (1932) conclude this problem occurs if the managers are co-owners of a company whose ownership is distributed by a large number of individuals. In that case, the owner can't influence the actions of the manager, and the manager can use the company's assets to his or her interest at the expense of the company's results. However, this effect is mitigated when the manager's ownership share is increased since the interests of the owner and manager become similar.

The desire of the manager and the owner to control the business activities of a company brings them closer together, that is, the management overlaps with the ownership. Even though the management's ownership can have strong implications for risk increase and innovations (Wright, Hoskisson, Busenitz & Dial, 2000), this effect to the risk can be limited when the managers, who are also owners, do not want to take on too much risk. The managers take on too high of a risk when the manager's wealth is strongly related to the company's business activities (Wiseman & Gomez-Meija, 1998). Companies owned by managers are exposed to greater risk than companies in which the managers are not the owners who are more likely to take risks for the personal interest which relates to higher profit (Smajla, 2017).

7. EMPLOYEE STOCK OWNERSHIP IN THE CONTEXT OF THE AGENCY THEORY

The problem accentuated by the agency theory is based on conditional conflict of interest between management and company owner. One of the most common business strategies for overcoming the problem highlighted by the agency theory is when the company owner includes executive management in the company's ownership structure.

On the other hand, the reality of the company's existence is based on the trichotomy and conditional conflict of interest between the owner, the management and the employees. Companies have different roles, the scope of rights and obligations of the mentioned interest groups. Employee ownership participation, where employees and managers become part of the ownership structure, strongly affects the usual distribution of roles, rights, and responsibilities of the reviewed companies' categories. Employee stock ownership, with the usual employment rights grants additional rights, *i.e.* right to profit share, access to information on finances and company's activities, right to participate in the company's management (Rousseau & Shperling, 2003).

When the employees enter the ownership structure, they are granted management rights and the possibility to influence the decision-making progress in the company's different spheres of business activities. At the same time, based on property rights granted by the ownership over a company, they indirectly gain the right to participate in the business results, approaching the interests, but also the factual role of the management and the owner.

The influence of the employee stock ownership in the context of the agency theory can be observed from creating common goals of the employees, management, and owners of a company causing the agency's expense decrease and problems highlighted by the agency theory (Dunn, & Daily, 1991). In that sense, employee stock participation would lead to an alignment of interests between the employees and the employer, as the ultimate goal, and the potential increase in productivity as well as business profitability (Susanto, Pradipta & Cecilia, 2019).

Positive effects on decreasing the expenses of supervision and monitoring inherent to the owner-management relation in the context of the agency theory are also inherent to the management-employee relation in the context of creating a more efficient business organization of a company.

The agency theory has been used mainly to explain the owner and executive management relation since it is not easy to monitor their activities. However, the theory can also be applied when it is difficult to monitor the delegated tasks as in the case of companies relying on the sophisticated workforce (Pendleton, 2006, Welbourne, Balkin & Gomez-Mejia, 1995). Alignment of interests of the employer and employees leads to lower supervision and monitoring costs that in a more efficient business structure increase the company's profitability, but also create an opportunity for investing the mentioned assets and the company's development (Whitfield, Pendleton, Sengupta & Huxley, 2017).

The mentioned approach has a limitation, *e.g.* free-rider problem[12], typical for all forms of collective participation and responsibility, while some authors (Freeman, Blasi & Kruse, 2010, Lowitzsch, Dunsch & Hashi, 2017) see the employee's direct identification with business results as a solution to the mentioned problem. The direct bonus system based on work results ultimately leads to establishing a mutual monitoring system which results in increased monitoring efficiency in a company.

Furthermore, the specific problem of information asymmetry, as one of the sources of problems highlighted by the agency theory, employee participation in the ownership structure leads to progress in the mentioned part of the observed issue. In the context of interest groups, the managers have access to the biggest

12 Free rider problem highlighted within the framework of collective bonuses schemes is based on the fact that individuals, irrespective of the invested personal efforts, participate in the achieved results, which can ultimately lead to reduced individual efforts invested in achieving goals.

number of information which creates an opportunity for covering them up or distorting them to achieve specific goals of this interest group. On the other hand, exercising management rights inherent to ownership opens up a possibility to inform the employees on the company's complete business activities as well as their participation in making decisions on different business levels and sharing information the employees have on the shop floor level.

In compliance with theoretical assumptions, the employees in a broader sense appear as an interest group in the context of the stakeholder's theory, which includes other interest groups in addition to company owners and management (Hill & Jones, 1992). In the narrow sense, the influence of the ESO program implementation, in the sense of theoretical assumptions on the implementation's positive effects described in Chapter 5 of this paper, is observed on a consequential level in the context of decreasing agency expenses and divergence of interests of employees, management and company owners.[13]

Notwithstanding, considering that legal systems, in which employee stock ownership is more dominant, motivate the development of employee stock ownership with tax benefits and other forms of incentives, the potential decision to implement them as means of corporate management for solving the problems highlighted by the agency theory is present in the broader context of the national legal order and in the context of creating an incentive system directed at their greater implementation.

8. CONCLUSION

The issue highlighted by the agency theory is based on the conditional conflict of interest between the management and the owners of the company. To overcome the problem pointed out by the agency theory, one of the owner's most common business strategies is to include executive management in the company's ownership structure.

[13] It is worth mentioned the employee stock ownership does not represent a uniformed concept. Even though the agency theory presents a starting point for the majority of studies on employee stock ownership impacts, the broader concept of impacts on a consequential level should be considered in view of psychological ownership theory and reflection theory on compensation.

See: Kaarsemaker,E., Ownership and power: the mechanism through which employee ownership yields effects, available at: https://pdfs.semanticscholar.org/233e/8c66228b1d722af9e772dfaf64c56f793bd7.pdf (09.02.2020)

On the other hand, the reality of the company's existence is mainly based on trichotomy and conditional conflict of interest on the relation of owners, management, and employees. When employees enter the ownership structure of a company, they are granted management rights and the possibility to influence the decision-making process in different spheres of business activities. At the same time, based on property rights the ownership over a company brings in, they are entitled to participate in the results of business activities, which consequentially leads to alignment of interests and a factual role of the company's management and the owner.

Also, positive effects on decreasing the expenses of monitoring and supervision inherent to the owner-management relation in the context of the agency theory are inherent to the management-employee relation in the context of creating a more efficient business organization of a company. Employee stock ownership can be observed in that sense as a tool for solving the specific free-rider problem in the context of a collective bonus scheme, and as a tool for overcoming the problem of information asymmetry. The influence of employee stock ownership to the organization structure of a company has not been sufficiently investigated in the emerging economies.

When observing the specific heritage of transitional countries, a significant number of workers have been allowed to buy stocks of companies they are employed in. In the end, social and political context went in favor of individuals who took over the biggest number of companies privatized in this manner. The mentioned modus operandi downgrade the idea and development of the employee stock ownership concept in transitional countries and resulted in the lack of benefits of the development of employee stock ownership for the entire society.

Employee ownership participation, where employees become part of the company's ownership structure, in many ways affects the usual distribution of roles, rights, and responsibilities in the observed company's categories. It also affects the way problems, highlighted by the agency theory, are solved, which is why it is quite common in the developed countries, especially the USA and a large number of EU countries as well as the UK.

Given the broader spectrum of appearance forms, from the programs of employee stock ownership directed at stimulating executive and higher management as well as key employees to companies in complete employee ownership, the influence of employee stock ownership implementation to finding a solution to the problem highlighted by the agency theory as well as achieving specific goals of a company will depend on separate characteristics, *i.e.* percentage from total number of employees participating in the ownership structure, percentage of the ownership share the employees participate within total ownership structure, difference between the size of ownership shares of employee-owners and the rights this ownership grants them.

Employee stock ownership, in that sense, presents a tool for corporative management which undoubtedly contributes to solving the specific problems highlighted by agency theory.

Legal systems, in which the appearance of employee stock ownership is more dominant influence the development of employee stock ownership with numerous tax benefits, where the most significant one is exemption from income tax on allocated shares (in full or partially), exemption from tax on shares and assets installed in the employee stock ownership program, exemption from tax on the dividend of shares in the ESOP trust, exemption from interest tax on savings intended for stock purchase, exemption from tax on capital profit of stock ownership transfer to allocate the stocks to employees and other.

Therefore, because of the specific context of implementing different stock ownership programs, it can be concluded that they undoubtedly influence solving of the problems highlighted by the agency theory. At the same time, their potential use as a tool of corporate management for solving the mentioned problems lies definitely in the broader context of national legal order and creating an incentive system directed at their wider implementation.

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NEW MANAGEMENT POSSIBILITIES: PRODUCTION OF EGGS IN RURAL AREAS

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Abstract

The Cost-effectiveness and profitability of egg production on small family farms in rural areas of the Republic of Croatia are examined in this paper. To objectively evaluate the profitable production of eggs in rural areas, the production performance based on the genotype of laying hens, production costs with appropriate management, as well as product income (eggs, weight gain, manure), were investigated. Based on the aforementioned factors of production, cost-effectiveness coefficients and profit rates for egg production in rural areas have been presented and a conclusion has been drawn about the specificities of each genotype of laying hens. The Republic of Croatia is deficient in egg production and occasionally imports eggs from the EU countries. Production management which a modern poultry genotype TERTA SL (Farm A) and an indigenous native breed of hen Hrvatica (Farm B) require has been applied to identify which breed of the laying hen is more suitable for producing eggs in rural areas from a cost-effective point of view. The cost-effectiveness coefficient for Farm A compared to Farm B is 1.77:1.90, the rate of return is 43.60%: 47.51% and break-even analysis (BEA) is 169 eggs: 105 eggs. Both farms are suitable for developing poultry production in rural areas with appropriate management, and their choice depends on the business decision.

Keywords: *egg production, rural areas, cost-effectiveness, profitability, break-even analysis (BEA)*

JEL Classification: M11

1. INTRODUCTION

The Republic of Croatia has a significant portion of rural areas that can be partially used to organize the production of eggs (table and hatching eggs), thereby reducing the market deficit. In the Republic of Croatia, 11.413 million poultry birds were raised in 2018, while egg production is estimated at 589 million pieces. However, the level of egg production in our country does not ensure self-sufficiency, which in 2013 was 94.4% and in 2018 86.34% (the Ministry of Agriculture Annual Report 2019), meaning permanent imports are required. In 2018, egg production decreased by 9.9% compared to 2017, fresh eggs worth EUR 5.6 million were imported and exported ones amounted to EUR 2.1 million. The paper applies the egg production management required by the laying hen's genotypes (modern, highly productive TETRA SL and primitive, indigenous Hrvatica hens suitable for rearing in rural areas. Hrvatica hen is a part of the traditional culture of our region, it is a late-maturing breed, with modest nutritional requirements and adaptable to the conditions of the rural area. The productivity and cost-effectiveness of egg production using the aforementioned hen genotypes are examined. Farm A produces table eggs and Farm B hatching eggs. Both farms are family-type, and research on production and economic indicators requires the use of adequate management. The research aims to evaluate the elements of income and costs in Croatian production conditions. By calculating production and economic indicators such as cost-effectiveness coefficient, profitability rates and break-even analysis (BEA), making business decisions can be facilitated for entrepreneurs.

2. MATERIALS AND METHODS

The study was conducted based on the fact that there are numerous abandoned facilities in rural areas. By adopting them, it is possible to create new production capacities. Data on production characteristics of poultry genotypes suitable for the organization of production on poultry family farms were used (www.babolnatetra.com, Mariancanka Farm Annual Report 2019; Kralik and Lončarić 2017; Janječić 2007[a,b]). The number of poultry birds and annual egg production in the Republic of Croatia in the last 5 years was examined (Statistical Yearbook 2018). Management in production required by the TETRA SL and Hrvatica hen genotypes - a native indigenous hen breed, was applied to identify which breed or hybrid is more appropriate from breeding, productivity and cost-effectiveness for egg production in rural areas. For this purpose, management was prescribed for one cycle of egg production (Table 1), costs of egg production that undoubtedly depend on the performance of laying hens were estimated, as well as product income (eggs, weight gain, manure). The performance of laying hens in one cycle according to genotype is presented. Based on total income and total costs, the following were calculated: financial results, cost-effectiveness coefficient, profitability rate and break-even analysis (BEA). The cost price of eggs was calculated using the subtraction method since in addition to the main and two by-products (manure and culled layers), they participate in the financial income.

C=A-B;
KE=A/B;
R%=C/a*100;
BEA=number of eggs per hen*B/A
C- financial result; A- income; B-costs; CE cost-effectiveness coefficient; R% - profitability rate and BEA - break-even analysis

Table 1. Factors that determine management in production

Description	Table eggs	Hatching eggs
Hen genotype	TERTA SL	Hrvatica hen
Production cycle	12 months	12 months
Production method	intensive	semi-intensive
Housing of layers	Facility with cages	Facility with free-range area
Initial body mass of the laying hens	1950g	1750g
Final body mass of the laying hens	2450 g	2150 g
Mortality-culling	12%	10%
Feed mixture/layer hen/year	45 kg	40 kg
Consumption/day	115-120 g	90-110 g
Feed mixture conversion/egg	140 g	180 g
Cost price per kg of the feed mixture	2.50 HRK	2.50 HRK
Egg collection	Automated	Manual
The final value of the laying hens	6.5 HRK/pc	6.5 HRK/pc
The value of manure	0.14 HRK/kg	
Laying hens' gain	0.75 kg	0.45 kg
Average egg weight	60-62 g	50-52 g
Egg production/cycle	300 pcs	200 pcs

Source: www.babolnatetra.com, Mariancanka Farm Annual Report 2019- authors' depiction

3. RESULTS AND DISCUSSION

3.1. Number of poultry birds and egg production

From 2013 to 2017, the total number of poultry (11.7%), weight gain (24.5%) and egg production (7.9%) increased. However, when looking at the breeds and structure of poultry in 2017 and 2018 (Tables 2 and 3), a decrease in the number of hens (22.1%) and turkeys (10.3%) is evident.

Table 2. Poultry count, weight gains and egg production

Year	Birds (000 pcs)	Increase (000 t)	Eggs (million pcs.)
2013	9307	94	606
2014	10317	99	572
2015	10190	107	564
2016	9856	117	662
2017	10399	117	654

Source: Statistical Yearbook 2018

In 2018, compared to 2017, the total number of poultry birds increased by 9.8% (Table 3).

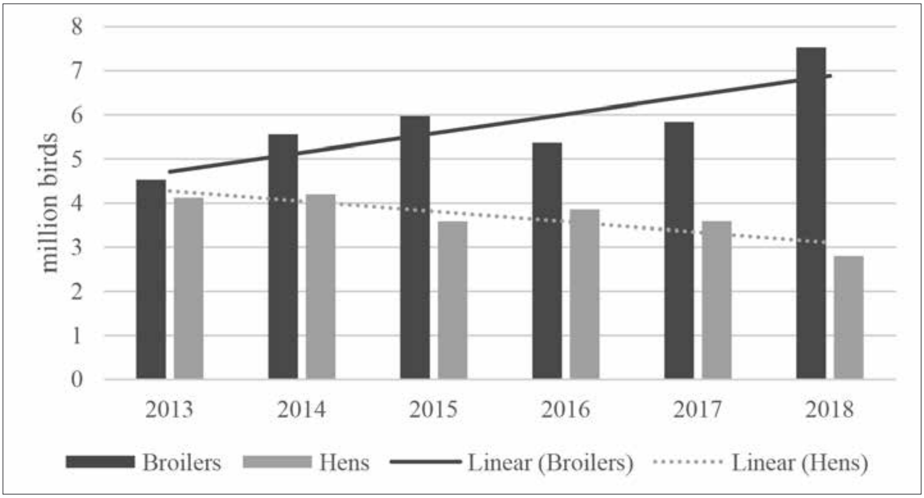
Table 3. Poultry count (000 pcs)

Number of poultry birds (000 pieces)			
Type and category	2017	2018	Index
Broiler chickens	5838	7525	128.9
Hens	3587	2796	77.9
Pullets and roosters	415	560	134.9
Turkeys	493	442	89.7
Geese	13	16	123.1
Ducks	51	56	109.8
Other poultry	2	18	900

Source: Statistical Yearbook 2018

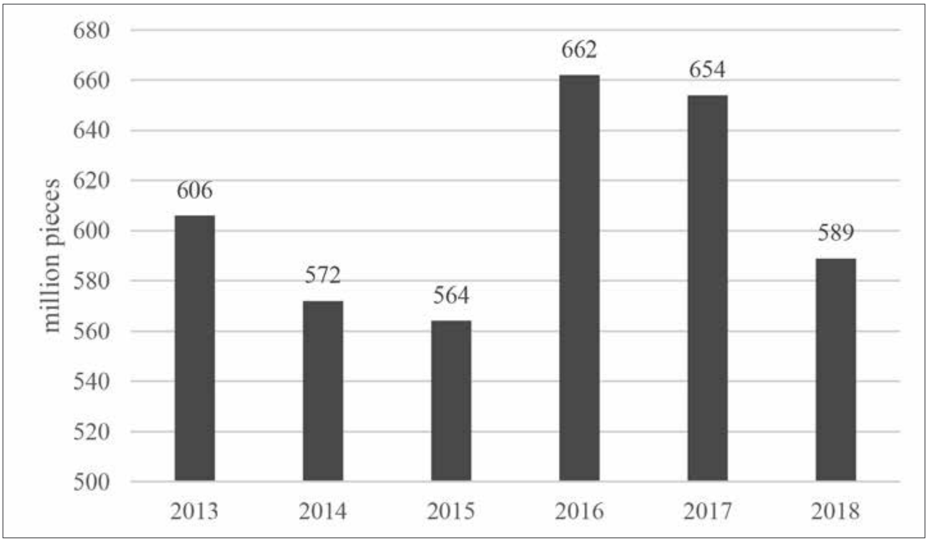
In 2018, EUR 5.4 million worth of birds were imported and EUR 6.7 million were exported. Fresh eggs worth EUR 5.6 million were imported and EUR 2.1 million were exported. Imports of fresh eggs decreased by 2.4% while exports increased by 6.3% (Ministry of Agriculture, Report 2019) Aid for rearing indigenous poultry breeds such as Hrvatica hens is granted to finance breeding flocks. The total capacity of hatcheries in 2018 was 6,943,000 eggs. About 65 million eggs were incubated, of which 57 798 000 eggs were intended for fattening, 1 314 000 for laying hens and 1 671 000 for combined breeding.

Figure 1. Broiler chickens and hens count



Source: Ministry of Agriculture Report 2019- authors' depiction

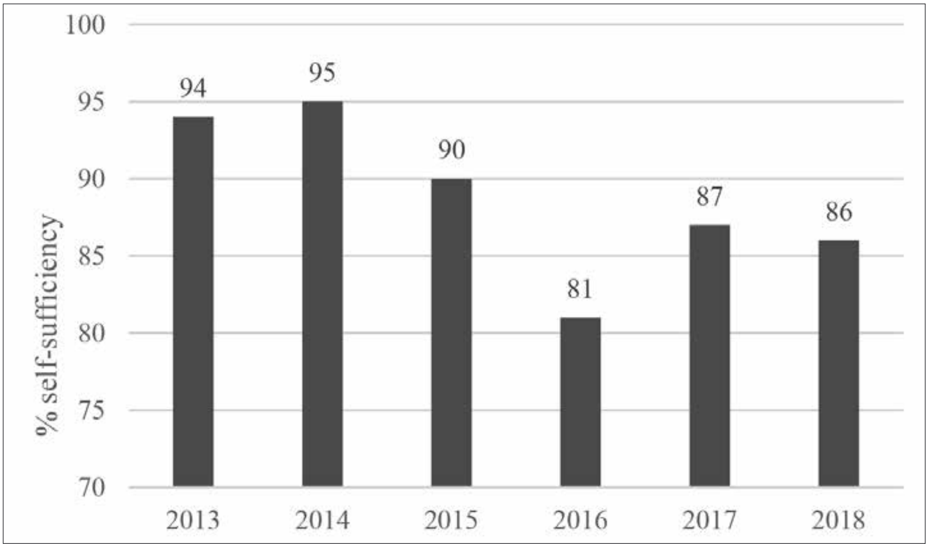
Figure 2. Production of chicken eggs



Source: Ministry of Agriculture Report 2019- authors' depiction

Figure 3 shows the self-sufficiency of egg production in the Republic of Croatia in 2013-2018. The figure clearly shows that the supply of eggs was insufficient in the analyzed period (Ministry of Agriculture, Report 2019). It is necessary to foresee the development and expansion of domestic egg production using appropriate modern technological solutions concerning particular hen genotypes.

Figure 3. Self-sufficiency in egg production



Source: Ministry of Agriculture Report 2019 - authors' depiction

3.2. Poultry family farm concept

Production of table eggs (Farm A) requires management appropriate for the hens of light laying type, it can be fully mechanized, it is of the industrial type, the eggs are used for consumption and are subject to the provisions of the Regulation on quality of eggs (OG 115/2006). The production of hatching eggs (farm B) requires management appropriate for the combined type of laying hens with roosters. The flocks are raised on the floor (with or without the free-range area) and the eggs are used for hatching, i.e. producing day-old chicks. Tables 4 and 5 show income, costs, as well as economic indicators of both types of products that are designed for small family farms suitable for rural areas.

Table 4. Analytical calculation in egg production (Euro)

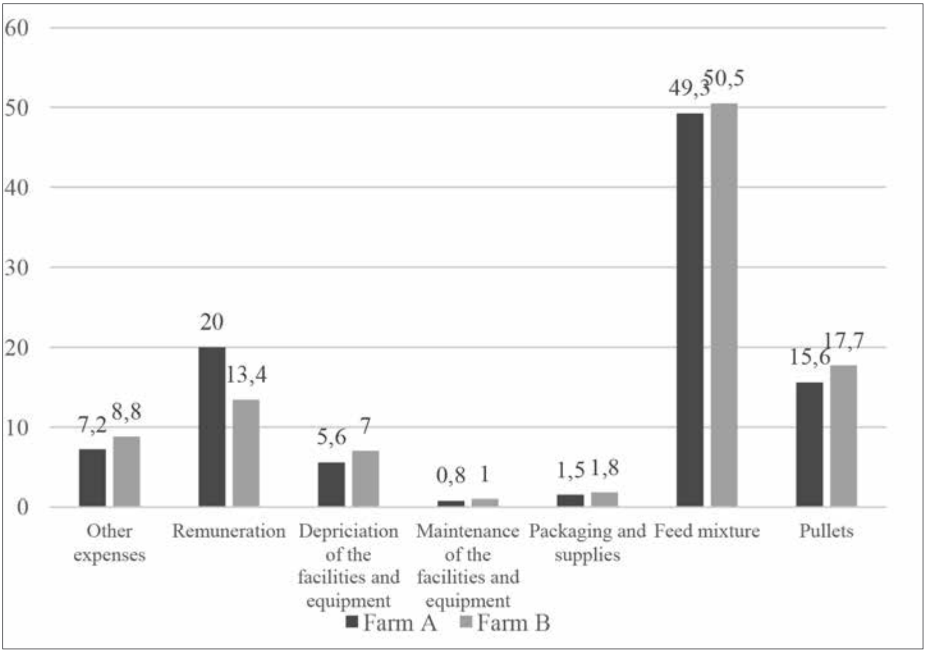
	Description	Farm A	Farm B
	Sources of income		
	Eggs	19,463.09	26,845.63
	Laying hens' gain	570.47	284.91
	Manure	178.52	-
	Culled laying hens	407.88	427.52
A	**Total income**	**20,619.96**	**27,558.06**
	Production costs		
	Pullets	2063.42	2255.03
	Feed mixture	5873.56	7127.52
	Supplies and Depreciation	214.09	214.09
	Maintenance of facilities and equipment	120.80	120.80
	Depreciation of facilities and equipment	817.45	817.45
	Remuneration	1557.05	2899.33
	Sale cost and other costs	1031.54	1031.54
B	**Total costs**	**11,627.91**	**14,465.76**
C	**Financial results**	**8,992.05**	**13,092.30**

Table 5. Economic indicators in production (Euro)

	Indicators	Farm A	Farm B
A	Total income	20,619.96	27,558.06
B	Total costs	11,627.91	14,465.76
C	Financial results	8,992.05	13,092.30
D	Cost price Euro/egg	0.08	0.14
E	Cost-effectiveness (A/B)	1.77	1.90
F	Profitability % (C/A)	43.60	47.51
G	Break-even analysis (BEA) (eggs)	169	105

Egg income accounts for 94.9% on farm A and 97.4% on-farm B. The higher share of egg income in farm B results from a higher cost per egg, as these are hatching eggs intended for incubation. This results in a higher total income in the egg production on farm B than farm A. On-farm B, the total production costs compared to farm A are also higher (EUR 14,465.76: EUR 11,627.91). The largest portion of total costs is feed costs (farm A 50.5% and farm B 49.3%), followed by remuneration costs (13.4% and 20.0%, respectively) and pullets or breeding flocks (farm A 17.7 % and farm B 15.6%). The differences in depreciation and maintenance of farm facilities and equipment are negligible (Figure 4). Table egg producers need to take all measures that affect production costs and actively manage them (Chadowick, 2000), and permanent control of product costs per unit and selling prices affect cost management during production. (Sossidow et al. 2005; Elson 2008; Crnčan 2018).

Figure 4. The proportion of costs in egg production



The analysis of economic indicators shows a better financial result of 45.6% for farm B than farm A and a higher cost price of eggs (EUR 0.14: EUR 0.08). Both farms operate positively, cost-effectively (1.77:1.90), profitably (0.44:0.47%), BEA for farm A is 169 and farm B 105 eggs. The cost-effectiveness of production shows the effect of consumption of all the elements. The profitability shows the relationship between the financial result and the total costs in the analyzed period. By calculating the break-even point of production, the management performances of specialized farms A and B can be compared, which facilitates business decision-making (Hidalgo et al. 2008). Therefore, the paper examines all costs and incomes in egg production. The analysis uses data on the production characteristics of the laying hens as well as the costs during one production cycle. The method of analytical calculation was used (Table 4). The cost price of eggs was calculated using the subtraction method, which is applied in cases where several products are manufactured during production (Karić 2002). In egg production, these are manure (farm A) and culled layers (farm A and B). Break-even analysis (BEA) is a quantitative method used to separate the profit area from the loss area in egg production. Production and economic indicators are used in BEA. The aim of calculating the break-even point is to obtain data on the number of eggs (pc or kg/laying hen) that must be produced to cover the production costs. The cost price of eggs (CP) was calculated by subtracting the value of manure and culled layers from the total income (Karić 2002).

Crnčan et al. (2018) calculated that the break-even point of egg production in a cage system was 272 eggs and in free-range production 228 eggs. The reported values were significantly higher than the values calculated in this paper. Deže et al. (2010) calculated that for the production of table eggs in the cage system the break-even points were 204 and 258 eggs. The calculated break-even point is not a constant value; it depends on changes in the relationship between a variable and fixed production costs, i.e. purchase and selling price fluctuations. Niu et al. (2016) conducted BEA in egg production in rural areas. The method used in their analysis is different from the method used in this paper. They found that feed costs amounted to 76% of total costs and that egg production was profitable. Nmadu et al. (2014) state that for egg production to be successful, the management was essential, thus entrepreneurs need to be educated accordingly. The success of the production and business operations of poultry farms can be observed from a technological and economic point of view. If appropriate management (technology-production processes and methods) is used and the goal is achieved, production is successful from a technological standpoint (Fischer and Bowle 2002; and Van Forn 2003). The economic aspect includes the achievement of a favorable relationship between investment and the achieved absolute and relative indicators of success in egg production. (Table 5)

The choice of the farm is dependent upon the conditions, production opportunities and preferences of producers, which will then determine the management and technology of production. Sossidou et al. (2005) state that egg production is a very demanding process that assumes a quality business decision along with daily monitoring of costs. A business decision depends on the knowledge of the production and finding a potential solution, which should result in a good business decision. (Chadwick, 2000).

Poultry farming can quickly affect agricultural development due to the easy adaptability of poultry to different climates, low investment costs per farm, rapid reproduction, effective growth, and return on capital (Adedoyin 2000 and Wilson 2006). Today, the poultry industry is one of the most successful sources of animal protein. Poultry products (eggs and meat) contribute to supplying the population with quality produce. To develop poultry farms further, entrepreneurs need to have a production plan with management that maximizes profits.

4. CONCLUSION

This paper examines the possibility of developing egg production (table eggs, farm A and hatching eggs, farm B) in rural areas. The insufficiency of this important dietary animal product in our market was determined. The possibility of developing family farms by using two hen genotypes: the TETRA SL hybrid and the indigenous hen breed Hrvatica along with the application of certain management was examined. Both laying hen farms were found to be suitable for obtaining the set goal. The economic indicators for farm A compared to farm B are as follows: positive business operations, cost-effectiveness 1.77:1.90; profitability percentage of 43.60%: 47.51% and BEA 169:105 eggs. If the depicted family farms (A and B) are organized by using the aforementioned hen genotypes and appropriate management in production, it is possible to supply the market with one's products, to ensure self-sufficiency in egg production and to increase exports.

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Finance management

FUNDRAISING WITHIN THE CYCLE MODEL FOR SUCCESSFUL BUSINESS IN ARTS AND CULTURAL ORGANIZATIONS

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Abstract

Fundraising is the skill of collecting additional financial resources from alternative sources such as sponsorships, donations, or crowdfunding; sources not dependent on the state, county or city budgets. Fundraising also includes own-income financing, i.e. ways to increase your own revenue through ticket sales, for example. Fundraising is an important part of the functional and sustainable development of organizations in arts and culture (profit and non-profit organizations alike) because financial resources from public sources are not enough to finance their activities and development. Hence, arts and cultural organizations are challenged to search for excellence in their business model management to create and deliver value in a more sustainable way without compromising artistic integrity, mission, and values.

In this article, fundraising is observed though The Cycle model, composed of great art, marketing, family and fundraising. These elements are interlinked.

Great art is the first step, followed by aggressive marketing that needs to be focused on the potential audience (family – audience, volunteers, board, donors...) which is most important for fundraising. The aim of the paper is to explore fundraising as an extremely important activity in arts and cultural organizations which is not just about raising money that also includes a variety of efforts required to accomplish this objective.

Accordingly, the model requires the incorporation of business principles into operation in arts and cultural organizations as particularly crucial for their survival and requiring proper management attention. However, in the majority of arts and cultural organizations, artists perform the management role too. Successful organizations require the use of management skills which requires additional training for leadership in arts and cultural organizations. The paper gives recommendations for the successful implementation of fundraising in arts and culture organizations.

Keywords: *fundraising, the Cycle model, arts and cultural organizations, management skills, financing*

JEL Classification: Z11

1. INTRODUCTION

Organizations in the arts and culture face the growing problem of decline in funding from public sources (Bestvina Bukvić et al., 2016; Mihaljević, 2015; Dragičević-Šešić & Stojković, 2011; Balog, 2010; Tomova, 2004). Public funds are insufficient to cover the operating costs of organizations and the need arises to secure additional sources of funding (Mickov & Doyle, 2013; Lindqvist, 2012; Bestvina Bukvić et al., 2018). This means organizations must take action to diversify their sources of funding and focus on different (market) sources of funding, such as donations and sponsorships, but also their own revenue (tickets, membership fees, various commercial activities such as leasing spaces, souvenir shops, publishing etc). "Even though not all institutions in arts and culture are non-profit organizations, most undertake activities characteristic of the non-profit sector and raise funds to finance their activities and to be able to realize the programming and projects designed for their audiences (Pavičić et.al, 2006, 258).

Fundraising is a set of skills and techniques used in the process of getting funds from external sources to finance activities in culture and non-profit organizations (Mcllroy, 2001, 9), whose basic objective is to ensure the growth and development of the organization and the engagement of stakeholders in the organization and its activities, as well as to increase the visibility, efficiency and stability of the organization (Alfirević et al., 2013, 600). Dadić (2016) defines fundraising as any activity undertaken in a non-profit organization to secure the revenue needed in order to make the organization sustainable and to help it carry out its mission. In other words, fundraising is the art of asking people and corporations for money to finance one's own activities. According to Crole & Fine (2005), fundraising is one of the most important tasks of any non-profit organization. What is the role of fundraising?

1) Replace lost subsidies;
2) Grow;
3) Take some control of the future (Kaiser & Egan, 2013, 52).

In organizations, focus on several different sources of funding enhances the sense of independence, responsibility for the development of the organization, and understanding of the environment and its needs (Dragičević-Šešić & Stojković, 2011). According to Krivošejev (2012), fundraising is one of the imperatives of the modern era, but the hyper-imperative must be respected: the raising of additional funds cannot – and must not – replace public subsidies in culture. Accordingly, fundraising should supplement public sources of funding rather than replace them.

The Strategy of Cultural Development of the Republic of Croatia stated back in 2003 that the search for sponsors would become a daily task for managers in culture (Katunarić & Cvjetičanin, 2003). This would imply the implementation of economic tools in the activities of the organizations in culture, including marketing, management, strategic planning and fundraising. "The need for market success, cost-effectiveness and efficiency of their activities forces modern institutions in culture to introduce management and marketing methods" (Dragičević-Šešić & Stojković, 2011, 87). The need to engage in market flows and to train staff in the above areas is considered vital for survival and development in the market of today.

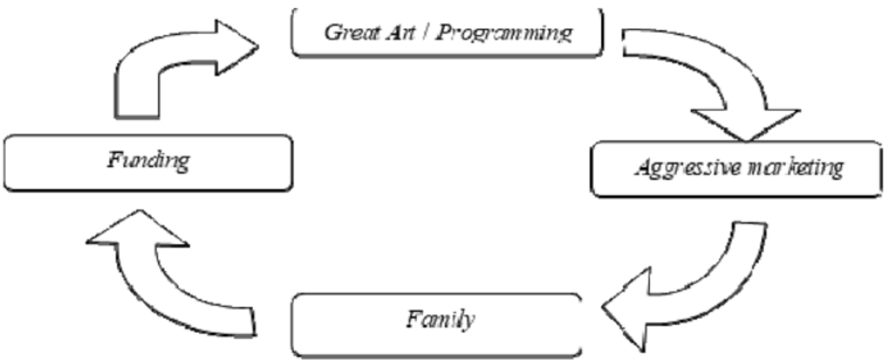
According to Pavičić (2003), fundraising refers to fundraising activities observed not only as a part of the overall marketing strategy but also as a separate strategic and implementing unit, which is consistent with the model expounded below.

Although arts and cultural organizations are convinced that business rules or concepts such as business model should not be applied to their work, Carlucci (2018) states that all organizations have a business model, including non-profit organizations. It is just that we need to recognize that (cultural) organizations have business models that can be a little different from an ordinary business because arts and cultural organizations require business model management tailored to their peculiarities as organizations primarily focussed on a cultural and social mission.

2. THE CYCLE MODEL

Kaiser and Egan (2013) developed the Cycle model for organizations in arts and culture[1] comprising four components (great art, aggressive marketing, family and funding) that must be realized in succession in order to successfully raise funds for organizations in arts and culture.

Figure 1. Fundraising model for organizations in arts and culture



Source: Kaiser & Egan, 2013, p. 4.

The authors of the model explain that it involves an organizational activity theory that prioritizes investments in great art. When an organization aggressively promotes daring art, it attracts a family of enthusiastic ticket buyers and sponsors. Revenue generated by the family is then invested in making even more art, which, when properly promoted, builds an even bigger and more di-

[1] The same model is applied to sports organizations, with sports fans playing the role that the "family" plays in organizations in arts and culture.

verse family. When this cycle repeats year after year, the organization builds its capacity, presence and health gradually and sustainably. Among other things, everyone involved – staff, board, and family – feel like they are a part of a winning enterprise. Committed to the continued success of the organization, they become increasingly generous and productive. The authors believe these organizations grow incrementally and build and maintain their artistic and financial health.

According to this model, a good fundraising plan starts with good art (programming) or with the question: what do we have to sell? Organizations in arts and culture that have great, exciting projects are much more successful in fundraising because in this day and age, persons/organizations are more prepared to support projects offering a certain dose of creativity and innovation.

When you have a good project, you need good, aggressive marketing (institutional and programmatic) to give you the visibility needed to attract the audience and potential donors (how can we "weaken" potential supporters?). Successful organizations in arts and culture aggressively promote their programming and the institution that stands behind it. Kaiser & Egan (2013) underline the importance of programmatic and institutional marketing in the promotion of culture and artwork. They single out two problems in this department that are generated by institutions in culture and their staff: they are either humble, modest and too shy to hawk their work, or they believe that they are too good at what they are doing and require no extra promotion. However, culture and activities and institutions in culture are facing marginalization, and marketing is a very much needed tool for their promotion. "Without marketing and sound public relations strategies, fundraising becomes extremely difficult" (Jung, 2015, 257).

The use of such marketing activities results in invisibility that sparks substantial interest and enthusiasm in the family, which is composed of ticket-buyers, students, board members, donors, funders and volunteers. The family bolsters the financial health of the organization by contributing its time, talent, personal connections and funds. If the family is carefully managed, its membership increases. Balog (2010, 49), who studied fundraising in libraries, found that the best results in this department were accomplished by libraries that made their donors into collaborators, giving them an emotional connection with their projects and the institution, and developing awareness in them that the projects belong to them as much as they belong to the institution. Najev Čačija (2013) and Sargeant & Shang (2010) believe that there is a connection between marketing activities and the development of long-term relationships on the one hand and donors as the key factor of success in fundraising on the other.

According to Kaiser & Egan (2013), an engaged board is the heart of the family. Mcllroy (2001), Marland (2005), Margitich & Gara (2005) and Bona Pavelić (2002) discuss US practices in running organizations in culture. The Board of Directors, or, as Mcllroy (2001) calls it, the Development Board, plays a substantial role in managing and financing institutions in culture in the USA. Bona Pavelić (2002) explains how founders have to recruit a Board of Directors that has faith in the founders and the mission of the organization and is prepared to support it with its own funds, make an effort to raise funds from other sources, contribute professional expertise, and give the organization credibility. Individuals who sit on these boards are often wealthy and distinguished and lend a certain weight to the organization. They also expedite access to potential donors and often have complementary skills that help them manage the development of the organization. They are businessmen, bankers, lawyers, distinguished artists and community leaders. The author believes that a strong board whose members volunteer their effort, time and funds is the key to maintaining the financial health of modern organizations in art. Marland (2005) says that the USA has an unwritten rule for members of such boards: provide, find or go away – meaning that every member must contribute funds and encourage their friends to contribute funds too or they must step down. Board members also offer advice and help persuade funders to provide financial support. The sole task of at least one member of the Board of Directors must always be to work on these activities full-time, not only raising funds but also continually cultivating relationships with current and potential funders. Comparing the number of board members in the USA and in Europe, Margitich & Gara (2005) find that the Board of Directors of the New York Museum of Modern Art has 43 members, whereas equivalent boards in Europe usually number between four and six members who are usually appointed by a political decision.

Revenue generated at the end of the implemented activities needs to be reinvested in even better programming and art, but also in human resources. The Cycle model is a practical management tool defining the relationships among artistic, executive and board leadership. They all have their specific responsibilities in the functioning of the cycle and the success of each of them depends on the success of the others. "Fundraising success contributes significantly to the overall organizational success of a non-profit organization" (Najev Čačija, 2014, 137). Accordingly, fundraising is, among other things, an important parameter of success of an organization, since the success of an organization can be measured as the ratio of generated own revenue (including donations and sponsorships) and funds received from the budget. The more own revenue an organization generates, the more successful and more competitive it is.

However, according to the authors, long-term planning is a prerequisite for the functioning of this cycle, and the organization needs to put a special effort into it.

3. FUNDRAISING IN THE CYCLE MODEL

The goal of fundraising is to raise funds, but it must not stop there. The ultimate, long-term goal is to maintain a partnership with donors/sponsors. Relationship building as the core of successful fundraising is mentioned in most relevant works (Najev Čačija, 2014; Sargeant, 2001; Sargeant & Jay, 2004). It includes continued communication and friendship-building with donors, expressions of gratitude and respect, presentation of the programming and the organization's staff to donors, building of partner networks, and so on. Specifically, the results that fundraising aims to accomplish are both financial and non-financial. "Organizations seeking support must focus on building solid, long-term relationships with their sponsors or donors rather than on getting the money and doing a one-time project" (Pavičić et al., 2006, 265). Dimitrijević-Mišković (2011), McNicholas (2004) and Kivilo (2005) state that "sponsorship" is considered an antiquated term and that the more dynamic concept of "partnership" is promoted instead. The partnership means cooperation in which both parties share values and their shared mission and vision are the crucial elements in providing support (McNicholas, 2004).

Sargeant & Jay (2004) differentiate between a transactional and a strategic approach to fundraising. Transactional fundraising is concentrated on a single donation. The focus is on the organization's objective, the time horizon is short-term, and there is little emphasis on customer service. Strategic fundraising, on the other hand, is concentrated on keeping the donor in the long term. The focus is on the relationship with donors, the time horizon is long-term, and the principal emphasis is on customer service.

Fundraising activities should be defined by the following:

- Impact – donors want the funds they contribute to be invested in something "visible" and "tangible";
- Ideas – new ideas and other things that differentiate an organization from similar institutions and/or other organizations and individuals vying for the donors' attention attract donors and may create a certain competitive advantage;
- Innovation – donors like to support progressive institutions that successfully develop and upgrade the activities they are engaged in;
- Involvement – donors are rarely prepared to donate funds without some form of involvement in the activities they support. Controlling the allocation of funds is an important reason why;
- Investment – donors often like to consider the funds they donate a sort of investment in their own standing in the society or in the promotion of the management members or owners. A difference must be made between donations and sponsorships (Newbold, 2002, 63).

Accordingly, fundraising includes daily activities because "every source of funding requires time, resources and efficiency in establishing adequate contacts, completing paperwork, and building relations" (Preece, 2011, 112). Similarly, Najev Čačija (2013) and Towse (2010) claim that people are the basis of the whole fundraising process, since people decide to give financial support to people (who work in organizations) in order to help (other people), or, people give to people, not to institutions. With this and The Cycle model presented above in mind, organizations need to invest in human resources and their training in addition to investing in art and they need to encourage an entrepreneurial mindset.

The person in charge of fundraising in an organization in culture must first build a "family" and focus on maintaining (long-term) commitment, trust and satisfaction of the donors. Sargeant (2001) introduces the term "relationship fundraising", meaning that non-profit organizations should build relationships with donors to attract their long-term donations. Building relationships with donors makes it much easier for non-profit organizations to conduct marketing activities in order to raise funds needed for future activities. They will not have to invest as much time and financial resources in designing marketing activities and the results will be more successful, facilitating the execution of the next Cycle. Smith (2000) says that fundraising is at once an art and a science: building and cultivating a relationship with the community is an art and using exact data to research and test fund-raising models is a science.

The person in charge of fund-raising should develop some of the following competencies:

1. Personal commitment to the purpose of the activities and faith in the importance of the project;
2. Ability to persuade, negotiate with and communicate with a potential donor;
3. Ability to communicate directly and make requests (we must not feel uncomfortable asking for money for a specific purpose in person, in written or over the phone);
4. Ability to turn initial rejection into success;
5. Confidence and ability to accept rejection;
6. Imagination and creativity are essential;
7. Highly developed social skills (confidence, patience, and tact);
8. Organizational skills are needed because many people pass through the institution in course of fundraising activities and a substantial correspondence is generated;
9. Use every available opportunity and moment to raise funds;
10. Ability and wish to meet new people – the ability to develop a network of social connections (Balog, 2010, 50).

Accordingly, fundraising is a very complex concept comprising a number of activities that organizations need to invest effort and time if they want to succeed. For this reason, organizations in culture should dedicate a special sector or a department for fundraising or have at least one staff member in charge of these types of activities. At the moment, most organizations have not included fundraising in the job descriptions of any of their staff and have no idea who should be doing this work. Bestvina Bukvić et al. (2018) state that the question is if institutions in culture have the capacity and knowledge to carry out the activities necessary to increase the share of non-budgetary, especially alternative, sources of funding.

4. DISCUSSION

Non-profit organizations need resources to achieve their goals and fulfill their missions, as well as to grow and develop their activities. The basic categories of the required resources are (Andreasen, 2008, 350):

- financial resources (including revenues from products and services);
- human resources (employees and volunteers).

Even though fundraising by definition concerns financial resources, people are an important resource in fundraising because they are the ones conducting the activities needed for its success. Investing in human resources (training, keeping and importing staff if necessary) is, therefore, an important strategy for the advancement of modern society (Katunarić & Cvjetičanin, 2003).

Lack of training in fundraising is considered the principal obstacle to the development of non-profit institutions, including institutions in culture (Dadić, 2016; Najev Čačija, 2013; Pavičić et al., 2006; Dragojević & Dragičević-Šešić, 2008; Towse, 2010). A study of organizations in arts and culture in Eastern Croatia in 2018 (Bestvina Bukvić et al., 2018) also confirmed that the level of education of directors/principals/managers of institutions in culture in fundraising needed to improve significantly. What is more, survey respondents identify the following problem: institutions are run by 'people in the profession' instead of managers trained for the role, such as economists/managers, who have much more experience in this field. Lukić (2014) also discusses the need for managers in culture, an important profile of people who are needed for the successful management of organizations in culture. Professional managers (directors, business administrators, managers or whatever they may be called) are the essential prerequisite for the professional management of institutions. Mikić (2011) agrees, stating that training and professionalization of staff employed in institutions in culture have an important role in the process of adaptation and market dimensioning in the culture sector. "Considering that fundraising is a highly complex concept, every non-profit organization that strives for successful fundraising must invest in additional training to keep abreast of the new requirements and demands of their donors, who are a highly dynamic category" (Dadić, 2016, 8).

Varbanova (2003) believes that managers in culture should perform a double role: they need to have an artistic vision and a feeling for art, but also business skills and competences. Mcllroy (2001) claims that there are many similarities between modern managers in culture and managers in economic operators. Institutions in culture need to build professional management structures, with trained managers capable of taking on new challenges and learning new know-how and skills. Karajić (2016) says that the management should "deal with the following most important tasks: draw up archival program plans; prepare fundraising plans and organize their implementation; research and win over sponsors, donors and funders; raise funds from the budget and other sources; create marketing materials; promote the relationship with the audience (public); manage human resources, and perform the leadership role in coordination, supervision etc" (Karajić, 2016, 327)

In addition to training the organization's in-house staff, Alfirević et al. (2013) believe that successful fundraising could be accomplished by combining the organization's own abilities and know-how with flexible recruitment of outside associates and advisors. Organizations in arts and culture can outsource certain projects and programs to outside associates who will help them attract new donors and sponsors and look for new sources of funding in order to develop new and efficient fundraising approaches. Dadić (2016) states that many serious organizations abroad have complete fundraising departments in their structures and that there are a number of consulting firms specializing in fundraising. According to Crole & Fine (2005), various agencies are established in the USA to help organizations in culture get corporate support, look for funding, and train the culture sector and help it develop these skills. The USA and developed European countries (Germany, Switzerland) have fundraising management study programs in universities and courses offering training in the fundraiser profession (Crole & Fine, 2005, 15). We may conclude that fundraising is a developed phenomenon in other countries that receives much more attention. Accordingly, institutions providing higher education in social sciences and institutions that have the need for such activities should incorporate fundraising, a skill required for the successful management of organizations (in arts and culture), into their curricula.

The government plays an important role in the development of fundraising by creating the regulatory framework, educating, raising awareness, and motivating organizations in culture to increase their share of non-public sources of funding (Bestvina Bukvić et al., 2018; Bestvina Bukvić et al., 2016; Starčević, 2014; Dadić, 2016; Balog, 2010). The government can play a part in organizing various training for culture workers that will provide the know-how and skills required to manage organizations in culture. The Croatian Ministry of Culture organized free two-year training (2013-2015) in Croatia in cooperation with the DeVos Institute, part of the Kennedy Centre in Washington, designed for managers in culture, representatives of art organizations, institutions in culture or civil society organizations. Interdisciplinary training was offered to twenty Croatian organizations in order to train highly competent professionals in the culture sector. This is an example of how the government can help develop culture and organizations in arts and culture. The educational program of the DeVos Institute is aligned with the latest technological and educational systems, with a special focus on three areas: marketing, fundraising and development of management bodies. Thematic units encompassed by their training show that fundraising is an important part of organization management and thus becomes an increasingly important task of the managers in culture.

Starčević (2014) states that in the United Kingdom, Arts Council England advised institutions in culture to devote time to training their employees in the fields of finance and sponsorship as the government is reducing the budget and these skills will become some of the most important activities of institutions in culture. In addition, "the arts and culture sector need a policy that supports human and material resources development, arts education, alternative funding support, and pleasant working conditions" (Munkhuu, 2014, 109).

However, in spite of the emphasis on the role of the government in encouraging and developing fundraising, a study by the European Parliament (2011) emphasizes that all efforts invested by states and governments are closely tied to the proactive culture sector: entrepreneurship in culture, efficient marketing, intensive fundraising and audience development. Balog (2010) agrees, stating that institutions in culture must invest an extra effort in fundraising in the conditions of reduced funding, and be prepared to put in additional hours that the state will not pay them for. The author believes that good institutions in culture are recognized, among other things, by the continued growth of their share of own funding, especially in the conditions of social and economic transition and economic recession. Organizations in culture must develop an entrepreneurial mindset and proactive strategic behavior and must apply a management approach in running the organization. This is the only way institutions in culture can be "helped": if they strive for development and education and use successful management methods.

Some of the common errors made by persons in charge of fundraising activities are errors in communication with donors/sponsors, unnecessary/inappropriate lobbying, unrealistic and unfounded demands, misperception of relationships with donor/sponsors, excessive reliance on existing sources of funding, bad timing etc. (Pavičić et al., 2006, 261). Therefore, further education and training in these areas are required. Balog (2010) names another obstacle to successful fundraising: the absence of a general culture of philanthropy and donorship in the society and an insufficient number of developed economic operators and wealthy individuals who would be willing to set up trust funds and foundations for the development of institutions in culture. Fundraising is extremely difficult in such conditions. However, the success of fundraising should not be measured only by the number of funds raised, but also by some non-financial parameters such as donor/sponsor satisfaction and loyalty (Brooks, 2004; Bennett, 2007). As stated above, the objective is to build a long-term relationship with the donor, full of trust and satisfaction, because only a satisfied donor will donate again and become a loyal donor (Sargeant, 2001, 185).

5. CONCLUSION

Organizations in arts and culture need funding to realize their objectives and secure stable future growth. Considering the continued decrease in the funding for their activities from public sources, organizations in arts and culture must focus on fundraising activities and raise funds from other (alternative) sources. The primary objective of organizations in arts and culture should be to create and develop a fundraising mindset – awareness of the importance of fundraising – which requires outstanding training of experts.

According to The Cycle model, presented in this paper, successful fundraising in culture starts with great art/programming, which needs aggressive marketing, and so does the organization implementing the programming. Organizations in culture should use marketing activities to build a "family" (ticket buyers, students, board members, donors, funders and volunteers), which is the most important factor in the organization because it bolsters the financial health of the organization by contributing its time, talent, personal connections and funds.

In addition to financial resources, organizations in culture need human resources, persons who will undertake fundraising activities. Raising money is not the sole objective of fundraising: it also aims to ensure a long-term relationship with the family that will facilitate and ensure the organization's activity and development. Fundraising has both financial and non-financial objectives and requires an integral approach. Most authors agree that this would mean setting up a separate department or appointing a person in the organization who will work only on fundraising, as many successful organizations across the world do. Studies showed that organizations in arts and culture in Croatia do not have such a position in their job systematizations, but that they certainly need people of this profile. Such professionals would certainly help many organizations in arts and culture realize their predesigned programming and survive in the market in the long run. Studies found that institutions recognize the significance and need for the recruitment of experts who would work on searching for – and finding – additional financing opportunities, such as submitting culture project proposals to the calls for funding culture programs, creating sponsor and donor cooperation relationships, as well as developing cooperation with other partner institutions etc.

Finally, there is a need to invest in education and human resources in fundraising by organizing training, seminars or courses. Training should cover topics such as fundraising techniques, project writing, project presentation, management of organizations in culture, development of an entrepreneurial mindset, the motivation of the business sector for donations/sponsorship, good practice examples, and presentation of international trends, practices and experiences. The government can help in this segment by organizing such seminars, bringing in (international) experts in this area, or establishing agencies or organizations specializing in consulting in fundraising. Also, like in developed countries, Croatia can set up study programs at institutions of education or courses in fundraising.

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NEW GUIDELINES FOR DECREASING NON-PERFORMING EXPOSURES IN FINANCIAL INSTITUTIONS IN CROATIA

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Abstract

The aim of this paper is to present new guidelines for commercial banks established by the European Council and decrease the negative effect of non-performing exposure (NPE) in banks' books, which has a direct effect on the profitability of banks.

To decrease non-performing exposure (NPE) in banks' books, a clear NPE strategy needs to be determined. This paper examines the readiness of the Croatian banking system to implement new strategies for decreasing the negative effect of NPE, as laid down by the European Council. The NPE strategy includes the internal capabilities of credit institutions, their external conditions and the capital implications.

The research covers several measures that financial institutions in Croatia can take to decrease NPE and emphasizes the importance of creating a clear op-

erational plan for the banks in Croatia by taking into consideration macroeconomic conditions, NPE markets development, legal framework, and tax implications in the country. It also shows the importance of the organizational structure of the NPE workout units, human and technical resources, as well as control functions. All collection measures and the strategy for decreasing of NPE described in the paper are in line with the European Council guidelines.

Using empirical analysis, the authors claim that the Croatian banking system faces several issues when collecting bad debts, such as legal difficulties and still insufficiently developed NPE markets.

Keywords: *European Council guidelines, non-performing exposure, Croatia, NPE strategy, legal and regulatory framework*

JEL classification: G21

1. INTRODUCTION

The financial crisis negatively affected the European banking sector in various ways, and it contributed to the build-up of a large stock of non-performing exposures (NPEs) on banks' balance sheets. The stock of non-performing loans (NPLs) in the EU banking sector amounted to EUR 989 billion at the end of 2016, EUR 815 billion at the end of 2017 and EUR 779 billion in the first quarter of 2018, i.e. 5.4%, 4.1% and 3.9% respectively of the total loan portfolio. The EU average NPE ratio was 3.4% in the first quarter of 2018.

The Guidelines on the management of non-performing and forborne exposures published by European Banking Authority (EBA) 2018 aimed primarily at reducing NPEs on banks' balance sheets by providing supervisory guidance to ensure that credit institutions effectively manage NPEs and forborne exposures (FBEs) on their balance sheets.

An effort was made to achieve a sustainable reduction of NPEs on credit institutions' balance sheets through their own NPE strategies, which would prove to be beneficial both from micro and macro perspectives. (EBA, 2018). Credit institutions with gross NPL ratios at a level of 5% or above should establish an NPE strategy, as part of their overall strategy, related funds governance and operational arrangements. In addition, higher NPLs dampen profitability, tie up bank capital and raise funding costs (Ghosh, 2017).

Based on data from Croatian Central bank (CNB), the ratio of non-performing loans (NPLs) in the Croatian banking system fell to 11.37% at the end of December, from 12.51% at the end of September 2018. However, according to NPL Monitor for the Central, Eastern and South-Eastern Europe (CESEE) region (H2, 2018), in comparison to the H1 2018 edition of the Monitor, there are only two countries remaining above the 10% threshold in the CESEE; Albania at 13.4% and Croatia at 11.3% (see Appendix 1).

Key initiatives of the Croatian banks are related to further NPL resolution, in the context of still very high NPL level, especially in the corporate sector (22.3%). The banking system still lacks clear criteria for automatic NPL resolution. The potential starting point could be the follow up on write-offs executed in 2017, in attempt to analyze the effects of temporary regulation and suggest modifications to the existing income tax legislation, with the aim of establishing a permanent and efficient procedure for write-offs in terms of tax deductibility that would balance the interests of creditors and debtors. (Stojić, 2018).

The level of NPLs in credit institutions are under the influence of different exogenous and endogenous variables:

1. Exogenous variables; gross domestic product (GDP) growth, interest rates; exchange rate effects; the collapse of real-estate bubbles; tax systems; legal and judicial systems; underdeveloped secondary markets for NPLs;
2. Endogenous variables: Banks' lending and monitoring practices; Banking supervision; bankruptcy or restructuring cases; Accounting standards; lack of transparency of market for collateral assets.

In this paper, the authors examined the relation of exogenous variables with NPL decrease in Croatia like the gross domestic product (GDP), complicated administration problems and the lack of quality legal support, unemployment rate. The paper illustrates how those exogenous factors could be related to negative effects on financial institutions and NPL.

The main hypothesis of this paper is that undeveloped legal and complicated tax systems, insufficient bank data quality, slow justice system together with underdeveloped secondary markets for NPLs, have a negative relation to NPL decrease in Croatia.

The paper is organized as follows: Chapter 2 – presents key drivers of NPLs stock reviewed by other authors; in Chapter 3 and 4 - authors have described

NPL data quality, slow justice system and NPL sale, bank monitoring and scoring models through statistical data and Spearman's rank correlation. Chapter 5 covers Tax and legal obstacles for NPL decrease in Croatia. Under Chapter 6 - the authors made a final discussion and recommendation for further research.

2. LITERATURE REVIEW

Most empirical studies examine the effects of macroeconomic variables on NPE in Croatia. The GDP growth, lending rates, and the unemployment rate have been identified in the economic literature as the primary macroeconomic drivers of NPE. Žiković, Žiković & Arbula Blecich (2015) in the paper examined the effects of macroeconomic and monetary shocks on NPL for households and companies. They have proven that the NPL ratio moves in the same direction as the economic slowdown measured by real GDP or industrial production index. The findings also accent the unemployment rate as a significant variable in the case of the corporate sector NPL. Empirical estimation confirmed a positive long-run relationship between interest rates and NPL since higher interest rates worsen the borrower's loan repayment capacity and refinancing terms. Škarica (2013) also found that the negative GDP growth is the main driver behind NPL in seven Central and Eastern Europe (CEE) countries. The coefficient of the stated explanatory variable is economically large, proving that the slowdown in the economic activity has greatly affected the financial stability of the region. High levels of NPLs across the region are a legacy of the crisis, and as economic recovery came to the countries of the region relatively late and can be described as weak, they are still expected to cause problems.

Authors Louizs, Vouldis and Metaxas (2012) in their paper conclude that for all loan categories, NPLs in the Greek banking system can be explained mainly by macroeconomic variables (GDP, unemployment, interest rates, public debt) and management quality. Differences in the quantitative impact of macroeconomic factors among loan categories are evident, with non-performing mortgages being the least responsive to changes in the macroeconomic conditions.

Erjavec, Cota, and Jakšić (2012) use VAR analysis in investigating the response dynamics of the banking sector to macroeconomic shocks in Croatia. Their results indicate a strong sensitivity of the Croatian banking sector to macroeconomic shocks, but up till now, the sector succeeded in recovering from negative macroeconomic developments.

Ploh (2017) in the paper indicates that too many amendments to legislation, as well as lengthiness, inefficacy, and uncertainty of judicial proceedings present significant obstacles to debtor recovery and/or loan collection in many European countries, including the Republic of Croatia. It is important for each country, in cooperation with banks and regulators, to carry out a comprehensive analysis of the existing legal and regulatory framework in order to identify and then remove obstacles to solve non-performing loans. The legal and regulatory framework for non-performing loan resolution needs to be simple, efficient, transparent and practical.

The authors Andries, Gallemore, Jacob (2017) have examined in the paper how the corporate tax system, through its treatment of loan losses, affected bank financial reporting choices. The loan loss provision is increasing in the corporate tax rate for countries that permit the tax deduction of general provisions. Overall, their results suggest that the corporate tax system is an important determinant of timely loan loss recognition and hence the financial reporting transparency of the banking sector.

3. RESEARCH METHODS USED IN THE PAPER

To examine exogenous factors and their influence on NPL, the authors used a huge base of statistical data from different sources. In the paper, the authors analyzed 39 European countries including Croatia. Data on NPL on the country level were extracted from the European Commission document on Country Report, 2018. GDP per capita and the unemployment rate were taken from the World Bank database, Rule of law - Country rankings data were taken from Finance & Market Global Practice, The World Bank Group (2017).

Based on more than 120,000 households and 3,800 expert surveys, Rule of Law Index measures how the rule of law is experienced and perceived by the general public in 126 countries and jurisdictions worldwide. Rule of Law Index measures rule of law performance of a country across eight factors: Constraints on Government Powers, Absence of Corruption, Open Government, Fundamental Rights, Order and Security, Regulatory Enforcement, Civil Justice, and Criminal Justice.

The scope and volume of NPL, data about NPL sales and other NPL flows and court proceedings in Croatia are illustrated by charts. The volume and scope of NPL consist of two variables: private sector NPLs data and retail sector NPLs data. Source for analyses the NPL sales and other NPL flows were extracted from Croatian National Bank (CNB) and KPMG database from 2018.

Two variables were used to analyze the data for court proceedings and the justice system in Croatia: time needed to resolve litigious civil and commercial cases and a number of incoming civil, commercial, administrative and other cases. Data were extracted from the 2018 EU Justice Scoreboard (European Commission, 2018). Data about tax and legal obstacles were taken from Finance & Market Global Practice, The World Bank Group (2017).

3.1. Application of the statistical method of analysis and results obtained

In the paper, Spearman's rank correlation was used to show the correlation between non-performing loans, GDP, unemployment rate and rule of law for 39 European countries. To examine exogenous factors and their correlation with NPL, the authors used four variables: NPL on the country level; GDP per capita; unemployment rate; variable about tax and legal obstacles.

Table 1. Correlations between variables: NPL, GDP per capita, unemployment rate and rule of Law (N=39)

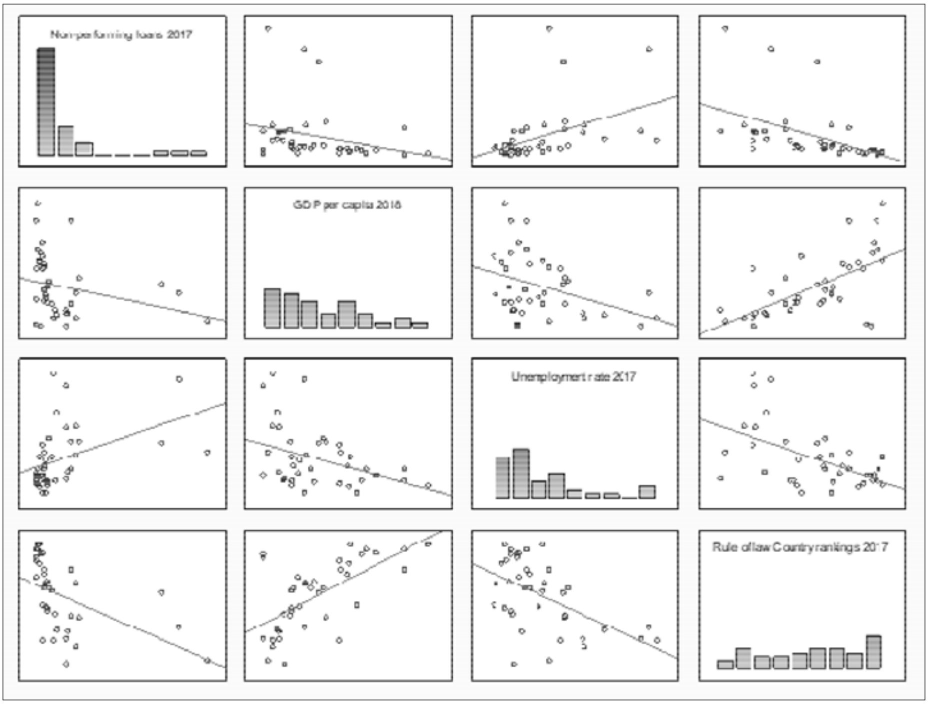
Variable	Spearman Rank Order Correlations			
	Non-performing loans as a percent of all bank loans, 2017	GDP per capita, 2018	Unemployment rate, 2017	Rule of law - Country rankings, 2017
Non-performing loans as percent of all bank loans, 2017	1,00	-0,45***	0,58***	-0,73***
GDP per capita, 2018		1,00	-0,37*	0,65***
Unemployment rate, 2017			1,00	-0,51***
Rule of law - Country rankings, 2017				1,00

Source: Author (2019); *p<.05, **p<.01, ***p<.001

Spearman rank coefficient (Table 1) showed a significant correlation between NPL and GDP; namely, if the GDP increases, the NPL rate decreases. A negative GDP growth could be viewed as the main driver behind NPL. It is very likely that the slowdown in the economic activity affected negatively the financial stability of the region. The findings also accent the unemployment rate as a significant determinant of NPL. Empirical estimation confirmed a positive long-run relationship between unemployment and NPL, since higher unemployment rate related to worse borrower's loan repayment capacity and refinancing terms.

The correlation between Rule of Law Lengthiness and NPL is significant. Inefficacy and uncertainty of judicial proceedings present significant obstacles to debtor recovery and/or loan collection in many European countries, including the Republic of Croatia.

Figure 1: Graphical displays of examined variables distribution and correlation (scatterplot matrix for all examined variables).



Source: Author (2019)

3.2. Croatian NPL statistical report

Based on the European Commission document of Country Report Croatia 2018, the stock of non-performing loans (NPLs) continues to decline in the private sector, albeit at a slower pace. Both the NPL stock and NPL ratio have continued their downward trend, although more slowly than in 2016.

Table 2. Financial soundness indicators, all banks in Croatia

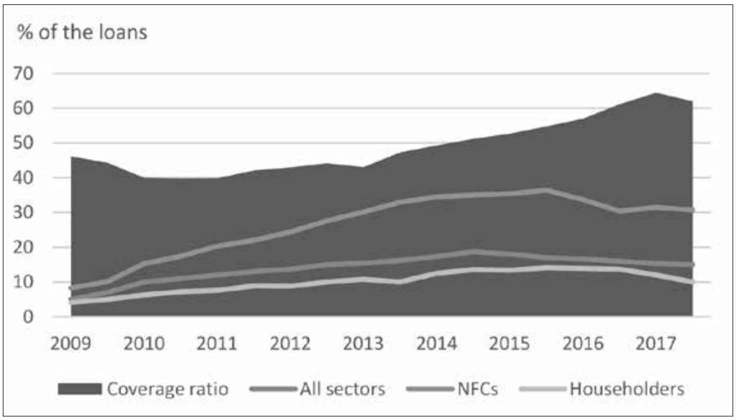
(%)	2010	2011	2012	2013	2014	2015	2016	2017Q2
Non-performing debt ratio	-	-	-	11,8	12,9	12,5	10,1	10,7
NPL ratio (total)	-	-	-	-	13,6	13,0	10,7	11,7
NPL ratio (NFC)	-	-	-	-	31,2	29,9	24,2	26,3
NPL ratio (HH)	-	-	-	-	12,0	11,8	9,7	8,8
Coverage ratio(1)	-	-	-	48,1	54,3	59,1	65,8	60,5
Loan to deposit ratio(2)		111,2	100,5	95,6	91,0	83,7	77,3	78,5
Tier 1 ratio	-	-	-	18,6	19,4	17,7	19,4	19,6
Capital adequacy ratio	-	-	-	19,6	20,4	19,2	20,8	20,9
Return on equity (3)	-	-	-	0,6	3,9	-6,8	8,9	-
Return on assets (3)	-	-	-	0,1	0,5	-0,9	1,2	-

1) Defined as accumulated impairments/NPLs
2) ECB aggregated balance sheet: loans excl. to gov. and MFI / deposits excl. from gov. and MFI
3) For the purpose of comparability, only annual values are presented
4) The variability in 2017 Q2 NPL figures have been partly driven by broadening of the coverage of the database

Source: European Central Bank Consolidated Banking Data, 2018.

From 2014, the NPL ratio is constantly declining from 13,6% to 11.7% in June 2017. NPL housing loan ratio decline for 3 PPS mostly connected to mortgage loans. Quality loan insurance combined with the high value of real estate made loans more payable. In the private sector, the NPL ratio is still significantly high, although declining every year, mostly connected to the construction sector which constitutes 17% of total NPL stock (NPL in construction is above 60% since 2015).

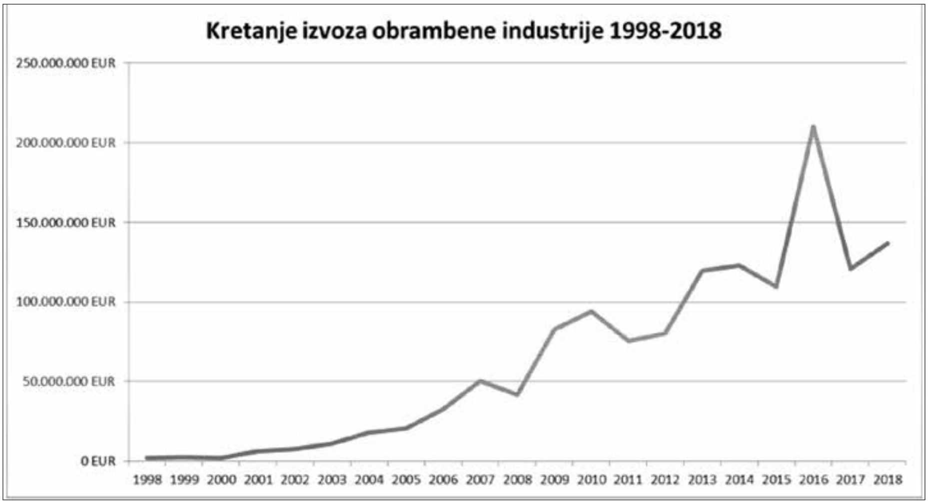
Figure 1. Evolution of NPLs and coverage ratio



Source: Croatian National Bank (2018)

The coverage ratio, defined as the ratio between accumulated impairments and NPLs, has been reduced mainly due to (i); IFRS 9, (ii) huge Agrokor exposures were written off in most of the banks (iii) increase in selling of non-collectible receivables on NPL markets.

Figure 2. NPL sales and other NPL flows



* Mid-2017.
Source: Croatian National Bank (2018).

NPL sales continue to be the main contributor to the reduction in NPLs. NPL sales in 2017 are likely to compare closely to the previous year when total sales were already at historically high levels. A sale of the loan to a third party may be the easiest and most efficient method to dispose of an NPL; it allows credit institutions to mitigate losses, avoid costly collection efforts, and concentrate on lending.

A change in reclassification rules from CNB policy enabled banks to cure loans more easily. As a result of huge NPLs in the books, banks increased share of restructured loans being reclassified as performing. Therewith, the Banks decreased NPLs. Due to defaulted exposures of banks to Agrokor, NPLs increased. Banks could accomplish a significant decrease in NPLs by the sale of non-performing loans. There was also a pick-up in sales activity in Croatia (€0.34 Bn in H1 2018).

From a deal-by-deal perspective, UniCredit was the single most active vendor (based on public sources), selling €0.87 Bn from its Bulgarian and Croatian subsidiaries.

Table 3. Notable Transactions in Croatia

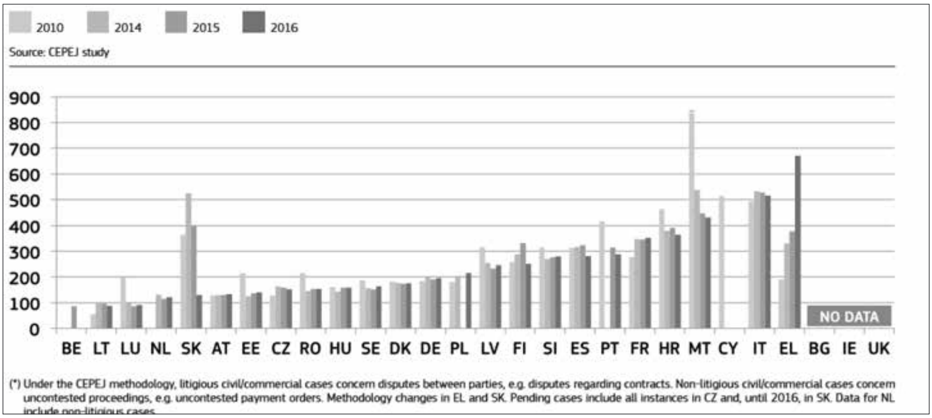
Period	Project	Buyer	Vendor	Country	Asset class	Performance	GLBalance (m)
2018 Q1	Project Sunset	DDM	Raiffeisen Bank	Croatia	N/A	NPL	**€ 140**
2018 Q1	Undisclosed	Ongoing	Undiclosed	Croatia	Corporate	NPL	
2017 Q1	Undisclosed	Ongoing	Heta asset Resolution	Croatia	Corporate	NPL	**€ 47**
2017 Q1	Undisclosed	Ongoing	Heta asset Resolution	Croatia	CRE	NPL	**€ 155**
2016 Q4	Project Sunrise	APS Holding	Hrvatska Poštanska Banka	Croatia	Corporate+Consumer	NPL	**€ 325**
2016 Q4	Project Taurus (Croatia)	APS Holding	UniCredit	Croatia	CRE+Consumer	NPL	**€ 770**
2016 Q4	Project Pathfinder	Undiclosed	Heta asset Resolution	Croatia	Corporate	PL/NPL	**€ 272**
2016 Q3	Undisclosed	Ongoing	Undiclosed	Croatia	Corporate	NPL	
2016 Q2	Undisclosed	Ongoing	Undiclosed	Croatia	CRE	NPL	
2016 Q1	Project Ivica	B2Holding	Privredna Banka zagreb	Croatia	CRE+Corporate	NPL	**€ 200**

Source: KPMG, loan transactions, 2018

Based on data from the Council of Europe Commission for the Evaluation of the Efficiency of Justice (CEPEJ) despite the further reduction in Justice system backlogs, court proceedings remain long and there is room for improvement of the judiciary quality and independence. The decrease in backlogs has been largely achieved due to reduced caseload as courts resolved fewer cases. According to the 2018 European Union (EU) Justice Scoreboard (European Commission, 2018a), the length of court proceedings and backlogs in Croatia are among the most significant in the EU. In 2017, backlogs in first instance courts in civil, commercial, and enforcement cases decreased by 6% (compared to 2016) and courts prioritized oldest cases.

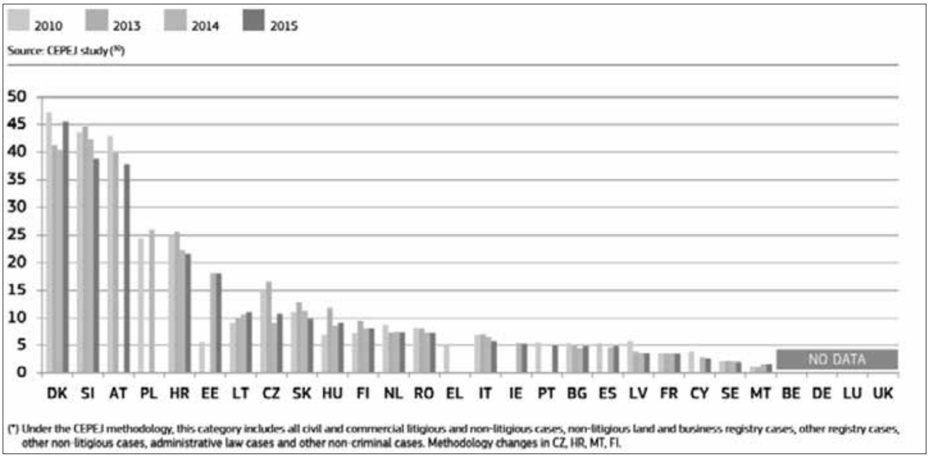
Proceedings in first instance courts remained slow with civil and commercial cases taking on average 884 and 730 days, respectively. However, at second instance, backlogs decreased both in civil cases before County courts (by 13%) and significantly in commercial cases before the High Commercial Court (by 23%), with length of proceedings increasing in civil cases (to 298 days), but further decreasing in commercial cases (to 789 days). A partial reform of the business processes has shown some results at the High Commercial Court but has not been extended to other courts.

Figure 3. The time needed to resolve litigious civil and commercial cases (*) (1st instance/in days)



Source: CEPEJ study, 2017

Figure 4. Number of incoming civil, commercial, administrative and other cases (*) (1st instance/per 100 inhabitants)



Source: CEPEJ study, 2017

The inflow of corporate pre-insolvency and insolvency cases is decreasing, while the number of personal insolvency cases remains low. Driven by economic growth, the influx of pre-insolvency and insolvency cases regarding companies significantly decreased, which helped the courts reduce backlogs. The average duration of proceedings increased both in pre-insolvency (to 416 days) and insolvency cases (to 334 days). Preliminary data submitted by the Ministry of

Justice suggests that initiated insolvencies mainly involved micro-companies without employees or assets, mostly in construction and trade.

4. NPL DATA QUALITY, BANK MONITORING AND SCORING MODELS AND THEIR INFLUENCE ON NPL

One of the major problems is the quality of NPL data. According to European Banking Coordination "Vienna" Initiative, there are two layers of data problems.

First, there is no internationally accepted standard for NPL measurement. National supervisors tend to follow different definitions for loan classification (Barisitz, 2011, Moody's Investor Service, 2003, and Laurin and Majnoni, 2002). Rules and practices regarding roll-over and re-aging may also differ.

The second layer of problems arises from supervisors' difficulties to enforce NPL reporting by banks in line with national rules.

European Banking Coordination made survey across Central, Eastern and South-eastern Europe (CESEE) countries on NPL definitions and reporting standards was conducted. The use of loan classification for NPL definition differed widely (7 out of 13). Where the NPL definition is based on loan classification, NPLs usually comprise the categories "substandard, "doubtful" and "loss" loans (5 out of 7), and less often just "doubtful" and "loss" loans (2 out of 7). By EBA guidelines it is precisely defined that Credit institutions should use the definition of NPE in Annex V to Commission Implementing Regulation (EU) No 680/2014 in their risk management which sets out the key elements of governance and operations in relation to to NPE recognition. Credit institutions should recognize exposures as being past due in accordance with section 4 of the EBA Guidelines on the application of the definition of default [1] and Commission Delegated Regulation (EU) 2018/171 on the materiality threshold for credit obligations past due.[2]

1 Guidelines on the application of the definition of default under Article 178 of Regulation (EU) No 575/2013 (EBA/GL/2016/07).

2 Commission Implementing Regulation (EU) 2018/171 of 19 October 2017 on supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council regarding regulatory technical standards for the materiality threshold for credit obligations past due (OJ L 32, 6.2.2018, p. 1).

According to (Culp, 2001), risk management as a business process can be divided into several key activities: identifying risks and determining tolerances; risk measurement; risk monitoring and reporting; risk controlling; supervision, review and a new risk adjustment.

According to EBA guidelines, credit institutions should monitor the repayment capacity of borrowers. In the case of corporate borrowers, this should be assessed at least annually and at key reporting dates at Credit, institutions should collect the latest financial information from corporate borrowers in a timely fashion.

More inefficient banks are likely to end up with higher quantum of non-performing loans. According to Berger and DeYoung (1997), low efficiency is typically indicative of poor managerial performance. Such managers might not only fail to comply with standard loan monitoring procedures but also be less competent in assessing the value of the collateral and thereby sanction a relatively high proportion of loans with negative or low net present value. This would suggest that the impact of inefficiency on delinquent loans would be positive (Ghosh, 2019).

If a bank has too many bad loans on its balance sheet, its profitability will suffer because it will no longer earn enough money from its credit business. The credit policy of the bank plays a key role in determining the subsequent levels of NPLs. To maximize short-term benefits, managers seek to rapidly expand lending and might end up making less prudent credit decisions. The expansion in loan growth endeavoring to garner market share is achieved either by lowering the interest rate charged to borrowers and/or by lowering credit assessment standards. These include active collection measures for NPL portfolio reductions, taking collateral onto the balance sheet including proper collateral valuations, legal options including out-of-court options (out of court agreement with debtors), selling portfolios, write-offs and developing behavioral scoring to identify potential hard-core cases at early stages of delinquency.

Based on the high NPL ratio, a quality scoring model is still missing in the banks in Croatia. Besides banks, there are non-bank credit institutions encompassing consumer finance companies, leasing firms, credit card companies and pawn shops. Scoring by companies in consumer finance in Croatia must be done appreciating existing customer information (as far as the client had a pre-existing account) or the application data only. The inclusion of third-party information such as data from the credit bureau typically enhances the prediction power of scoring models. It can be expected that consumers in Croatia will increasingly finance cars, motorcycles, driving schools or vacation trips with such loans, therefore, the greater power of analysis of these models would be beneficial as this contributes to greater efficiency in lending. Whereas the banks use their own scoring models, consumer finance companies that newly enter the market would benefit from scoring conducted by the credit bureau. However, it must be ensured that the scoring models and the final decision on a loan application, as well as the main factors that impact the consumer's score, remain transparent. (Non-Bank Credit Institutions).

The Personal Data Protection Agency oversees enforcing the Act on Personal Data Protection. This Act mandates in Article 6 that consumers must be fully informed about data processing and give their informed consent to such processing. This must also be applied to sharing between different entities of corporate groups or if the data is exported to another country.

5. TAX AND LEGAL OBSTACLES FOR NPL DECREASE IN CROATIA

Finance & Markets Global Practice, The World Bank Group (2016) made a very qualitative investigation according to tax and legal obstacles for NPL decrease in Croatia perfectly describing legal and tax obstacles. Investigation of The World Bank Group is summarized in the text below:

"The tax treatment of NPLs in Croatia is perceived by market participants as a major obstacle to NPL resolution. The main problems identified relate to unclear, inconsistent, and overly strict interpretation of tax rules on write-off, provisions, restructuring and sale. For banks, this includes the conditions and measures to assure write-off of value adjustments previously taken. The rules are also unclear with respect to portfolio sales of NPLs. Tax rules related to debt relief are unaccommodating with respect to troubled businesses by taxing the amount of debt forgiven at the corporate tax rate, which discourages parties from engaging in proper debt restructuring. Other taxes such as Value Added Tax (VAT) and Real Estate Transfer Tax (RETT) triggered by property transfers in the context of foreclosures further add costs to collection or disposition efforts. Tax treatment considerations for NPL resolution first arise from the deductibility of provisions for expected losses on the loans of banks. According-ing to Article 11 (3) of Corporate Profit Tax (CPT) Law, expressly provides that "Provisions made by banks for risks of potential losses are recognized as costs in the calculated amount, which may not exceed the amounts prescribed by the CNB." Bank provisions are tax-deductible albeit with certain areas of potential ambiguity including the distinction between on- and off-balance sheet items. The CPT Law failed to incorporate subsequent amendments containing different wording to differentiate between treatment of balance sheet and off-balance sheet items, thereby creating a potential ambiguity in the application of Art. 11/3 of the CPT Law to current banking practice. This ambiguity arises because of Art. 11/3 refers to the tax treatment of "provisions", while the CNB regulations refer to adjustments based on balance sheet items.

Banks classify loans on their balance sheets based on the level of risk of non-payment, which in turn depends on several factors such as the duration of payment default and the potential for recovery considering the status of the borrower, quality of the collateral, etc. Based on this loan classification, Central Bank regulations oblige banks to make provisions for the expected losses of the loans, which are tax-deductible expenses in the tax year in which they arose.

There is also a problem with regulations connected to write off. Banks do not use write-offs as the tax and accounting treatment of NPL write-offs are not fully aligned in Croatia.

According to CNB, a loan is considered impaired when it is probable that not all related principal and interest payments will be collected. Such losses are tax-deductible if provisioned following CNB regulations. Although impaired, the NPL remains on the bank's books at its face value and the bank continues to pursue recovery and collection, until such point that it becomes clear that the loan cannot be fully recovered. At this point, any loan losses can be written-off and removed from the bank's books for accounting purposes, although the deductibility of those losses is not always allowed in Croatia. From a tax standpoint, the distinction between value adjustment and write-off is significant because deductions are taken when the loss is recognized (i.e., point of adjustment) but such deductions can be reversed at the point of a write-off, if the requisites for write-off under the CPT Law have not been met.

The general rule on tax-deductibility of value adjustments for NPLs in the context of collection activities requires that banks take all measures for debt collection. A taxpayer is deemed to have satisfied the requirement of "all measures" if: (i) legal action was instituted for the claims or an enforcement procedure was taken; (ii) the claims were reported in the bankruptcy proceedings or a settlement has been reached with an unrelated debtor (who is not a natural person) in a restructuring or bankruptcy procedure. If collection measures have not been taken before the statute of limitations expires (typically 3 years), any value adjustments taken in previous years on such claims must be included as revenue."

The Ministry of Finance (MoF) has recognized that the Croatian National Bank (CNB) Decision on Credit Institutions' Loan Sale/Purchase does not regulate terms and methods of sale, nor treatment of expenses of sale, which are governed by tax regulations. It notes that the procedure for sale does not establish tax-deductibility of expenses on its own, which must be "determined by assessing the underlying facts according to their economic nature and justifiability, taking into consideration the specific circumstances of every individual case." For this reason, banks currently in the process of preparing portfolios for sale have adopted an approach of valuing assets on a loan-specific basis for purposes of value adjustment, even though the bid price may be based on a portfolio average, fully expecting to have some value adjustments challenged and reversed.

"The loan loss provision is increasing in the corporate tax rate for countries that permit the tax deduction of general provisions. Overall, their results suggest that the corporate tax system is an important determinant of timely loan loss recognition and hence the financial reporting transparency of the banking sector." (Andries et.al., 2017).

6. DISCUSSION

By comparison with other transition economies, according to European Commission document on Country Report Croatia 2018, and by analyzing statistical data of NPL, and other data basses from different sources, authors of this paper confirm that structural factors such as; GDP, unemployment; legal difficulties; bad data quality; undeveloped scoring modes in the financial institutions; slow legal and judicial systems; underdeveloped secondary markets for NPLs; unclear, inconsistent, and overly strict tax systems have a strong impact on level of NPL in CEE countries and Croatia as well.

The NPL and GDP correlation, as well as the NPL, unemployment rate and Rule of Law correlation, are shown by Spearman's correlation coefficient. Significant correlations were observed at the p <.01 level for all four variables in 2018, and the obtained results indicate that the higher the unemployment rate in the country, the higher the NPL and vice versa. In countries with higher GDP per capita, the NPL share is lower in total loans and vice versa and in countries where the unemployment rate is high, the NPL rate is also high. Higher unemployment rate affects the creditworthiness and liquidity of the country and therefore the NPL rate.

Using the Spearman correlation coefficient, the authors proved a positive correlation between the Rule of Law Index and the NPL rate. Just how important is the Rule of Law was shown by Ploh (2017) in the paper entitled Collection of uncollectable loans in Croatia. This author indicated how many amendments to the legislation, as well as lengthiness, inefficiency, and uncertainty of legal proceedings posed significant obstacles to debtor recovery and/or loan collection in many European countries, including the Republic of Croatia. Authors Berger and DeYoung (1997) indicated that low efficiency is a typical feature of poor managerial performance.

Based on analyses made by Finance & Markets Global Practice, the World Bank Group (2016) connected to Tax treatment regarding the interpretation of tax rules on write-off, provisions, restructuring and sale in Croatia it is clearly described how unclearness and inconsistent of the regulations, make obstacles to financial institutions for NPL decrease. Taking into consideration all the above-mentioned aspects to implement EBA guidelines, Croatia needs to take significant efforts not only in financial institutions but also initiate and implement regulatory changes and improve the justice system as well.

The recommendation for the next study is to analyze the level of NPE after two years from the publication of the EBA NPE Fluid Guidance in CEE countries. It will allow the harmonization of the law with EU law and introduce improved model scoring in the financial institutions as well as changes in the judicial system of the Republic of Croatia, thus contributing to the dissolution of NPE both at the state level and at the level of individual financial institutions.

7. CONCLUSION

Croatia has made limited progress in addressing the 2017 country-specific recommendations. Fiscal policy, supported by favorable macroeconomic conditions, has ensured a declining debt ratio, but structural measures have not advanced. Legislation needed to reinforce the fiscal framework has not been adopted, while the previously legislated recurrent property tax has been abandoned.

In 2017, banks realized the largest amount of the sale of claims. The intensive sale activity, present since 2012 additionally increased in the year under observation, resulting in the sale of almost HRK 8.4bn of partly recoverable and fully irrecoverable balance sheet liabilities (gross). The yearlong rising trend in the growth of claims sold is a consequence of banks' intensive activity aimed at reducing non-performing claims in their portfolios, especially long-term problem claims to burden their collection systems and operating results.

The Ministry of Finance should consider targeted tax measures to improve the efficiency of resolving NPLs and to promote recovery of viable businesses. Recommended tax measures include clarifying and/or harmonizing certain tax rules (e.g. write-off of value adjustments, VAT/RETT rules), introducing key tax reforms (e.g. exception for tax treatment of portfolio NPL sales, income exemption for debt forgiveness in the context of formal debt/corporate restructuring proceedings, waiver of certain VAT/RETT taxes on asset sales in the context of foreclosure), and strengthening institutional capacity to ensure a more consistent tax policy interpretation.

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1. APPENDIX

Table 1 - Overview of the NPL profile in CESEE, 31 March 2017 to 31 March 2018

	NPL volume (€ bn)			NPL ratio (%)			NPL coverage ratio			Net NPL ratio (%)			Net NPL / Capital (%)			NPL to GDP (%)		
Country	Mar-18	Variation(%)		Mar-18	Δ(pp)		Mar-18	Δ(pp)		Mar-18	Δ(pp)		Mar-18	Δ(pp)		Mar-18	Δ(pp)	
Albania (AL)	0.6	▼	(20.8)	13.4	▼	(4.0)	69.6	▼	(2.2)	4.1	▼	(0.8)	16.9	▼	(4.7)	5.2	▼	(1.8)
Bosnia & Herzegovina (BA)	0.5	▼	(11.0)	9.7	▼	(1.8)	77.3	▲	2.6	2.2	▼	(0.7)	13.9	▼	(4.1)	5.8	▼	(1.1)
Bulgaria (BG)	3.9	▼	(23.2)	9.6	▼	(3.4)	53.7	▲	3.4	4.4	▼	(2.0)	31.2	▼	(12.2)	7.9	▼	(3.3)
Croatia (HR)	3.8	▼	(22.8)	11.3	▼	(2.5)	70.8	▲	0.1	3.3	▼	(0.7)	14.0	▼	(5.0)	7.9	▼	(2.7)
Czech Republic (CZ)	4.9	▼	(9.4)	2.1	▼	(2.1)	50.5	▲	2.2	1.0	▼	(1.2)	13.2	▼	(3.7)	2.5	▼	(0.6)
Estonia (EE)	0.1	▼	(12.1)	0.7	▼	(0.1)	28.0	▼	(4.9)	0.5	▼	(0.0)	3.0	▼	(0.6)	0.5	▼	(0.1)
Hungary (HU)	1.8	▼	(39.9)	3.6	▼	(2.8)	71.7	▲	4.1	1.0	▼	(1.0)	4.4	▼	(4.9)	1.5	▼	(1.1)
Kosovo (KV)	0.1	▼	(29.0)	2.9	▼	(1.6)	92.2	▼	(1.3)	0.2	▼	(0.1)	1.2	▼	(0.4)	1.2	▼	(0.6)
Latvia (LV)	0.6	▼	(8.3)	3.7	▲	0.2	98.0	▲	4.7	0.1	▼	(0.2)	0.4	▼	(1.1)	2.2	▼	(0.4)
Lithuania (LT)	0.8	▼	(7.7)	3.2	▼	(1.7)	34.4	▼	(7.8)	2.1	▼	(0.7)	22.9	▼	(2.3)	1.9	▼	(0.3)
FYR Macedonia (MK)	0.2	▼	(15.4)	4.9	▼	(1.2)	81.2	▲	3.5	0.9	▼	(0.5)	5.0	▼	(2.9)	2.4	▼	(0.7)
Montenegro (ME)	0.2	▼	(18.2)	7.4	▼	(2.5)	68.1	▲	11.9	2.4	▼	(2.0)	13.1	▼	(8.9)	5.1	▼	(1.4)
Poland (PL)	12.1	▲	6.0	3.9	▼	(0.1)	71.5	▲	1.2	1.1	▼	(0.1)	8.1	▼	(1.1)	2.6	▼	(0.1)
Romania (RO)	3.8	▼	(30.4)	6.2	▼	(3.2)	56.9	▲	0.1	2.7	▼	(1.4)	17.5	▼	(9.2)	2.1	▼	(1.1)
Serbia (RS)	1.6	▼	(41.2)	9.2	▼	(7.6)	60.8	▼	(7.3)	3.6	▼	(1.8)	11.2	▼	(5.8)	4.4	▼	(3.9)
Slovakia (SK)	2.1	▼	(6.9)	3.6	▼	(0.6)	64.6	▲	5.0	1.3	▼	(0.4)	9.2	▼	(2.1)	2.5	▼	(0.3)
Slovenia (SL)	0.8	▼	(41.6)	2.7	▼	(2.1)	72.4	▲	0.5	0.7	▼	(0.6)	5.4	▼	(4.5)	2.0	▼	(1.6)
CESEE	38.3	▼	(16.1)	4.2	▼	(1.8)	64.4	▲	1.4	1.5	▼	(0.7)	10.8	▼	(3.9)	2.8	▼	(0.8)
Cyprus (CY)	19.7	▼	(14.1)	38.9	▼	(7.4)	48.1	▲	5.7	20.2	▼	(6.5)	177.1	▼	(17.4)	105.5	▼	(23.3)
Greece (GR)	101.7	▼	(6.9)	46.0	▼	(1.2)	52.4	▲	3.3	21.9	▼	(2.1)	164.5	▼	(10.5)	56.1	▼	(6.1)
Ukraine (UK)	19.2	▼	(2.9)	56.4	▲	1.3	83.8	▲	6.9	9.1	▼	(3.6)	67.1	▼	(20.3)	24.3	▼	(0.6)
Other	140.7	▼	(7.4)	46.0	▼	(1.9)	56.1	▲	9.1	20.2	▼	(3.0)	155.0	▼	(12.5)	50.9	▼	(4.9)
Total Countries	179.0	▼	(9.4)	14.6	▼	(3.6)	57.9	▲	7.2	6.2	▼	(2.2)	45.5	▼	(11.4)	11.0	▼	(2.0)

Source: NPL Monitor for the CESEE Region – H2 2018

[16] *Variation (%) is calculated as ((value period 1/value period 0) -1), with March 2018 as period 1 and March 2017 as period 0 (where available).*

[17] *Δ (pp) is the variation, expressed in percentage points, between 2 periods. It is calculated as (% period 1 - % period 0).*

[18] *As per footnotes 2, 5, and 13; the latest available data is for March 2018, with the exception of Poland and Lithuania (the latest IMF is available for December 2017). In addition the base period for Greece is September 2017 rather than March 2017 due to changes in definitions. However, the trends presented in Table 1 are consistent with trends derived from EBA data for March 2017 and March 2018.*

[19] *NPL to GDP (%) is calculated of annual GDP values for 2016 and 2017, respectively (rather than quarterly data); which is in line with the IMF World Economic Outlook reporting.*

VENTURE CAPITAL INDUSTRY IN THE REPUBLIC OF CROATIA

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Abstract

Venture capital plays an important role in supporting the emergence and growth of innovative enterprises. This form of finance may constitute an important base for development. It is an important factor in the development of business and economy. The Croatian capital market is relatively young and underdeveloped, in particular with respect to alternative investment opportunities. Businesses are not aware of the venture capital investment process, its advantages and disadvantages, and are not ready to attract this form of capital. There are few venture capital funds in the Republic of Croatia, which represent an opportunity to improve certain projects and boost economic development in the market. The process of deciding in which country to invest money is expensive and time-consuming, whereas the lack of a single definition is an additional impediment. This paper analyzes the issue of venture capital definition. It highlights both the advantages and disadvantages of this type of finance. It analyzes venture capital investments in the Republic of Croatia and discusses its attractiveness in relation to this type of capital.

Keywords: *venture capital, private equity, funds, Croatia*

JEL Classification: G24

1. INTRODUCTION

The local private equity and venture capital industry in Croatia are still relatively undeveloped and foreign private equity and venture capital investors have not yet found sufficient reason to direct their investments to Croatia (Ognjenović, 2007, p. 37-38).

Venture capital investments in CEE countries lag behind the more developed countries of the European Union. The Croatian venture capital industry is unattractive both to foreign and domestic investors due to the non-competitiveness of business and instability of the legal setting. Venture capital markets still represent an unknown and underused source. Venture capital funds are focused on high growth potential industries.

Venture capital is key to boosting innovation and economic growth.

This paper aims to define venture capital, specify the advantages and disadvantages of this type of financing, and analyze the venture capital market in Croatia. The paper will analyze the levels of PE/VC investments in CEE countries and determine the degree of Croatia's attractiveness for this type of capital.

2. DEFINITION OF VENTURE CAPITAL AND PRIVATE EQUITY

The question "what is private equity?" is no longer capable of a quick and simple answer, even if it ever was. In Europe, the asset class as a whole is called "private equity", and it is broadly subdivided into "buyout" and "venture capital. In the USA the asset class as a whole is usually called "venture capital" and buyouts (particularly large ones) are often referred to as "private equity" (Fraser-Sampson, 2007, p. 1-5).

Private equity investing can be divided generally into two streams, a fund investing and a company investing. Company investing is often called "direct" investing. All private equity investing, whether at the fund or company level, can be subdivided into buyout and venture. Buyout transactions typically include debt and involve established and usually profitable companies. Venture transactions typically do not include debt and involve young, even start-up companies and some elements of technological innovation (Fraser- Sampson, 2007, p. 20).

Private equity funding is the provision of equity capital by financial investors to non-quoted companies with high growth potential. Private equity covers not only the financing required to create a business but also includes financing in the subsequent stages of its life cycle. Venture capital (VC) is a subset of private equity and refers to the equity investments made for the launch, early development or expansion of the business (EVCA, 2007, p. 6).

Table 1. Definitions of Private Equity & Venture Capital

Source	Private equity	Venture capital
European Private Equity and Venture Capital Association, EVCA	Private equity is a form of equity investment in unlisted private companies.	Venture capital is a type of private equity, i.e. equity investment in startups.
National Venture Capital Association, NVCA	Private equity is an equity investment in unlisted companies, often defined as an investment undertaken by venture capital funds and buyout funds. This definition sometimes includes partners operating in real estate and oil & gas.	Venture capital is a segment of the private equity industry focused on investing in new businesses with high growth potential and associated high risk.
Croatian Private Equity and Venture Capital Association, CVCA	As a type of investment, private equity includes venture capital investments and further acquisition, i.e. its definition is broader than that of venture capital.	Venture capital is a narrower term than private equity and relates to the financing of a company at an early stage of development and at an expansion stage. In addition to being actively involved in the company's management, a venture capital investment also includes finance restructuring, recapitalization, change in management, business strategy, etc.
Czech Private Equity and Venture Capital Association	Private equity refers to mid-term and long-term investment (financing) in exchange for acquiring part of an unlisted (shares are not traded in any stock exchange). Funds are invested in companies that have the potential to create value, increase their market share and business plans resulting in the production and offering of highly innovative products, services, processes or technology. Private equity includes management buyout, management buy-in, as well as venture capital.	Venture capital is capital invested in companies that are at seed, startup or later stages of development. This is a mid-term or long-term investment whereby a company's equity is acquired.
Australian Bureau of Statistics, ABS	Private equity (at a later stage) represents an investment in companies that are in later stages of development, as well as investments in underperforming companies. These companies still conduct their business, risks are high and investors have exit strategies in place for the purpose of obtaining returns, mostly through capital gain.	Venture capital is high-risk equity, typically in young, innovative or rapidly growing unlisted companies. This is a short-term or mid-term investment with a defined exit strategy, where capital gain takes precedence over ordinary income.

Source	Private equity	Venture capital
Hungarian Private Equity and Venture Capital Association, HVCA	Private equity provides equity to unlisted companies. Private equity may be used to develop new products and technology (venture capital), increase the working capital, for acquisitions, or to enhance the balance sheet.	Venture capital is a type of private equity. It is a professional investment made in cooperation with a business for the purpose of financing the company at an early stage of development (seed or startup stage) or at an expansion stage. This investment implies high risks, but the anticipated returns on investment are also above average.
Polish Private Equity and Venture Capital Association (Polskie Stowarzysenie Investorów Kapitałowych, PSIK)	Private equity provides equity to unlisted companies. Private equity may be used to develop new products and technology (venture capital), increase the working capital, for acquisitions, or to enhance the balance sheet.	Venture capital is a type of private equity referring to equity investments undertaken for the purpose of starting a business, investing at an early stage of development or expansion of a company.

Source: Šimić, 2015, p. 271

Fundamental differences between venture capital and corporate finance are presented in Table 2.

Table2. Comparisons of venture capital and corporate finance

Attribute	Corporate finance	Venture capital
Tradeability of shares	Passive/indirect	Illiquid active/direct
Monitoring of management by shareholders	High	Low
Role of the market for corporate control Access to capital	Competitive „anonymous" capital market	Early-stage: access limited to set of financiers with highly specialized skills Later stage/buy-outs: closer to a competitive market but active monitoring skills required
Asset specificity	Generally, relatively low	Firms with highly specialized assets
Project valuation	Application of a wide range of techniques	Restricted range of techniques (e.g. where early-stage investments do not pay dividends) and/or need for a greater range of sensitivity analysis because of greater uncertainty of cash flows
Investment decisions	Single-stage	Multi-stage
Information availability	Private information is rare; provision of public information is mandatory	Private information widespread and difficult to reveal, hence the requirement for close monitoring of managers

Source: Dziekoński & Ignatiuk, 2015, p. 36

2.1. Venture Capital Advantages & Disadvantages

Venture Capital provides the company with an opportunity to expand. In venture capital, the investors themselves are ready to take the risk as they believe in the company's long-term success. Venture capital financing is beneficial for start-ups with high initial cost and limited operating history. As venture capitalists have experience in building and expanding start-ups, their expertise and guidance can prove to be beneficial. They can help with building strategies, technical assistance, resources, etc. in order to make a business successful. Venture capitalists have a huge network of connections in the business community. There is no obligation to repay the venture capitalist investors if the start-up fails or shuts down. It is very easy to find and locate VC within minutes, investors, as they are documented in various directories. If there is a difference of opinion between the VC and the start-up founder, then things can get chaotic. Any major decision requires the consent of investors. Venture capital funding is often found to be a lengthy process. Venture Capital funding involves a huge amount of risk. So, VC's usually takes lots of time to decide whether they want to undertake investment or not. Because venture funding involves a huge amount of capital, the VC may not release all the funds at the same time (eFinance Management, 2019). Table 3 presents the advantages and disadvantages of venture capital.

Table 3. Advantages and Disadvantages of Venture Capital

Advantages	Disadvantages
• Opportunity for Expansion of Company • Valuable Guidance and Expertise • Helpful in building networks and connections • No obligation for repayment • Venture capitalists are trustworthy • Easy to locate • Large funding amounts • Help with risk management • Help from experienced leaders	• Dilution of Ownership and Control • Early Redemption by VC's • VC's take a long time to decide • Approaching a VC can be tedious • May require high Return on Original Investment • May release the funds from time to time • May lead to under-valuation

Source: efinancemanagement.com; fitsmallbusiness.com

3. ANALYSIS OF VENTURE CAPITAL INVESTMENTS IN CEE COUNTRIES

Europe boasts a wealth of talent, world-class researchers and skilled entrepreneurs but many new firms do not make it beyond the critical first few years because they cannot get the finance to scale up into global businesses. Europe's venture capital funds are not big enough to attract major institutional and private investors nor to finance companies as they grow. Another problem is the source of VC funding: compared to the US, EU venture capital receives far more public funding and much less private investment (European Commission, 2018).

3.1. Fundraising in CEE countries

Government agencies – the leading source of funding in CEE during the previous nine years – were again the largest source of capital in 2018. They accounted for 42% of the CEE region's total funds raised. Funds-of-funds followed with 16% of CEE funds raised in 2018. Banks contributed a more substantial 11% of the total CEE fundraising in 2018. Private individuals grew in importance in 2018 to 9% of all funds raised (EVCA, 2019, p. 6).

The table below presents the total funds raised in CEE between 2014 and 2018. In 2018, these investments reached EUR 1.82 billion, which is 10% more than in 2017. It is clear that the number of funds raised was the lowest in 2015 and peaked in 2018.

Table 4. Fundraising for CEE private equity, 2014.-2018. (in € million)

2014.	1,523
2015.	389
2016.	848
2017.	1,652
2018.	1,819

Source: EVCA, 2015; EVCA, 2019

CEE buyout funds raised €1.2 billion in 2018, 61% of the total capital raised for the region and 38% more than in 2017. They are followed by venture capital funds, which raised EUR 521 million or 29% of the total capital raised, the amount of which was 11% higher than the year before. Meinvestanine funds raised €112 million, representing 6% of the total capital raised for the CEE region in 2018. Likewise, most funds were raised through buyout funds in previous years.

Table 5. Fundraising by stage – incremental closings (in € million)

	2014.	2015.	2016.	2017.	2018.
Generalist fund	172	75	19	/	/
Meinvestanine fund	29	80	16	183	112
Buyout fund	1,188	105	560	811	1,188
Growth capital	31	45	106	72	67
Venture capital	104	84	147	586	521

Source: EVCA, 2015; EVCA, 2019

3.2. Venture capital investments in CEE countries

Venture capital investments in CEE reached EUR 2.7 billion in 2018. Compared to the preceding year, 2017, this amount decreased by 24%. In 2014, this amount was the lowest of all 5 years.

Table 6. Annual investment value in the CEE region (in € million)

2014.	1,475
2015.	1,700
2016.	1,703
2017.	3,532
2018.	2,685

Source: EVCA, 2015; EVCA, 2019

In 2018, €160 million of venture capital (VC) funding was invested into the CEE region, 32% more than in 2017. Start-up stage investments rose by 66% year-on-year to €98 million in 2018 and continued to make up the largest category of the VC market in CEE, accounting for 61% of the region's total VC investment value. Seed investments increased in value by 8% to a record of €38 million. Later stage VC investments declined by 12% to €24 million.

Table 7. CEE venture capital investments by stage, 2014.-2018. (in € million)

	2014.	2015.	2016.	2017.	2018.
Seed	16	16	16	35	38
Start-up	63	103	109	59	98
Later stage venture	42	24	15	27	24
Total	121	143	140	121	160

Source: EVCA, 2015; EVCA, 2019

The number of CEE start-ups receiving VC funding increased by a significant 84% year-on-year to 90, comprising 30% of the total VC-backed companies in 2018.

Table 8. CEE venture capital investments by stage, 2014.-2018. (number of companies)

	2014.	2015.	2016.	2017.	2018.
Seed	64	84	62	123	203
Start-up	137	179	170	49	90
Later stage venture	61	43	22	9	10
Total	257	301	249	179	300

Source: EVCA, 2015; EVCA, 2019

4. ANALYSIS OF THE VENTURE CAPITAL MARKET IN CROATIA

Although present, venture capital does not yet play a significant role in Croatia as it does in some developed countries. Some of the reasons for this are (Šimić, 2015, p. 280):

- the venture capital market is still shallow and undeveloped;
- businesses are not familiar with the entire venture capital invest process;
- in terms of invest, businesses are not ready to attract this type of capital;
- businesses are not certain about the advantages and disadvantages of this form of capital and do not understand what this form of capital offers and what it requires;
- businesses are not ready to surrender ownership.

According to the Croatian Bank for Reconstruction and Development (HBOR), venture capital funds are working to improve the business of companies in which they invest their capital by strengthening management competencies, implementing operational improvements and helping companies penetrate new markets. FRC2 Croatia Partners is a venture capital fund that started partly by using ESIF financial instruments through cooperation with the European Investment Fund. The investment amounts range between € 10,000 and € 1 million. Investments are made in startups and companies that have completed their early stage of development. CROGIP (Croatian Growth Investment Programme) is a financial program established by the European Invest Fund. It was started by EIF and HBOR for the purpose of investing in small and medium-sized and mid-cap companies. EIF and HBOR jointly invest funds in venture capital funds and co-invest with funds. Economic cooperation funds (ECFs) are private open-ended investment venture capital funds established and operating in accordance with the Alternative Invest Funds Act. They are established for the purpose of stimulating economic development, creating new jobs, empowering existing and starting new economic operators. 6 ECFs are registered in HANFA's registry: Inspirio FGS, Prosperus FGS, Inspirio Alpha, Honestas FGS, Prosperus FGS II, Quaestus Private Equity Kapital II. As a qualified investor appointed by the Government of the Republic of Croatia, HBOR takes part in implementing ECFs' activities together with private investors. Funds are intended for companies established in Croatia that have high growth potential, competitive advantages and good management, duly conduct their business and offer an acceptable rate of return on ECFs' investment.

4.1. Venture capital investments in the Republic of Croatia

The table presents annual investments in different CEE countries. Such investments totaled € 77 million in Croatia in 2018. In the preceding year, this amount was much lower, only € 3 million, which is the lowest amount in all 5 years under analysis. € 42 million was invested in Croatia in 2014, € 13 million in 2015, and € 41 million in 2016. In 2018, Poland recorded the highest levels of invest and Slovenia the lowest. In 2014, the Czech Republic recorded the highest levels of invest and Ukraine recorded the lowest level of funds invested. The generally highest level of invested funds was recorded in Poland in 2017 and the lowest in Slovenia in 2018.

Table 9. Annual investment value in CEE (in € million)

CEE countries	Total investments				
	2014.	2015.	2016..	2017	2018.
Poland	258	896	805	2,505	850
Czech Rep.	296	16	168	67	767
Hungary	170	194	101	209	346
Romania	89	166	148	493	311
Estonia	23	21	81	8	159
Croatia	**42**	**13**	**41**	**3**	**77**
Lithuania	**39**	**49**	**156**	**6**	**50**
Serbia	329	229	48	2	34
Slovakia	15	17	17	4	26
Ukraine	4	17	11	20	25
Bulgaria	3	45	27	18	16
Latvia	51	26	26	175	9
Slovenia	13	11	73	22	1

Source: Source: EVCA, 2015; EVCA, 2019

The table presents the number of companies by CEE country in which funds were invested. In 2018, Croatia recorded 8 such investees and 3 in the preceding year. In 2014 and 2016, investments were made in 6 such companies and 4 in 2015. Hungary reached the highest number of such investees in 2018 (191), whereas Slovenia recorded the lowest number, with only 2 investees.

Table 10. Annual investment in CEE, 2015.-2018. (number of companies)

CEE countries	Number of companies				
	2014.	2015.	2016.	2017.	2018.
Poland	86	139	84	61	71
Czech Rep.	14	15	16	20	15
Hungary	73	89	87	105	191
Romania	23	18	16	9	8
Estonia	16	17	23	8	26
Croatia	**6**	**4**	**6**	**3**	**8**
Lithuania	45	34	26	11	17
Serbia	3	4	4	4	7
Slovakia	12	26	31	4	8
Ukraine	5	6	3	8	12
Bulgaria	5	21	16	19	22
Latvia	34	32	31	8	7
Slovenia	8	8	8	4	2

Source: Source: EVCA, 2015; EVCA, 2019

In 2015, 2016 and 2017, investments in Croatia included only startups, with € million invested in 2015, increased to € 4.1 million in 2016, and decreased to € 2.6 million in 2017. € 300,000 was invested in 2014 in Later-stage venture, whereas in 2018 € 375,000 was invested in Seed companies and € 1.5 million in Startups.

Table 11. Type of investments by CEE country- Croatia, 2017-2018 (in € thousands)

Fund stage focus	Amount				
	2014.	2015.	2016.	2017.	2018.
Seed	0	0	0	0	375
Start-up	0	1,000	4,132	2,627	1,520
Later stage venture	300	0	0	0	0
Total venture	300	1,000	4,132	2,627	1,895
Growth	19,000	11,547	0	0	7,612
Rescue/Turnaround	22,636	0	0	2	0
Replacement capital	0	0	10,056	0	0
Buyout	0	0	27,150	0	67,225
Total	41,936	12,547	41,338	2,627	76,732

Source: Source: EVCA, 2015; EVCA, 2019

4.2. VCPE attractiveness index for Croatia

Investors are unable to make a rational decision to invest private equity and venture capital without understanding the socioeconomic environment of the country in which they want to invest (Groh et. al., 2018, p. 7).

The attractiveness of each country is rated based on an analysis of different parameters. The VC/PE country attractiveness index is a sort of guide for institutional investors which facilitates their decision-making.

Six key elements are considered for the purpose of calculating the attractiveness index. Each element includes sub-criteria based on which the country's attractiveness index is established and integrated (Groh et. al., 2018, p. 8).

1. Economic Activity- An economy's size and employment levels affect the anticipated course of PE/VC investments because they show the levels of prosperity, welfare, and entrepreneurial activity.

- Total Economic Size (GDP), Expected Real GDP Growth, Unemployment

2. Depth of Capital Market – A well-developed capital market is important for the establishment of a vital PE/VC market.

- Size of the Stock Market, SM Liquidity (Trading Volume), IPOs & Public Issuing Activity, M&A Market Activity, Debt and Credit Market, Bank Non.-Perf. Loans, Financial Market Sophistication

3. Taxation- Tax regimes play an important role in the process of making a decision to start and/or abandon a specific business. Direct and indirect taxes affect entrepreneurial activity.

- Enterprise. Tax. Inc. & Adm. Burdens

4. Investor Protection and Corporate Governance – The quality of a country's legal framework is very important because conducting business is expensive without appropriate legal protection.

- Quality of Corp. Governance, Security of Property Rights, Quality of Legal Enforcement

5. Human and Social Environment – Rigid labor market policies, corruption, and criminal have an adverse impact on the development of the PE/VC market, whereas education plays an important role.

- Education and Human Capital, Labour Market Rigidities, Bribing and Corruption

6. Entrepreneurial Culture and Deal Opportunities – Access to sustainable investments is probably the most important factor vis-à-vis international PE/VC investments.

- Innovation, Scientific & Tech. Journal Articles, Ease of Starting &Running a Business, Simplicity of Closing a Business, Corporate R&D

The table below presents the levels of six variables used to calculate the VCPE index for Croatia in 2013 and 2018. In 2018, Croatia was ranked 68th. The Human and Social Environment variable received the lowest score, followed by Economic Activity. The two highest-scoring variables ate Depth of Capital Market and Deal Opportunities. In 2013, Croatia was ranked 65th on this list. The Economic Activity and Investor Protection & Corporate Governance received the lowest scores of all variables, whereas Taxation and Deal Opportunities received the highest ones.

Table 12. Croatia's ranking among 125 countries under analysis

Indicator	2013.		2018.	
	Rank/125	Score	Rank/125	Score
VCPE Country attractiveness Index	65	48,8	68	51,8
Economic activity	94	59	88	56,6
Depth of Capital Market	66	37,8	60	48,1
Taxation	21	106,5	81	91,1
Investor Protection and Corporate Governance	80	52,1	77	57,1
Human and Social Environment	73	46	90	36
Deal Opportunities	49	53,3	64	52,4

Source: VCPE Country Attractiveness Index 2013 and 2018 report

Table 13 shows that Croatia is below the index value for Eastern Europe. Irrespective of such lower index value, Croatia boats higher growth of index value.

Table 13. VCPE index value

	2013.	2018.
Republic of Croatia	48,8	51,8
Eastern Europe	56,5	57,5

Source: Beritić, T., 2019

According to Table 14, Croatia lags behind the rest of Eastern Europe in terms of the value of the Economic Activity determinant. In 2018 its value increased by 11.18%, which indicates an above-average positive trend compared to other Eastern European countries.

Table 14. Economic Activity determinant value

	2013.	2018.
Republic of Croatia	59,0	65,6
Eastern Europe	69,8	73,8

Source: Beritić, T., 2019

The determinant value for Eastern Europe increased by only 2.92% compared to 27.24% in Croatia. In addition, Croatia achieved a higher value than the rest of Eastern Europe in 2018.

Table 15. Capital Market Depth determinant value

	2013.	2018.
Republic of Croatia	37,8	48,1
Eastern Europe	44,4	45,7

Source: Beritić, T., 2019

Table 16 shows that the Taxation determinant decreased in Croatia, but increased in Eastern Europe, which implies that tax incentives deteriorated, and the administrative procedure became impeded.

Table 16. Taxation determinant value

	2013.	2018.
Republic of Croatia	106,5	91,1
Eastern Europe	87,8	100,1

Source: Beritić, T., 2019

The value of the Investor Protection & Corporate Governance determinant increased both in Croatia and in Eastern Europe, which means that the quality of corporate governance improved.

Table 17. Investor Protection & Corporate Governance determinant value

	2013.	2018.
Republic of Croatia	52,1	57,1
Eastern Europe	62,1	63,2

Source: Beritić, T., 2019

The value of the Human & Social Environment determinant decreased in Croatia and in Eastern European countries.

Table 18. Human & Social Environment determinant value

	2013.	2018.
Republic of Croatia	46	36
Eastern Europe	69,1	58,6

Source: Beritić, T., 2019

The value of the Entrepreneurial Culture & Deal Opportunities determinant decreased by 1.69% in Croatia and increased in Eastern European countries.

Table 19. Entrepreneurial Culture & Deal Opportunities determinant value

	2013.	2018.
Republic of Croatia	53,3	52,4
Eastern Europe	53,5	57,2

Source: Beritić, T., 2019

5. CONCLUSION

When observing private equity investments, a problem arises when this term is attempted to be defined because it varies between countries. Private equity is a form of investment in unlisted private companies, whereas Venture capital is a segment that implies invest in early-stage companies.

The Croatian capital market is young and underdeveloped although there is great potential for venture capital market expansion however the poor situation sends a wrong message to a foreign and local investor. The greatest threats to development are insufficient investments in education, the rigidity of the labor market, poor quality of legislation enforcement, low tax incentives for entrepreneurship and high administrative burdens. Venture capital companies in Croatia fail to find a sufficient number of sound investment projects, so capital raised remains unutilized in a number of cases.

The paper provides an overview of PE and VC definitions and specifies the advantages and disadvantages of venture capital investments. Venture capital is an opportunity to expand a company, financing amounts are high and there is no repayment obligation. Venture capital financing includes a tremendous amount of risk and is considered to be a long-term process.

An analysis of venture capital investments in CEE countries between 2014 and 2018 determined that most funds were raised in 2018, with government agencies as the primary source of funding. 61% of all capital raised results from buyout funds. The highest level of venture capital invest was recorded in 2018 – € 160 million.

In Croatia, funds are working to improve the companies they invest in. Six economic cooperation funds are registered in HANFA's registry: Inspirio FGS, Prosperus FGS, Inspirio Alpha, Honestas FGS, Prosperus FGS II, Quaestus Private Equity Kapital II. € 77 million was invested in 8 Croatian companies in 2018.

To be able to make a rational decision to invest in private equity and venture capital, investors must understand the socio-economic environment of the country in which they want to invest. There are 6 key elements taken into account to calculate the attractiveness index: Economic Activity, Depth of Capital Market, Taxation, Investor Protection, and Corporate Governance, Human and Social Environment, and Entrepreneurial Culture and Deal Opportunities. The Republic of Croatia ranked 68th in 2018. The Human & Social Environment variable received the lowest score, whereas the Depth of Capital Market received the highest score.

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Marketing and marketing management

ELEMENTS OF THE TOURIST OFFER OF THE ISLAND OF RAB

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Abstract

Tourism encourages the development of various supporting activities and services. These services and activities are designed and created within a tourist destination. The tourist destination represents a place in which an offer of various interconnected services is supplied and where companies in the tourism sector are connected. The island of Rab, as an island tourist destination, naturally possesses attractive natural resources of high tourist value. To maintain a balance between preservation of the original qualities of the area and new construction, it is necessary to consider the sustainable development of this tourist destination. Hotels and attractive natural features make some of the most important elements of the overall tourist attraction. In this scientific paper, the research of the elements of Rab's tourist attractions is presented by research of certain sectors. Also, the results of a conducted survey of the managers of tourist and highly visited landmarks are reported. In this case study, the main factors and trends of the destination of Rab, as well as guidelines for further development and improvement of the tourism industry and related activities, are listed. The purpose of this paper is to highlight the influence of the elements *of tourism on all aspects of the development of the island of Rab. This research aims to recognize and point out the importance of the development of certain suppliers to potential tourists and the factors that influence further development of tourism. The concept of this research includes an analysis of the current situation, offers recommendations for further development and can be used for future similar research.*

Keywords: *tourist offer, an island of Rab, tourist destination, sustainable concept, development elements*

JEL Classification: Z30, Z32

1. INTRODUCTION

The development of tourism has multiple effects on all the economic sectors of a community. In planning the development and growth of tourism, national or regional levels are oftentimes considered. Today's tourist industry is one of the most dynamic social and economic phenomena (Bruža, et. al., 2019, 34). There are various strategies and plans for the development of tourism and its influence on the environment. However, it is necessary to emphasize that the development of the tourism of certain tourist destinations needs to be adjusted to the aims of the developmental plans of local authorities and tourist boards. Moreover, to enable the development of tourism in their community, the local population should be positive, stimulating the overall economic development of the entire local community by the development and growth of tourism itself. Taking that into consideration, tourist development needs to be planned to either avoid or reduce the negative consequences such as exceeding the capacity rate, noise, water, earth or air pollution, as well as the disposal of waste and all the other unwanted saturations of the area in the local community. Consequently, Rab was selected as the subject of the research being one of the bigger Croatian islands specific in many ways, including the responsibility in the management of tourism. As there are many comparative and competitive advantages of the island of Rab, the local community, in cooperation with the tourist board and the local population, decided to develop the island of Rab as a leading island tourist destination. Tourism, being a network of various relations, sectors, and phenomena, as well as an industry itself, in greater proportion enables the improvement of living conditions. It should be noted that the very year of 2019 was the record year by all indications. Consequently, the income in tourism, for example, rose by 8 percent at the level of the Republic of Croatia. According to the research of the Ministry of Tourism, in 2019 tourist spending in Croatia was increased by 20 percent at the national level, the profile of tourists who visit Croatia are the people who are between 35 and 50 years old, with an average salary of 3,500 euros. Tourist spending in hotels is 18 percent higher than in the same period of the previous tourist year, which means that it amounted to 144 euros in 2019. Plans are made to spend more than 1 billion dollars on new investments in tourism in 2020 and the implementation of the marketing plan will improve the preseason and late season indicators. Generally, according to the estimates of the Ministry of Tourism, even the rise of the tourist flow by 3 to 5 percent is expected in 2020, when compared to 2019. All things considered; it is reasonable to assume that the island of Rab will develop in the tourist sense.

2. SPECIFIC FEATURES OF THE ATTRACTIVENESS OF THE ISLAND OF RAB

2.1. The connection between the island and the environment

When considering the elements of the features of the island of Rab which make it special, the most influential attractive factors of the island can be singled out. These are geographical location, climate, relief, water (the sea), flora and fauna, cultural and historical factors, etc. The island of Rab is the fourth island in the Kvarner Gulf (Paparić, et. al., 2018, 1181). As Paparić reports in his research, the island of Rab has favorable location, in terms of traffic and tourism, and is oriented towards the European mainland (Paparić, et. al., 2018, 1181). In terms of traffic, geography and tourism, the location of Kvarner, with the Rab archipelago as one of its parts, is particularly favorable. The profile of tourists from the most developed parts of Europe gravitates here.

2.2. Comparative advantages of the island

Every single element of the offer, which satisfies some tourist needs, i.e. the wish, and which can be economically evaluated at the same time, make the element of the entire tourist product of a tourist destination. Characteristics of the elements of a tourist product of the destination of Rab are contained in:

- attractive
- communicative, and

- receptive factors

The primary features of the island of Rab are: (Andreškić, 2012, 50):

- natural features,
- cultural and historical heritage,
- infrastructure,
- administrative organization,
- population and labor potential,
- urban planning

The island of Rab is treated as a tourist destination with a few tourist settlements and the need to form a certain tourist product, including the creation of organizational and human conditions. The overall tourist offer is managed as an offer of a tourist destination, acknowledging the diversity of the elements offered, of every subject which offers responsibility for the offer defined in this manner, not decreasing the responsibility of every single holder of a certain component of the overall destination offer. The island of Rab, which has also been mentioned throughout history as Felix Arbae, is parallel to the coast of the Velebit mountain foothills, which gives it a comparative advantage about the other islands in Kvarner. Natural resources, rich history, and cultural and historical heritage are the foundations for tourist activity, which is the main industry with a century-long tradition. The development of tourism brought a decrease in the agricultural population and increased the proportion of the population active in tertiary industries. They offered new possibilities for employment. This makes the island of Rab one of the few islands whose population is not declining, and such a positive period has lasted since the second half of the 19th century. Tourist product to a great extent conceptually overlaps with the totality of the elements of the offer of all the services for tourists. It includes everything that has been created, offered and sold to tourists in a particular tourist area (Senečić & Vukonić, 1997, 32).

2.3. Receptive factors of the island of Rab

While researching the receptive factors of the island of Rab, it is important to explain what this includes. Relevant receptive factors of a tourist destination are made by the main potentials of all the accommodation capacities. Based on them, the secondary potential of the off-season offer is further developed. For the primary and secondary potentials to be in mutual harmony, strategic thinking and marketing orientation are necessary. Moreover, the emphasis needs to be put on the fact that the needs of tourists differ and that, consequently, diverse tourist offer in a tourist destination needs to be ensured. Receptive factors of the destination of Rab can be divided into two categories: the direct tourist receptive capacities and the indirect receptive capacities (Španjol, 1997, 34). Španjol sets out factors for each category, which need to be developed simultaneously so that the island of Rab could fulfill all the requirements for the classification of a tourist destination.

Table 1. The receptive factors of the island of Rab

GROUP OF FACTORS	FACTORS
DIRECT TOURIST AND RECEPTIVE CAPACITIES	• Properties for tourist accommodation, • Properties which offer food, beverages, and entertainment, • Stores, • Means of communal traffic • Properties for crafts and repair
INDIRECT RECEPTIVE CAPACITIES	• Parks, promenades, coastal paths, viewpoints, and the like • Decorative public facilities (fountains, sculptures, and the like) • Water supply capacities, electricity supply, and the like

Source: analysis of the author according to Pirjavec, B. Ekonomska obilježja turizma, Golden marketing Zagreb, Zagreb, 1998, page 37.

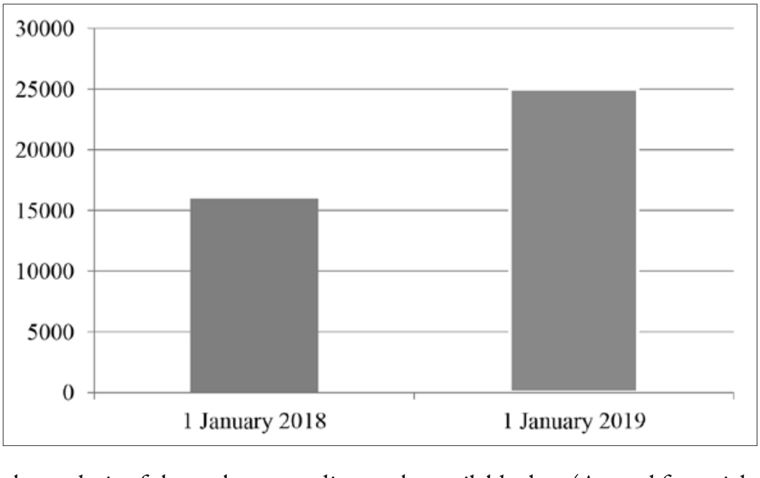
According to the aforementioned facts, for the island of Rab to continue its systematic development as a tourist destination, it is necessary to methodically develop all the developmental elements of direct and indirect capacities. The examined sources and previous research in most cases claim that everything starts with the construction of properties for tourist accommodation, while the catering services then draw on these properties enabling the satisfaction of the requirements of tourists. Furthermore, to stimulate tourist spending, it is necessary to develop commerce and the properties for crafts, which will offer traditional products. Next, to make tourists feel comfortable in a destination, communal traffic needs to be developed, which is in line with the set standards, and take account of the decoration of the supporting infrastructure. Also, water supply capacities and electrical supply have to be functional all the time, while particular attention needs to be given to the preservation of cultural and historical facilities.

3. THE ANALYSIS OF THE CONDITION OF THE TOURIST COMPONENTS OF RAB

3.1. An overview of the tourist indicators – the communication of value

The communication of value is based on the strengthening of the usage of information and communication technology, to get as closer as possible to the intended groups of tourists. Information is the most important managerial resource (Cerović, 2010, 786). As Bruža and Rudančić report in their research, the role of information management is to collect and filter the data, to collect the information which will be used for future business activity (Bruža & Rudančić, 2018, 9). According to the Work Program and the Financial Plan of the Tourist Board of Rab for the year 2019, over 19 percent of the budget expenditures are intended for the development of the value of communication. Financing is planned from the income generated from the tourist tax, tourist fees, other income that is not specified and the income generated from providing services. Online communication includes Internet marketing, managing Internet websites and photographs, and social networking sites. For example, an increase of 8,167 new followers was made on Facebook, which was also accessed when researching the data. The chart shows the difference in the number of new followers when comparing 2018 and 2019.

Graph 1. The total number of Facebook followers for the Tourist Board of Rab



Source: the analysis of the author according to the available data (Annual financial report of the Tourist Board of Rab, 2018, www.rab-visit.com, date of access: 15 January 2020)

Offline communication includes promotional campaigns of the public and private sector – a joint marketing, general marketing (press, TV), airline marketing, PR agencies, brochures and printed materials, souvenirs, and promotional materials as well as tourist signalization.

3.2. An overview of tourist indicators – the number of arrivals, overnight stays and the accommodation capacity

According to the available data of the Croatian Central Bureau of Statistics, the most prominent results have been registered for the town of Rab. The Bureau states that in 2018 there were 185,330 arrivals, 16,386 of which are domestic and 168,994 foreign. When making the comparative analysis of the tourist seasons of 2017 and 2018, positive indicators are present. Besides the arrivals, in 2018 there was a total of 1,306,442 achieved overnight stays, 76,685 of which were domestic and 1,229,757 foreign. The following table shows the indices of arrivals and overnight stays when the two years are compared.

Table 2. The relation between the arrivals and overnight stays of domestic and foreign tourists

TOURISTS	INDEX OF ARRIVALS (2018/2017)	INDEX OF OVERNIGHT STAYS (2018/2017)
Domestic	122.2	116.5
Foreign	100.7	99.8
TOTAL	102.2	100.6

Source: analysis of the author according to the available data (Central Bureau of Statistics of the Republic of Croatia, https://www.dzs.hr, access: 15 January 2020)

Considering the overall trend of the entire island of Rab, a continuous rise in the number of arrivals and overnight stays also exists for both domestic and foreign tourists, i.e. the increase in the total number of arrivals in 2018 about 2017 by 1 percent. The following table shows the trend of the island of Rab through a few selected years up to 2018. The table follows the model of another research in which the authors analyzed the history of the development of tourism on islands and the integration of a new brand in tourist offer. A positive tendency of the rise of arrivals and overnight stays in noncommercial accommodation is registered, so the increase by 4 percent in the number of arrivals and the increase by 3 percent in the overnight stays can be seen about the previous year.

Table 3. Tourist trends on the island of Rab

YEAR	ARRIVALS	OVERNIGHT STAYS
2005.	215,986	1,550,882
2010.	226,763	1,722,243
2015.	255,633	1,910,485
2018.	292,371	2,212,668

Source: Rudančić, A., Paparić, D. & Ćućić, D. Strategy as an instrument of sustainable development of the Croatian islands, Interdisciplinary Management Research 2018, page 991

Regarding the tourist season of 2019, the island of Rab jumped out as one of the most popular tourist destinations in the Republic of Croatia. Table 4 sets forth the numbers for the accommodation of tourists on the island of Rab. As the representative years, the period of years from the previous decades was taken to make a comparison with the last two years and to show the tendency of investments in the accommodation capacity of the island.

Table 4. Accommodation capacities on the island of Rab in the observed periods

YEAR	PERMANENT BEDS	ADDITIONAL BEDS	TOTAL
1989.	24,134	3,080	27,214
1990.	23,731	2,299	26,030
2000.	28,038	2,070	30,108
2003.	28,666	1,534	30,200
2008.	33,648	2,231	35,879
2017.	34,012	2,305	36,317
2018.	34,199	2,305	36,504

Source: analysis of the author according to the available data (State administration office of the Primorje-Gorski Kotar County, Economy office, Department of statistics, 2018)

The numbers through a few years are purposefully presented to show a positive direction for the development of accommodation capacities for the previous period. The tendency of the rise in the number of beds is the most evident in private accommodation, namely apartments. Permanent beds include all the beds whose function is to be rented to tourists throughout the entire year. Additional beds include the beds that are prepared when needed and the beds used during the tourist season and not throughout the entire year. Besides apartments, a rise in the quantity of hotel accommodation is evident, but great potential for the development of additional hotel accommodation and campsites also exists.

3.3. SWOT analysis of the island of Rab

One part of the analysis of the state relates to particular descriptive elements that can also be used for the state analysis of the tourist destination of Rab. For this purpose, a matrix of these indicators is created. According to Bruža and Rudančić, it offers a framework of strengths and weaknesses as well as a framework of certain opportunities and threats, which can influence the growth and development rate (Bruža & Rudančić, 2017, 133).

Table 5. SWOT matrix for the island of Rab

STRENGTHS	OPPORTUNITIES
1. Geographical location 2. Transport connection 3. Mediterranean climate 4. The purity of the sea, earth, and air 5. Educated operational management 6. Involvement of the local population	1. Opening of the new outbound markets 2. ICT 3. Drawing money from the EU funds 4. Larger investments by hotel companies 5. Admission of new hotel brands 6. Prolongation of the tourist season to the entire year
WEAKNESSES	**THREATS**
1. Insufficient accommodation 2. Capacity 3. Seasonality 4. Economic dependence 5. Slower adjustment to trends 6. Bureaucracy 7. Limited physical capacity	1. Uncontrolled construction 2. The proximity of ecological pollutants 3. Wastewaters 4. Lack of education of the top management 5. The wrong developmental orientation of the destination 6. Unfavorable legal frameworks and support

Source: analysis of the author

The island of Rab has detected its attractive factors, it has systematically approached the development of tourism respecting the needs of the local population and the wishes and needs of tourists. The main strength of Rab is precisely its geographical location, the proximity of outbound markets, an excellent connection with them, a relatively high rate of natural preservation and the involvement of the local population in the creation of the tourist product. On the other hand, the physical limitation of the island position as well as the price levels of products and services about the destinations of the mainland, the dependency on the natural resources, are some of the main weaknesses that can hinder the development. There are also some environmental threats, primarily passing unfavorable legislation for the island development, change in the economic policy of the outbound countries, the proximity of ecological pollutants, wrong business orientation, the decrease in the budget planned income and the effects of global warming, which can substantially affect the indicators of the tourist turnover, primarily in the decrease of the number of arrivals, overnight stays, the decrease in the tourism revenue and the halt in the infrastructural projects. To alleviate the potential threats, it is necessary to focus on the opportunities, such as additional withdrawal of the funds by the European Union projects, making use of the information and communication technology to make a breakthrough at the new tourist markets, attracting new profiles of tourists from the other parts of the world and attracting new business partners, new renowned hotel chains, which will extend their business activity precisely to an island such as Rab.

4. RESULTS OF THE RESEARCH AND THE ANALYSIS

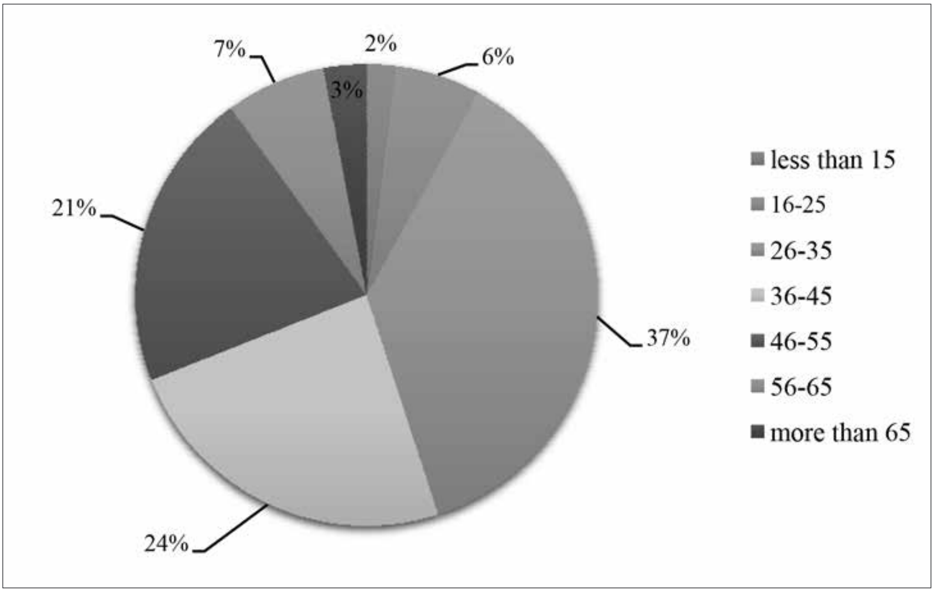
4.1. Empirical research of the attitudes of the holders of the tourist offer of Rab

To gain new knowledge and give certain recommendations on this subject, it is necessary to research the attitudes of the local population as well as the tourists of the island of Rab. Therefore, research utilizing opinion polling was carried out. The polls are formed to reveal the social and demographic features of the sample tested and, then, to specify the influence of tourism on the entire destination. The elements offered, which the respondents were evaluating, were theoretically elaborated in the first part of the paper. The research was conducted in the third quarter of 2019 and a total of 100 questionnaires were distributed.

4.2. Social and demographic characteristics of the respondents

Regarding the age of the respondents' profile, it is concluded that the largest proportion belongs to the respondents who were between 26 and 35 years old, and the smallest proportion to the respondents up to the age of 15. The average age of the respondents is 45.

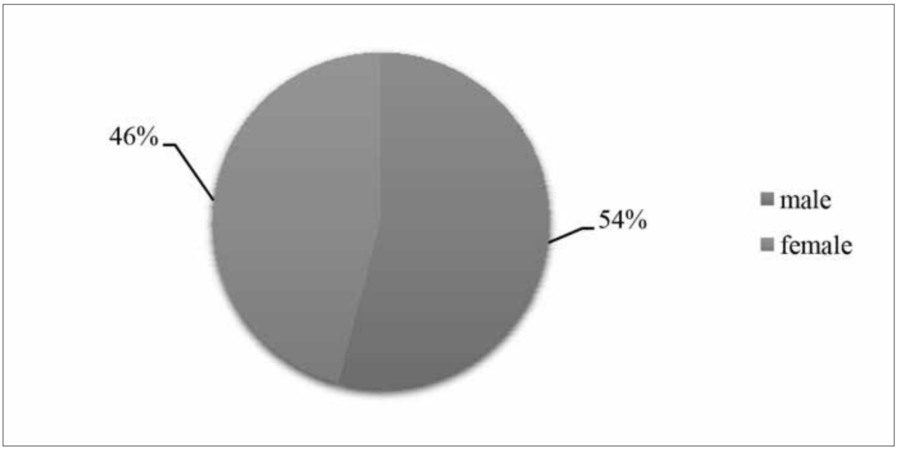
Graph 2. The age of the respondents (%)



Source: analysis of the author

The next graph shows the proportion of male and female respondents, so the conclusion can be drawn that the proportion of male sex is 54 percent, which is 8 percentage points higher than the proportion of the female sex of the respondents, with 46 percent.

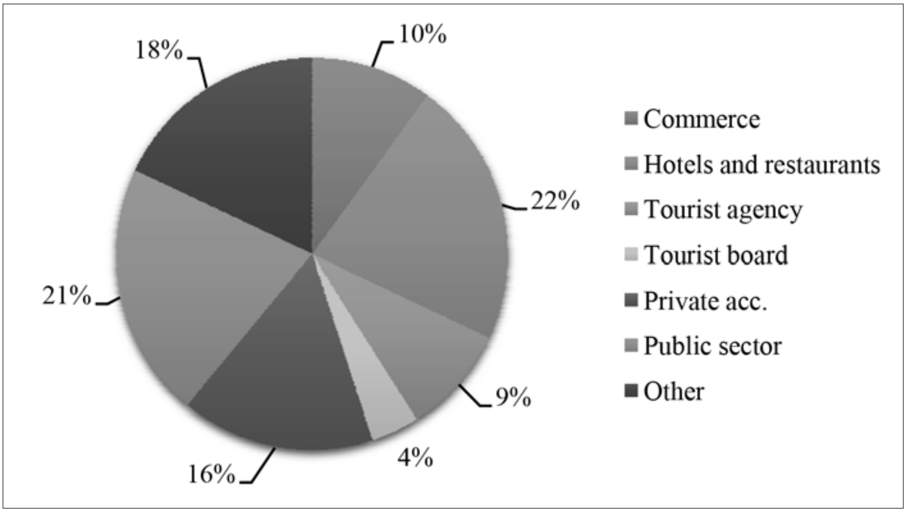
Graph 3. Sex of the respondents (%)



Source: analysis of the author

The third segment of the profile of the respondents was related to their workplace. According to the data obtained, it is concluded that more than 20 % of the respondents are employed in hotels and restaurants and the public administration, while the smallest proportion (4%) is employed in the tourist board (graph 4).

Graph 4. Workplace of the respondents (%)

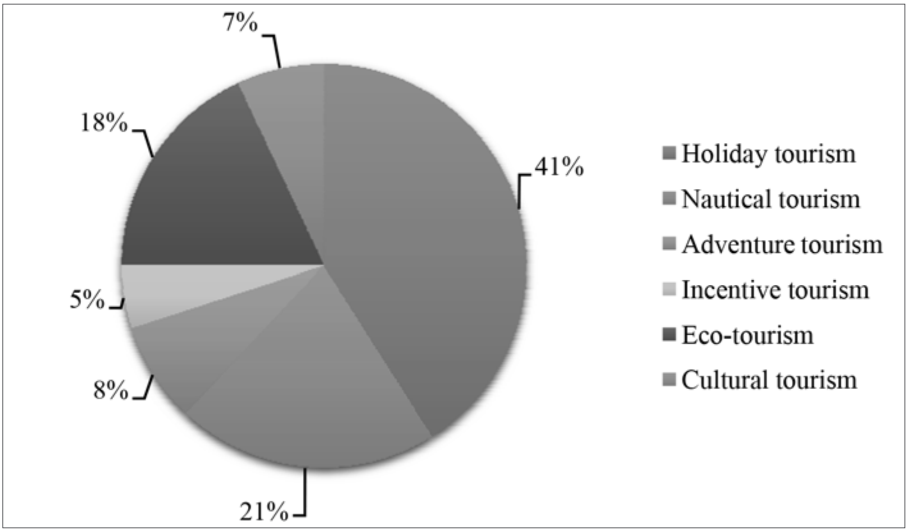


Source: analysis of the author

4.3. Evaluation of the elements of the tourist offer of the island of Rab

When evaluating the elements of the tourist offer of the island of Rab, rates of the satisfaction of the respondents were researched. The variables researched were: key holders of the tourism of the destination of Rab, primary motifs for arrival to the island and secondary motifs for arrival to the island of Rab, coordination, and cooperation between the holders of the tourist offer, the importance of the elements of the offer for further development and the forms of tourism that will take primacy as well as the entities that will have potentially greatest improvement in the tourist industry. The majority of the respondents (31%) stated that the key holder of tourism in a destination was private accommodation and the smallest proportion (7%) thinks that it is the municipality or town. The primary motive for the arrival of tourists in a destination is rest (32%), while the smallest proportion (1%) considers shopping to be the primary motif. 15% of the respondents think that the primary motif is cultural tourism, which holds developmental potential. The secondary motif of the arrival of tourists in a destination is natural beauties for 34% of the respondents, while the smallest proportion (1%) thinks that these are events. Potential for the development of an additional product can be seen in the development of cultural tourism (12%) through the valorization of cultural heritage. The largest proportion (44%) thinks the Internet is the most important source of information on a destination. The importance of the representation of tourism fairs as important sources of informing tourists on a destination is evident in the proportion of 24%. The development of the Internet, which enables an economical way of the promotion and distribution of information about a destination, influenced 44% of the respondents, who choose the Internet as a source of information, while newspaper marketing takes the smallest proportion (3%) in informing tourists on a destination. As the major shortcoming of the destination, the respondents chose the transport infrastructure (28%), while area devastation is the shortcoming for the smallest proportion of respondents (2%). The fact that 21% of them think that the major shortcoming of the destination is coordination and structure of offer in a destination is alarming. As the biggest opportunity of a destination, the respondents selected the prolongation of the tourist season by new tourist products (34%). 4% of them think that the smallest opportunity for the development of the destination is agricultural development. 13% of the respondents think that the developmental potentials of the destination lie in the offer segmentation. Half of the respondents (47%) think that the biggest threat to the destination is uncontrolled construction, which needs to be regulated by a legal framework and the development of urbanization plans. The proportion of the elements (22%) of the inadequate legislative support in a destination speaks in its favor. Wastewaters represent the smallest threat (1%). More than 50% of the respondents are highly satisfied with the coordination and cooperation of the holders of the tourist offer in the destination. It would be interesting to find out why a high percentage of the respondents (37%) remained neutral when evaluating the coordination and cooperation of the holders of the tourist offer in the destination. There is a notably high percentage of the respondents (65%) who consider the following elements to be of major importance for the development of a destination: climate, the kindness of the employees, transport accessibility of a destination, decoration of a destination, cultural content, catering properties, destination offer. The fact that more than 22% of the respondents think that elements such as foreign language skills and information available before the arrival to a destination are not important for the development of a destination is of high concern.

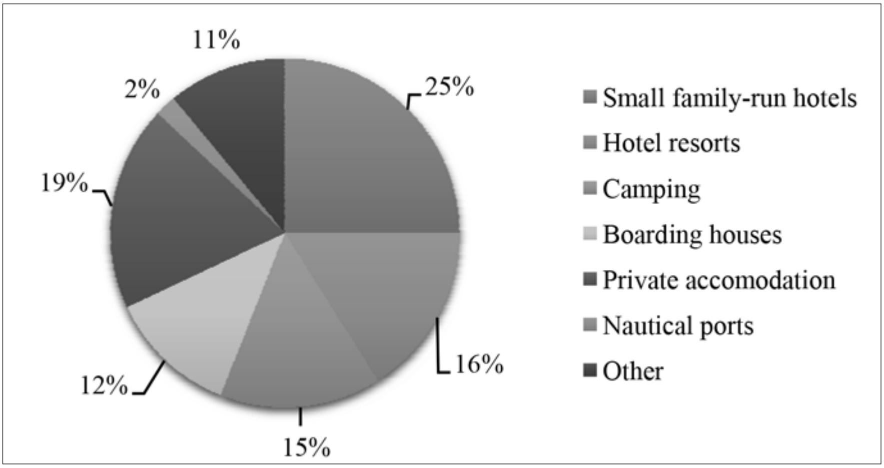
Graph 5. The types of tourism that will take primacy in the tourist offer of the island of Rab



Source: analysis of the author

41% of the respondents think that holiday tourism will be present the most, while incentive tourism will be developing the least (5%). In the future nautical tourism has the greatest developmental potential (21%). The majority of the respondents also think (25%) that entities such as small family-run hotels will show the greatest improvement in terms of the tourism business activity of the island of Rab. Ports of nautical tourism will have the smallest level of improvement in terms of the tourism business activity of the island of Rab (2%), according to the statements of the respondents. It is important to point out that tourism encourages the construction of new properties and the development of services in a community, which perhaps otherwise would not be present. In this manner, tourism has an indirect influence on the improvement of the standard of living of a community. The benefits may include improvement of infrastructure, improvement of health care and transportation, new sports, and recreational facilities, restaurant and public areas, including the inflow of goods and food of higher quality.

Graph 6. Entities with the greatest improvement in terms of tourism business activity



Source: analysis of the author

5. CONCLUSION

The research subject of this paper is the island of Rab, which is one of the bigger Croatian islands specific in many ways, including responsible tourism management. Considering there are numerous comparative and competitive advantages of the island of Rab, it is easily noticeable that even the local community, in cooperation with the tourist board and the local population, decided to develop Rab as the leading island tourist destination. Tourism, as a network of various relations, sectors, and phenomena, as well as an industry, contributes to the improvement of the standard of living in greater proportions. While researching the available sources, interesting information has been obtained and analysis of the situation resulted in the presentation of the tourism turnover of the island of Rab. This was a foundation for further research, with a view of determining the elements of offer, which can be compared to past research.

These are the main conclusions of the research:

- the island of Rab has its competitive advantages in terms of natural resources, which are of high tourism value.
- the island has a particularly developed configuration, which meets the preconditions of the infrastructural development of the entire island.

- the island of Rab is treated as a tourist destination with a few tourist settlements.
- there is a need for a joint presentation on tourist market through a combined tourist product; the overall tourist offer is managed as an offer of a tourist destination acknowledging the diversity of the offered facilities of each of the entities
- the secondary factors of attractiveness also have influence, which influences the decision of tourists to visit a particular tourist location.

A matrix of strengths, weakness, opportunities, and threats of the island of Rab was also created. The main conclusions of this section indicate that, despite the evident strengths and opportunities that need to be used and developed by the island of Rab, there are also a certain number of potential threats, which the destination of Rab needs to know how to answer to parallelly minimizing its weaknesses. The recommendations for further research are presented through a descriptive analysis of the data obtained from the conducted research so they could certainly be used as a foundation for further research, both on the island of Rab and the other Croatian islands, where tourism presents the main component of the overall development. The involvement of the local population is necessary. The community that is involved in tourism planning and development has a proportionally more positive attitude, offers greater support and has a better chance of earning more money from tourism when compared to a more passive population. One of the crucial elements of further tourist progress is the development of the community. Tourism may lead to positive development. Tourism also has the potential for improving social development by generating workplaces, redistribution of income and elimination of poverty.

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THE SIGNIFICANCE OF GUEST SATISFACTION MEASURING METHODS IN THE HOTEL SECTOR

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Abstract

The purpose of the current study is to present those guest satisfaction measuring methods that appear in some areas of the economic sector. Therefore, this study that was written with the objective conceptual and literature summary presents the various methods used to measure satisfaction in tourism (e.g., the GAP model, KANO model) and links (e.g., TQM measurement method used in the production sector), together with administering satisfaction methods used in the financial sector (e.g., the importance of a CRM system in the financial sector). The study shows that satisfaction is a very important concept. The biggest problem with customer satisfaction measurements in the case of services is subjectivity, meaning the company cannot fully satisfy all target groups' expectations at the same time, that is why it is crucial to choose the adequate target group. For this reason, an enterprise needs to measure customer satisfaction, as it can provide the corporate executives with relevant information about the weaknesses and strengths of products and services (to select the right target group) for greater future success.

Keywords: *GAP-model, KANO-model, SERVQUAL-model TQM, CRM*

JEL Classification: Z32, Z33

1. INTRODUCTION

The current study aims to present a comprehensive picture of satisfaction measuring methods. In the first parts of the study the measurement methods related to "other" economic areas will be introduced, (e.g., the TQM system linked to the production sector and the CRM system also appearing in the financial sector) along with the methods used to measure the satisfaction of the tourism sector. (e.g., GAP model, KANO model). Further in the study, some service quality models are also going to be presented that are believed to be related to the topic of satisfaction. Then at the end of the study, a summary of the "results" and connection points will be given from the aforementioned chapters.

Considering previous results, the matter of satisfaction can be linked to several other economic fields besides tourism. On the one hand, it is related to finance, because it is the high level of satisfaction that a company can generate profit from. (Pajrok, 2017) It can also be linked to the production sector since it is up to consumers what standard or exclusive products, services companies need to develop to gain a competitive advantage over others. Also, the topic of satisfaction is closely linked to the topic of quality as well. For this reason, it is also important to present some methods tending the measuring of service quality that can be connected to the topic of satisfaction.

Measuring the quality and satisfaction, especially in case of services is a difficult task because the measurement options for services are completely different from those used for products. This can be attributed to several reasons, which are the following:

1. The first problem is that services are not tangible, meaning they cannot be measured by precise criteria.
2. Next, services are heterogeneous, which means that provider performance changes every day. A good example of this is that service is not the same in all the hotels. In the case of a hotel, the massage service is the same, but the masseur might not fulfill the work providing the same quality.
3. Customers don't only judge the services based on the outcome (e.g., dinner being delicious at the hotel) but also the process of providing the service comes more to the fore (e.g., how long it took for the guests to be served and how kind the waiter was while serving, etc.).
4. The quality of service is subjective, meaning it is difficult to judge which services are good or bad. Each consumer has different needs, which further complicates the measuring possibilities. Therefore, the decisions about development in the quality of services can also be problematic.

For the above-mentioned reason, in many cases, it is not clear for the manager what to strengthen, to what extent and in what form and also what outcome it shall have in the future. The lack of mathematical and statistical methods (either because they are useless or because they are non-existent) can further exacerbate the decision problem. In this case, previous experiences of managers may get to play a role. However, in many cases, this method also leads to bad decisions due to identifying the wrong problem (see lack of mathematical and statistical methods, varying needs, etc.).

To make management decisions more effective, the following conditions must be met:

1. Defining the dimensions that can be used to demonstrate the characteristics of the service
2. Developing measurements based on the dimensions
3. Determining actors and actors' assessments (data collection)
4. Creating records
5. Making statements based on the available data
6. Preparing propositions for the managers
7. Continuous database update
8. Making data available to different departments

These tasks require the configuration of an appropriate decision support system (DSS) where they based on models that have already been accepted and tested. (Becser, 2005)

In addition to the above-mentioned, international and domestic empirical studies have also supported the fact that measurements about satisfaction are genuinely important to companies. (Oliver, 1997). It proves its significance that these studies provide information that is important to corporate executives about their products and services for awaited future success. (Jones & Lin, 1997, Emerson & Grimm, 1999, Sharma et al, 1999, Yang, 2003, Lam et al, 2004)

One of the benefits of the indicators used in different methods (in the case of a multi-departmental company) is that with them certain sections of the corporation can be compared, and also it can help the company to narrow down the areas for improvement to further sub-areas. (Jones & Sasser, 1995) For example, in a hotel, the wellness and sales departments can be compared.

A hotel must determine what level of satisfaction it has since this can determine the business success of a hotel. (Karakasné - Morvay, 2014) When talking about hotels, the primary form of measuring is inquiry and observation (Seitz, 2000) because of the special nature of the services. Hotels primarily use the survey (questionnaire-based) method when measuring satisfaction, which has the advantage of providing immediate feedback on the services used by the guests during and after the delivery of the used services. These questionnaires that are used to measure the satisfaction are usually placed in the guests' rooms by the hotel staff, but there is also the option of personally handing a questionnaire to the guest at the reception desk to fill out, but ultimately, they are sent electronically to the guest's mailbox. (Karakasné - Morvay, 2014)

Questions of satisfaction measuring usually include the following groups of questions:

1. Outcome measures: forming questions that ask guests about their overall satisfaction.
2. Process measures: these examine the standards of the services, e.g., quality of service, the attitude of employees, etc.
3. Open-ended questions: these address the consumer's general summarizing opinion as well as the causes of their dissatisfaction when forming the questions.
4. Demographic Issues: used to filter out the segments that have chosen the given hotel as a destination for relaxation. (Israel, 2000)

Conducting surveys that examine satisfaction covers the entire service process, beginning with the selection of a particular service and ending with the completion of all services. The significant problem with satisfaction surveys is subjectivity. This means in the case of a hotel that it is not possible to satisfy all consumer segments with the services at the same time, so it is essential to determine the target group of the hotel. (Karakasné - Morvay, 2014) In addition to satisfaction, loyalty also needs to be measured if a company wants to expand its customer base. (GKI, 1999)

In recent years, due to the Internet, more and more companies have created their websites to showcase their products and services. The advantage of having a website is that also with this tool, it is possible to encourage purchases. Another argument for owning a website is that many companies only exist on this platform and only meet their customers' needs online (e.g., online hardware stores). In this case, examining the competitive side of it, it is also a determining factor whether or not the customers find the website effective. Measuring consumer satisfaction is also important in the online environment. Retaining existing customers cost the company much less than acquiring new customers. From this point of view, this can also mean that by increasing the level of satisfaction of the existing customers, the companies' profit can more easily be increased. (Somogyi, 2013) For this reason, hotel management should not only focus on the proper operation of the accommodation but should also pay increasing attention to the lifestyle of their guests (Csapó et al. 2019) and the very strongly felt consumer trend, the environmental awareness. (Ásványi & Komár 2018, Hajmásy, 2018)

2. SATISFACTION MEASURING METHODS IN THE PRODUCTION SECTOR

In this chapter, satisfaction measuring methods will be presented that can be related to the production sector. The "problem" is that the measuring methods associated with the production sector focus on quality rather than satisfaction. Due to this problem, the chapter will rather try to present the connections between the two topics.

Companies' primary goal is maximizing their profits through ensuring satisfaction, quality products, and services. There is the problem of subjectivity also when talking about quality which can lead to the difficulty of quantifying satisfaction and quality studies. Each consumer/customer has a different need for products/services, thus further complicating the measuring possibilities. In the present case, considering the results, a parallel can be drawn between the two topics.

The consumer is fully aware of the quality of the product/service as he/she is using it, thus seeing the whole process of using the product/service. It is very important to make as few mistakes as possible when providing the services. However, if an error occurs, it is necessary to fix the problem as quickly and accurately as possible. (Hauck, 2015) In this case, the employees working in the organization also play an important role, as they can solve the given problem the fastest. Another important aspect is the emotional intelligence (EQ) level of the person. Here a parallel can also be drawn between the two topics.

(Hauck & Németh, 2012) It is very important when providing a product or service for the company to implement quality and satisfaction improvements so that the company doesn't experience disadvantages by other factors that affect competitiveness. (Hauck, 2015) Here the TQM (Total Quality Management) plays a role that can carry out perfecting while reducing the production cost of a given product or service. TQM is a kind of management practice that strives to fully meet the needs of its customers within the organization. TQM strives for continuous improvement within the organization, with this, changing the classical quality thinking approach within the organization regarding outdated quality control measures.

For TQM to succeed, it is necessary for all organizational staff (whether it is an employee or a manager) to be involved throughout the whole process. The corporate culture also has a strong influence on the success of TQM, that's why commitment from the entire organization is required. For full success, TQM also requires that the organization has clear strategic goals. It is possible that companies need to grant their existing employees time, money and training to develop the right TQM system, especially if the company has a strong organizational culture. (Merih, 2016)

The 3 cornerstones of TQM are:

1. To develop a system where the buyer, the consumer and the stakeholders play the key roles.
2. To design a system that is fact-based and continuously evolving
3. Employees who strive to serve customers and consumers properly and to facilitate further improvements to the system. (Topár, 2009)

During the presentation of TQM, the parallel between the 2 topics is recognizable.

Another developmental and measuring method is Six Sigma, which was created in the 1980s for better quality improvements. According to this method, improvements are only possible by comparing the current organizational performance (developed after the introduction of the method) with the previous performance. These aspects are examined using a scoring system from which the degree of change can be measured. Other viewpoints can be examined if not only in-house departments but also the performance of the competitors are taken into account. Benchmarking teams are established within the company to analyze where the problems are. This is an essential part of the complete quality management.

Overall, it appears that TQM and Six Sigma aim to create an environment where there is a chance for continuous improvements. Benchmarking has a lot to offer to an organization but it's important to recognize that success depends on many factors. Change is often difficult to implement and it requires serious commitment. For a chance to be successful the organization must define the processes that the changes require and ensure that it has sufficient financial and human resources to support it. (Merih, 2016)

The following Kaizen method seems to be one of the best ways to improve performance. In this method, the relationship between the manager and the employee plays the main role, which seeks to strengthen the good relationship between the two people. The method for this is for the manager to reward the efforts of certain employees for the better performance of the company that was achieved through the change. The method also seeks to improve communication between employees. Companies that want to achieve better performance, on the one hand, need to maintain their market position by continuously improving the quality of the services they provide, it is necessary to reduce the incurring costs, and every employee must be committed to change. (Gratiela, 2011) In light of this, the parallel between satisfaction and quality can be noticed in this topic as well, because to achieve satisfaction it is required to meet the above-mentioned criteria, the same way as in the case of quality. Also, considering the results, it is clear that for all three methods the entire organization (subordinate - manager) is needed to produce a positive outcome.

3. SATISFACTION MODELS IN FINANCE

In this chapter, those satisfaction measuring methods are going to be described that appear in the financial sector. Several questions arise about this topic. The researchers did not argue that the connection is close between satisfaction and loyalty but sought answers to questions about the nature of the relation between the two areas and on the other hand, formed a group of questions whether satisfaction alone could generate loyalty. Many companies measure satisfaction over some time but not loyalty. In addition to measuring satisfaction, loyalty surveys also generate greater economic profits. (Bátor, 2007)

On this basis, it can be assumed that the primary measurement method is the CRM system (Customer Relationship Management). Customer Relationship Management (called CRM) began to spread in the late 1990s. This system appeared mainly in sectors (e.g., telecommunication companies) where customers could easily be identified by providing their personal information. (Agárdi & Gyulavári, 2017). CRM focuses on company-related activities that deal with building customer relationships. CRM concentrates on finding and winning new customers and strengthening relationships with the existing ones. Reinartz et al. (2004) analyzed in a comprehensive model the CRM processes (design, maintenance, termination) and the impact of the CRM system on corporate performance. Various organizational factors, as well as different technological and industrial factors, were taken into account in these investigations.

One of the most prudent theories, however, is one of Payne (2007). In developing the theory, he took strategic aspects into account within which he developed five major areas. These 5 aspects are strategy development, value creation, channel management, benchmarking and information management.

Value creation is based on the exchanging of value between the company and the customer. This means that on the one hand, the company adds value to its customers with its products or services. On the other hand, customers bring value to the company in terms of financial (revenue) and non-financial (satisfaction, loyalty). (Frow & Payne, 2005)

Taking corporate perspectives into consideration, through the deliberate development of the CRM system both financial and non-financial values are created. Non-financial values include e.g., customer satisfaction as well as loyalty. (Agárdi & Gyulavári, 2017) Satisfaction, in this case, shows to what extent the service has met the consumer's expectations. (Kenesei & Kolos, 2007). Loyalty consists of two factors: the consumer's emotional attachment to the company and the possibility of repurchase resulting from the consumer's satisfaction and emotional attachment. (Basu & Dick, 1994). Greater satisfaction increases loyalty, which positively affects the company's profitability. (Anderson et al. 2000) Although according to other studies, satisfaction does not necessarily lead to loyalty due to the amount of switching costs and the better offers from competitors. (Picón et al. 2014) Based on a new CRM performance indicator system, the system points of CRM can be divided into four separate measurement dimensions. These include firstly the infrastructural environment of the CRM system, which includes factors such as management attitude, employee satisfaction, etc. This dimension shows the index numbers measuring the capturing and retaining of new customers. The next dimension is the so-called customer dimension, which checks the consumer value, satisfaction and loyalty. Finally, the financial performance indicators for organizational performance were linked to the CRM system's indexes and so created the final result. (Kim & Kim 2009). Corporate performance measurement as a result of the development of an in-house CRM system can be divided into two areas. One includes activities related to the return of CRM investments, and the other includes activities related to the individual evaluation of campaigns running within the CRM's framework. (Gyulavári et al. 2015)

Based on another approach, Gallup's 1994 model should be introduced for measuring the connection between loyalty and satisfaction. Gallup's QSA model takes two aspects into account: firstly, it assumes that every company has the ultimate goal of maximizing their profit and selling a palette that the consumer thinks is useful, and secondly it presumes that the consumer is what's important to the organization, and so the main goal is general satisfaction and repurchase. In the model, loyalty means that the consumer establishes a deeper relationship with the company. Although the model focuses more on measurement methods, it can also establish that the higher the level of the bilateral relationship between the company and the customer, the higher will the degree of the customer's satisfaction become, and thus become more loyal to the company. The model also pays attention to the effort to increase the number of "very satisfied" customers in the analyses. The Gallup model says that it is unfortunate for companies to assess "satisfied" and "very satisfied" customers in the same surveys. The reason for this is that false loyalty results can occur, while loyalty can only be measured securely with very satisfied consumers. Based on the Gallup model a loyal customer is whose expectations the organization has fully met, and believes that the product or service offered by the organization is worth the price, consequently repurchases the product/service and is happy to recommend it to others too. It is also worth looking at the models that beyond loyalty also measure satisfaction. In 1989, Sweden was the first to develop a system that was able to measure satisfaction. It was called the Swedish Customer Satisfaction Barometer (SCSB model). According to the original SCSB model (Fornell, 1992), satisfaction has two basic antecedents: on the one hand, it summarizes the consumer's recent knowledge of a given product or service as well as the customer's needs. (Bátor, 2007).

Most companies regularly measure their consumer's satisfaction throughout various segments. Companies set reference points to compare with past performance results. To make this methodologically feasible, several satisfaction indicators and methods have been developed. One of these is e.g., the American Consumer Satisfaction Index (ACSI) and for European countries, the European Consumer Satisfaction Index (ECSI). (Hackl & Westlund, 2000)

The ACSI (American Customer Satisfaction Index) model was developed in 1994. The model is based on the SCSB model. In this model, price is more important than any other factor. The concept of ACSI is a unified and comparable measuring system suitable to measure guest satisfaction. This requires two aspects:

1. The methodology has to be suitable to measure the various types of needs of the segments as well.
2. Secondly, ACSI is to be used in a way that not only reflects the consumer experiences but is also looking forward. (Forner et al. 1996)

The American and Swedish examples also led to the development of the ECSI model. The ECSI model is another variation of the ACSI model. In this model, customer needs, quality, satisfaction, and loyalty are also explored, just as in the ACSI model. The model is an equilibrium model containing latent variables. These variables combine consumer satisfaction with their determinants and loyalty. In the model, consumer satisfaction takes into account the following aspects: the experienced organizational profile, consumer needs, the quality experience and value experience (is it worth the price?). These are aspects that influence satisfaction. Quality also appears in the model that in this case consists of two elements: one is the so-called "hardware" elements, these include the features of the product and service palette, and the other is the so-called "human ware" containing aspects such as e.g., the environment of the service and the behavior of the individuals. (Bátor, 2007). As the findings show, the subject of loyalty and satisfaction are interrelated and in many cases, one is based on the other.

In conclusion, it appears that a model cannot be created to measure consumer satisfaction with the ability to measure all sectors at the same time.

Another important conclusion is that the topic of satisfaction - loyalty- is closely related subjects where one is built upon the other. (Bátor, 2007)

4. SATISFACTION MODELS IN TOURISM

In this chapter, the main satisfaction models that are used in the tourism sector are to be presented. There are two reasons for measuring guest satisfaction:

1. To provide reliable information for the company's stakeholders about their investment values and prospects (e.g., for owners).
2. To provide hotel management with information that will allow good decision making. (Hackl & Westlund, 2000)

The satisfaction models can be divided into two groups based on time: dynamic and static models. Static models include the GAP model, the SERVQUAL method, and the KANO model. Dynamic models include the dynamic process model associated with Boulding and associates, The Liljader-Strandvik relationship quality model and the Stauss-Neuhaus qualitative satisfaction model as well.

The GAP model was first developed by the Parasuraman-Zeithaml & Berry author trio. This model is one of the static models designed to address quality issues within the company. The model indicates that product or service degradation is caused by slipped communicational problems that affect the difference in experience and expectation among guests. The model includes five slots that cause guest dissatisfaction. These are the following:

1. The gap between customers' expectations and the management's ideas.
2. The gap between the management's ideas and service quality.
3. The gap between the quality of service and the service provided.
4. The gap between the appropriately performed service and communication.
5. The gap between the services experienced and expected by the consumers.

The final gap in the case of hotel services shows the degree of guest satisfaction. This, however, requires the company to be aware of the exact expectations of its target groups for the services. In the GAP model, benchmarks can be identified based on quality parameters and thereby sense the quality. Dissatisfaction stems from communication slippages, which gives the degree of the fifth gap. (Daruka & Karakasné-Morvay, 2009) The perception of the hotel management regarding the expectations of the guest and the quality of the hotel service is often not the same as the real customers'. In many cases, the differences between the service providing companies stem from marketing and communication. (Zeithaml et al 1988). The gap in the GAP model originates from the fact that management is not fully aware of customers' needs. It is very important to always listen to the guest's problem to make the right decisions. The authors suggested that for the difference to be as small as possible the company should develop a properly functioning service quality strategy. A service quality strategy is a determinant of a company's competitiveness. A service quality strategy guides the company in making the right decisions. (Candido & Morris, 2000). The gap can often be caused by consumer orientation, lack of commitment to service quality and the management of service quality. GAP 2, which refers to service issues related to so-called management perceptions, occurs when hotel management correctly perceives a guest's expectations but cannot convert this information into clear specifications. (Keefe & Mccarthy, 1999) Four factors can influence this difference:

1. The management's commitment to service quality
2. Setting goals
3. The standardization of tasks
4. The realization of feasibility (Garvin 1988, Berry et al. 1990, Uran 2010)

The difference between the original GAP model and the expanded GAP model is that in the latter, the origins of differences and their components are also identified in the model. In the expanded GAP model, the parameters that influence quality consist of 5 factors:

1. Material items (e.g., equipment of the building, accessories, etc.)
2. Reliability: given by the quality of the properly performed services.
3. Responsiveness: refers to the practice of the staff, e.g., to be quick and direct in the event of a problem.
4. Competence: refers to the personality of the staff, e.g., friendliness, attentiveness, appropriate appearance and courtesy towards the guest.
5. Empathy: this is also directed at the staff. This group includes e.g., understanding of the staff (possibly the manager), personal attention to the guest, contact, and availability.

The SERVQUAL method was created in 1986 by Parasuraman, Zeithaml, and Berry. This method is also one of the process-oriented models. Its name is derived from the term service quality. The method deals with differences in the expected and perceived performance and fact, it measures the difference between these two criteria in the model. (Veres, 1998). Its parameters are the same as those of the extended GAP model. The survey is based on a questionnaire with 22 questions to answer and where reliability and empathy play the key roles. The problem with the model is that it is very process-oriented and it is also easy to apply the five quality components. (Daruka & Karakasné-Morvay, 2009). The question that arises about the model is how generalizable it is. To what extent is it suitable for characterizing all service sectors? The complexity and variability of the services call into question the ability to measure each segment of the model. For customized services, the system is not always applicable to standardized services. The location of the service and the personality of the consumer also influence the applicability of the system, therefore the complexity of the quality's concept also appears. Despite the problems, the SERVQUAL model is suitable to measure the quality of the service. (Becser, 2005)

Mystery shopping demonstrates the consumer's perception. In the method, it is very important what kind of subject is found for testing, it is always important to find the ideal person for this task. In this case, the examination may take place during a personal visit or by telephone. In a personal appearance, disguised shoppers use a pre-studied scenario to generate situations related to the purchase. Telephone call testing is more common when the service is provided by a telephone call itself or when the telephone is a part of the service. A good example of this is testing the receptionists at the hotels. Of course, the method has both advantages and disadvantages. Its advantage is, for example, that it produces fast results, for low costs, with no refusal to answers, requires little preparation, simple technical background and it can easily be modified and developed. The disadvantages are, for example, the lack of systematic sampling, the absence of a control group, the development of a subjective opinion of the test subject, the possible development of a legal problem and the reliability of this issue is also questioned in many cases. The method of extraordinary event analysis is based on special situations. Exceptional events are directed at situations out of the routine that affects consumers to such an extent that the results of the evaluation studies can be detected for a longer period. (Veres, 1998) This method is designed to examine events that have made a very good or a very bad impression on the guest.

The frequency of critical events is the object of these investigations but unfortunately, it is not possible to comprehensively measure quality with it. Therefore, it is necessary to use it in conjunction with another measuring method to obtain better results.

The KANO model measures the relationship between the expectations about a product or service and the actual service performance. The point of the KANO model is that expectations based on the product or service are:

1. Basic requirements (expected essential properties): in this case, the consumer expects their fulfillment.
2. Performance indicators (one-dimensional properties): refers to the needs that consumers have beyond their basic expectations.
3. Attraction factors (attractive properties): for unexpected qualities, when met, they increase consumer satisfaction. (Daruka & Karakasné-Morvay, 2009)

The importance-performance analysis (abbreviated as IPA) was invented by James & Martilla (1977). The method assists corporate management when it comes to making strategic decisions. This is effective if the aim is to know which product or service needs to be improved to increase consumer satisfaction. The method is also suitable for the presentation of underperforming and overperforming areas.

This method is also based on questionnaires. This presented method is based on four areas: P1. parking, P2: restaurant services, P3: wellness services and P4: number of TV channels.

The importance-performance matrix consists of four areas. The most serious part is Box A. This section contains the services that are important to the guests, but which need improvement. Based on the example, this will be parking (P1) that needs to be improved. Box B contains the aspects that give the company a competitive advantage over its competitors. This is important to the guests in this case, and the quality is good. In the example, the hotel has excellent restaurant services. Box C contains items that are of high quality but are not relevant to the guest. In this case, wellness services fall into this category. Two things are possible in this event. The first is to increase the importance of the given service or to deduct resources from this element as it is non-essential, and improve another element with the resources that were taken away. Part D contains services that are neither relevant to the guests and nor is corporate service performance good. No resources should be devoted to these. It is worthwhile to do these analyses at least once a year, so one can see how the guests' needs are changing, and also in which area the business performance has deteriorated or improved. (Nagy, 2016)

Within the satisfaction surveys, the one measuring online shopping satisfaction is focused on whether a company website could generate an incentive to shop and satisfaction in the consumer. To measure this, the following new measurement method has been developed. For the E-S-QUAL scale, 121 items were developed for the first tests, which may be important for the measuring. Based on the first results, only 22 relevant items were retained at the end, which was divided into four dimensions:

1. Effectiveness (8 items): these refer to the simplicity and speed of a website while in use
2. System availability (4 items): checking the presence of technical tools on the website
3. Reliability, performance (7 items): this includes, for example, product compliance applying to the finished product and the proper fulfillment of the delivery terms
4. Security (3 items): The degree of how unsafe a website is, or present is its data protection.

The E-S-QUAL method was extended with an additional three-dimensional scale that had to be evaluated when the customer contacted customer service. This became the E-RecS-QUAL method, in which the following aspects were developed:

1. Response skill (5 items): dealing with problems and how to properly handle them.
2. Compensation (3 items): provided by the company as compensation for errors.
3. Connection option (3 Items): Applies to telephone or Internet support.

Responses happen on a 1-5 scale. It increases the reliability of the method as it was developed as an upgrade of the SERVQUAL method. The results of this method provide important information to corporate executives. The method can track changes in quality and consumer satisfaction. Also, based on these results, a low or optimal level can be set so that the organization can always see the changes in the website's performance. (Somogyi, 2013)

5. CONCLUSION, SUMMARY

The primary purpose of the study was to present the measuring methods associated with the topic of satisfaction. Based on the data, the conclusion is that the topic of satisfaction is closely linked to the topic of quality, which is also present in all economic sectors other than tourism. The aim was to draw attention to this link in the current study.

A further conclusion is that there are many methods and categorizations within this topic. Based on these, each company should find the best method for its investigations. For this, however, it is thought to be necessary for corporate executives to identify the areas they want to explore to apply the right method. The reason for this is subjectivity, meaning that the company cannot examine all fields at the same time, therefore a decision made by the management is needed on defining the areas to investigate.

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PUBLIC RELATIONS IN FUNCTION OF PROMOTION OF EXECUTIVE IN BROD-POSAVINA COUNTY

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Abstract

Promotion simply means presenting something to the public. The aim of promotion in the County, as a unit of regional self-government, is to present services that are within the scope of the County, or projects of a political option in power. Some of the services provided by the County come from certain fields of activity such as economy, agriculture, social activities, culture, health, education, communal infrastructure, environmental protection, tourism, European integrations, etc. The County strives to contribute to a better quality of life for citizens living and working in the area, it can be said that the task of the executive in the County is to create the political and economic preconditions for the prosperity of its inhabitants. In order for citizens to be familiar with the affairs and work of the county at all, it is necessary to carry out promotional activities adapted to specific forms of communication in the political marketing environment in general, and then the marketing of local units. In addition to traditional promotional channels, such as press, television and radio, counties also have *access to modern technologies such are Internet and digital media (computers, cell phones, e-mail, video calls and social networks) to achieve their goals.*

The most common form of promotion in a County is manifested through public relations (PR), which has the task of directing media attention to specific persons, services or projects within the County (via web sites, social networks, radio, TV, press, etc.). Public relations seeks to present the County and its services mostly through its web site. The web site is one of the most cost-effective "marketing" tools by which the county presents its services and projects. Social networks are used mainly for the promotion of the executives, i.e. mayors and deputies. In its promotion, the County uses the concept of social marketing, i.e. a combination of political and personal marketing concepts. The aim of this paper is to analyze the current promotional tools used by the County of Brod-Posavina as a unit of regional self-government in its promotion and presentation of services and projects to the public.

The purpose of the paper is to present promotional communication models in the County, that is, identify which promotion models bring the greatest savings to the County. Particular attention will be paid to new communication technologies that help the County promote its activities and services. Two methods were used in the design of the paper: the method of comparison and the method of analysis.

Based on the conducted research and data collected during the one-year observation period (2019), the paper will analyze individually the most important affairs of the Public Relations Office in Brod-Posavina County and their intensity. The obtained research results will enable a better understanding of the success of promotional activities in the context of the presentation of services and projects on the observed example.

Keywords: *promotion, county, public relations, web site*

JEL classification: M37, M39

1. INTRODUCTION

The Constitution of the Republic of Croatia guarantees the right of citizens to local and regional self-government (Official Gazette, Nos. 56/90, 135/97, 08/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10 and 05/14). The modern system of local and regional self-government began in 1993. with the entry into obligation of the legal regulations governing this area. The basic feature of the system is the pursuit of functional decentralization of jobs and finances. In fact, decentralization in this context would mean bringing (self) self-government and its services closer to the citizens of a particular area. The system has undergone several changes to date. Today in the Republic of Croatia we have a total of 555 self-government units: 428 municipalities, 127 cities and 20 units of regional self-government, or Counties.

Good and quality communication means, as a rule, a good and quality promotion of the county itself, its executive authority and the representative body. Communication enables the general public (citizens, NGOs and other organizations) to participate in making proposals and launching various initiatives. Of particular importance for the County is the establishment of a certain level of "cultural" communication with citizens. One of the most important tasks of the county in the communication process should be to inform citizens about the decisions made that directly affect the quality of life of citizens of a particular area. Thus, we can say that communication in the county serves the current executive and political groups to inform citizens, to promote the political goals, projects and services provided by the county. In the County of Brod-Posavina, all types of communication are used, most often through public relations and web sites. The main problem that can occur in communication between the county and its citizens is lack of communication or poor communication.

2. RESEARCH METHODS AND RESULT

An analysis method and a comparison method were used in the design of the paper. The business promotion was compared with the promotion in the County of Brod-Posavina, and it was concluded that they both manifest in the same or similar way, that is, they both use the same channels of communication. The obstacles that arise in communication are the same for both types of promotion. In business promotion, the ultimate goal is to sell goods and find a buyer, while the ultimate goal in promotion in Brod-Posavina County is to "sell" services to citizens of a particular area, that is, to find potential voters in election time. Using modern communication channels in the County significantly reduces the cost of promotion. In Brod-Posavina County, political and personal marketing (promotion) is most often carried out, which is reflected in the fact that the counties are non-profit organizations. The breakdown of promotion in the County into its main parts as well as the breakdown of business promotion resulted in the same causal results that are reflected in the fact that quality promotion achieved through well-selected communication tools leads to better and better results (expectations).

As the most common form of promotion in the County of Brod-Posavina is realized through public relations (P.R), a one-year research and collection of data on the intensity and frequency of every single form of promotional activities (jobs) conducted by the public relations office was conducted. In cooperation with the Public Relations Office of and identifying and identifying the most common forms of promotion in the County of Brod-Posavina, a list of promotional activities with the aim of creating a good and positive image of the executive in the public (County prefect and Deputy prefects), of contacts and communication with the media (media management), of convection and organizing press conferences, of presentations of the success and projects of the executives, of information management and consulting,) during the year of 2019. has been made. Data collection was carried out continuously over 250 working days, ie 12 months during the year of 2019. The collected data was processed, compared and analyzed, while the results of the research were presented graphically and in tabular form.

3. DISCUSSION

According to the authors, we distinguish three basic types of promotion in the County of Brod-Posavina with regard to promotion actors:

- promotion of the executive county prefects and deputies)
- promotion of representative power (the most important political act of the County is the Budget passed by the county Assembly). The representative body has its own president, vice-presidents and working bodies. It makes the most important general acts within the scope of the County, which apply to all citizens of an area. The most common form of promotion of a representative body is by broadcasting live sessions and posting the contents of the session on the county's official website (headquarters).
- promotion of the County itself (we mean all the benefits and all the offer that the county can geographically offer outside, within its given boundaries, and especially the supply of resources, goods, goods and services

that a potential guest wants to "buy"). The most frequent promoters of the county are the current political and representative authorities, the tourist board, economic operators, entrepreneurs, craftsmen, associations and citizens.

3.1. Promotion of the Executive (County prefects and Deputies)

The promotion of the executive is the most represented promotion in the County of Brod-Posavina. After the election success and the coming to the head of the County, the current political authorities strive to fulfill the election promises and election program. It is available for four (4) years. In order to reach all citizens in its area, the executive uses all possible channels of communication (usually digital media for low cost) to present themselves, their projects and personal promotion. In fact, a wise and capable government will, throughout the term (4 years), lead a positive and affirmative campaign to allow it another term. The fundamental goal of every serious political party (but also independent lists) is to come to power and create a position to carry out its projects. Upon coming to power, a political party commits itself to running the county. Promotion of the executive power in Brod-Posavina County is most often done through public relations and web sites.

3.1.1. Public Relations (PR)

If we look at public relations in a historical context, then we can conclude that public relations have undergone several stages: manipulation period, informational period, and an action and understanding period. Regardless of development path of public relations, today every organization uses a combined form of self-presenting according to its needs.

Not all units of regional self-government have established public relations. In view of this fact, we can come to the following division:

- self-governments which have a special public relations body in their internal organization
- self-government in which one person (officer) performs public relations

- self-governments in which public relations activities are carried out by the Agencies (various companies)
- non-public self-governments (the work is done by the executive, usually through improvisation)

The basic task of public relations (PR) in the County is to create good relations between the current political authorities and citizens, to obtain adequate publicity in the media space of the county, to build a positive image in the public, and to influence the resolution and interruption of possible negative stories, events and connotations. The modern counties, including the County of Brod-Posavina, have a governing body in charge of public relations, where communication is mostly done through digital media. The development of new technologies, especially digital media, has helped raise public relations to a higher level.

The task of the governing body dealing with public relations in the County of Brod-Posavina is to:

- editing and refreshing the web site (pages)
- Creating a good and positive image of the executive in the public (conty prefect and deputies)
- contacting and communicating with the media ("managing" the media)
- convening and organizing press conferences
- Presenting the successes and projects of the executive
- manage information
- counseling

"The role of public relations (PR) is: PR advises us (consultants), PR manages communication processes (managers), PR represents us and represents (spokespersons) and PR mediates (lobbyists)", (Lamza-Maronić and Glavas, 2008: 68). A quality and professional organization of public relations represents an advantage for the executive over political competitors. In today's information revolution, digital technologies, media and networks, public relations has a significant place in the information system. The image of the executive in public, among the citizens and the electorate depends on them. As new information technologies are characterized by a high speed of information transfer and high availability to the public, public relations must also keep pace with the times and challenges that lie ahead. Public relations is required to actively monitor and edit the image of the executive during the working week, weekends, holidays and holidays, or 365 days a year.

Therefore, the basic purpose of public relations (PR) is to communicate, attract and direct media attention (TV, radio, newspapers, web portals, etc.) to a specific person. Most often, media attention is directed to the executive power, ie the conty prefect and their deputies. Further, we can say that the task of public relations is to design, create and preserve the public's preference for a particular entity or person, using appropriate marketing tools. The point of public relations is to create a positive public perception of a person.

The County of Brod-Posavina uses social marketing, i.e. political and personal marketing, in its promotion. Since the representatives of the executive branch conty prefect and deputies) are also members of the political parties that have nominated them for these positions, public relations is expected and requires some knowledge in the field of political marketing. Many questions are raised here, with particular emphasis being placed on: "May the county use official resources to promote the executive through political marketing?", "Is such promotion of the executive ethical?" public within the county? "as well as other issues. Whether we want to admit it or not, political marketing is often used indirectly in the County.

3.1.1.1. *The concept of political marketing in the County*

The first multiparty elections in the Republic of Croatia after achieving it's independence and the introduction of multiparty parties in the political life of the country lead to the emergence and establishment of new political parties. The Parties have their own By-Laws and Programs of Action that seek to garner as much voter support. There is a spirit of competitiveness between political parties, or political marketing. With the advent of political marketing, there is also the emergence of a marketing approach (the so-called market approach to politics) that uses political pauses to win the electorate. In an authoritative system where there is one-sidedness for promotional purposes, "political propaganda" is used. The multilateral system promotes and advocates the competition of political parties, individuals and programs. In a figurative sense, we can speak of a political market where political parties and individuals present their "offer" (programs) to "customers" (citizens). Citizens give their votes to certain political options and individuals and thus "pay" their trust for a future time (usually 4 years).

Because the county is a non-profit organization, the marketing forms themselves are somewhat different from the basic economic forms. The main reason is that counties are not in the market and do not sell their products and services. Although, when it comes to services, we can say that the county needs to be of service to residents of a particular area. Every political authority, including those in the county, wants to present themselves and their projects to the public in the best light. To succeed, she tries indirectly, affirmatively to be represented in all the media that operates and exists in the county. So, we can say that the current political government is constantly researching the needs and desires of its citizens, and in that sense, is formulating programs and plans for their realization. The concept of political marketing in the County is based on establishing indirect control over information distribution to media through public relations, and, thus ultimately, to manage executives' public image. Information or notice (Lat. Information: draft, image term, interpretation is a set of data with ascribed meaning, which is a basic element of communication that, in a given moment enhances a person's knowledge. Information can have economic value as a resource. In order for information to be effective it has to be accurate and truthful: Information's accuracy is more important than then the speed of information transmission itself. Information about County's competed projects or works can have value for potential voters. It is useful to confirm the information from a different source, and thus "enhance" enhance its value. There are questions that we don't have answers for, and one of them is "Who controls the information?", "How to resolve conflicts of ethical nature with information that is accidentally or unintentionally misinterpreted.

The Institute for Public Relations in the County of Brod-Posavina is in development and will need some time to reach EU level. Continuous professional development, education, knowledge and financial resources are required for the development of this institute.

3.1.1.2. *The concept of personal marketing in the county*

Personal marketing seeks to present a particular individual within a group, create his image in public, or publicity. Personal marketing is used by the most publicly known persons and political parties to promote their candidates. By changing the election system and directly selecting candidates, personal marketing comes to the fore. Personal marketing requires the continued publicity of a particular person in the public, regardless of whether the information is positive or negative (eg, public behavior, dress code, personal information, etc.). "In a sense, personal marketing is a generically coded function of an individual who serves him for his own promotion within a reference (primarily a work or professional) group" (Meler, 2003: 372). The personal marketing process involves the usual elements: analysis, planning, implementation and control. So we can say that personal marketing is a basic form of social marketing that seeks to achieve the set goal of an individual who seeks to display a certain image of himself in public, that is, trying to build the desired image.

3.1.2. Web site

Websites are generally subject to general rules such as: ease of display, clarity of message, system up to date (information), ease of navigation (search), and interesting content. The County of Brod-Posavina uses the website daily to promote itself, its services, official documents, various events and the presentation (announcement) of projects. Website editing is the responsibility of the Public Relations Office. The Web site is an extremely attractive promotional tool in the hands of the county, which, once established, does not require special and additional financial resources for its maintenance. We can say that the Web site is one of the most profitable promotional tools of the county. The homepage of the Brod-Posavina County web site (Figure 1) seeks to show all available facilities and services to citizens (users). The site is conceptually designed and created to be as easy as possible for its users.

Figure 1. View of the web site of Brod-Posavina County

Source: www.bpz.hr

3.1.3. Promotion effectiveness in the county

Successful communication leads to the realization of the set goals, that is, in this case, to effective promotion. In order for the communication in the County to be successful and to accomplish the promotional tasks set, there is a need to take certain previous actions, such are:

- identification of the target audience,
- setting communication goals,
- message formatting,
- selecting media to send the message,
- gathering feedback to measure the results obtained
- According to the authors, the promotion of the executive branch in Brod-Posavina County takes place through communication and it can be:

- promotion during the election campaign, and
- promotion during the term of office (4 years).

Table 1. Comparative overview of the basic steps for achieving the efficiency of promotion of executive power in Brod-Posavina County

Basic Steps for Achieving Effective Promotion of the Executive in Brod-Posavina County	Communication during the election campaign	Communication during the term of office (4 years)
Target audience identification	All adult citizens (18+) with voting rights in the field of self-government	All citizens in the field of self-government
Defining communication goals	The current political power consciously uses its knowledge and power of persuasion to "buy" (get) votes from its citizens who show certain preferences and preferences	Citizens are assumed to have some awareness and knowledge of the use of available services in self-government
Formatting the message	Mostly electoral and political messages (short, clear, specific) sent to all citizens but often to specific target groups	Presentation of services and services in the county through web sites (e-citizens, filing and monitoring of administrative procedure, etc.)
Selects the medium to send the message	Internet (social networks) Television and radio Newspapers (daily and weekly)	Internet (Website, Email, Social Networks) Television and radio Newspapers (daily and weekly)
Gathering feedback to measure the results obtained	Rating research (alone or through an agency)	Analysis of data by administrative area on an annual basis, with proposals for improving the system Citizens' petitions and complaints

Source: originally created by the authors, adapted comparative overview of the basic steps for achieving the efficiency of promotion of executive power in Brod-Posavina County

A comparative overview of the promotion that takes place through communication in the county (Table 1) shows the basic steps taken by the County of Brod-Posavina to realize the effectiveness of the promotion. All actions taken for the purpose of promotion in the county aim at the effectiveness of promotion, and effective promotion aims at making information about the work and projects of the county more accessible.

3.2. Communication and promotion through the media

It is always good for the current political authorities (and leaders) in the County to inform their citizens through the media of their plans, and in particular of the realized projects of interest to the community in which they live. We say that the media is a public information system that distributes news and audio-visual content for the purpose of informing, educating and entertaining the broadest sections of society (Law on Media, Official Gazette 59/04, 84/11 and 81/13).

The broadest distribution of media is by distribution method:

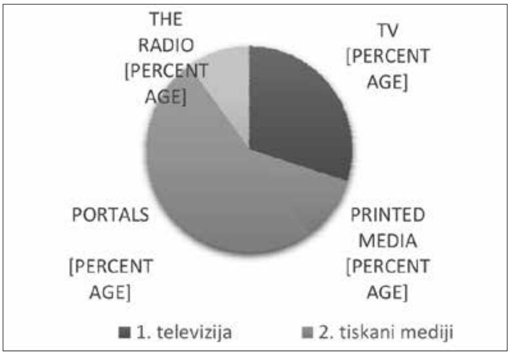
a) printed media (printed matter)

b) electronic media (television, radio, internet portals, internet)

The media has a great social impact, as the development of news technology (information) is faster and easier to transmit across the country and the world. The access to the desired information is much easier, so the available information is used and processed for various purposes.

Brod-Posavina County within its budgetary funds (Budget) has an appropriate position "for assistance and development of media space" in its territory. Annual media plan. It lists all beneficiaries and the financial amounts they receive from the County. Users are divided into four categories: television, radio, print media and portals (Graph 1).

Graph 1. Percentage view of media users - Brod-Posavina County Annual Media Plan for 2019.



Source: originally created by the authors, processed official data of the Public Relations Office of the County of Brod-Posavina, Report on the work of the Office for 2019.

Since it is a matter of public money, the budgetary allocation has been elaborated and made through a public call. Unless the budget allocation is elaborated in the smallest detail, the problem of non-transparent media financing may arise, that is, the possibility of favoring a particular type of media by the current political authority.

3.3. Successful leadership and management of self-government as a promotional tool for political and personal marketing

Officers and employees (executives) are located between the current political power (executive power) and the citizens. Officials are persons employed in the county without whom there are no political programs and goals and represent a transfer between citizens and authorities. They are the ones who carry out and execute the will of the current political authorities through direct and personal communication with the citizens. It is a common situation for citizens to evaluate the work of a County by the ability, kindness, availability, responsibility and up to date of its officers. The goal of each county is to provide conditions for raising the standard of living of its citizens. This goal can only be achieved if the incumbent government is capable, organized and committed to the work it is doing in conjunction with officials (executors). We should not forget the fact that the County, as a unit of regional self-government, is a separate geographical entity that is, as a rule, different from the rest. Looking at counties in this way, we can conclude that their economic resources are different from each other, and it is of great importance to know how much current political power is capable of managing them.

One of the most important features of the county executive is the running and management of the county. "Guidance represents the ability of an individual or group to persuade others to act, directing them that the proposed course of action is the best or proper course of action in the circumstances" (General and National Encyclopedia of 20 Books, Tl-W: 282). So, you could say that guiding, actually giving direction, moving the route, or managing the movement of a particular social group or organization. In counties, the role of leader is played by the executive. The role of the executive power has its specific features, which are conditioned by the powers ascribed to the Law on Local and Regional Self-Government, and only after that the leader as a leader comes to the fore.

According to Chapman and Lund O'Neeil (2003), it is important for a leader to be a good motivator, to be willing to take risks on himself, to seek greater responsibility, to be a good communicator, to have a positive attitude and to create change. According to the authors, the role of a leader as a leader in a county should be viewed as follows:

a) in relation to the electorate that elected him, but also to other citizens in the county
b) in relation to the political structures to which it belongs or the independent list
c) in relation to county employees

The successful leader in the county should successfully balance all the previously mentioned relationships and strive to achieve the expected results. In the achievement of the set goals, the compromise that the county leader should apply on a daily basis in work and leadership plays an important role. In addition to managerial skills, the County leader should have a good knowledge and use of unit leadership skills. Although counties are not political organizations, they are still led by a political leader (or leader of an independent list) who uses some elements of political leadership in his work. "Political leadership is at the same time a skill and knowledge that leads to the consensus or consent of a party, organization, society or the like on a political decision made by leadership on behalf of a party, citizens or subjects" (General and National Encyclopedia of 20 Books, Tl-W: 282). Therefore, a capable leader in the county should integrate all the best in the past.

3.4. Research of promotional activities of Brod-Posavina County in 2019.

Continuous daily data collecting of promotional activities and actions of the County of Brod-Posavina was conducted during 2019. in cooperation with the Public Relations Office of the County of Brod-Posavina.

Jobs performed through promotional activities are:

- Editing and refreshing the web site (page) - includes the tasks of maintaining the web site, updating the content, publishing news, documents and competitions

- Creating a good and positive image of the executive in the public (counties and deputies) - covers the tasks of presenting the executive in public (participation in various celebrations and gatherings, donation, congratulations, participation in television and radio programs, etc.)
- Contacting and Communicating with the Media ("Management") Media - Includes daily communication with the media (television, radio, portals)
- Convening and organizing press conferences - covers the organization of convening press conferences on important issues (eg emergencies)
- Presenting of the accomplished achievements and projects of the executive - includes public presentation of the success of the executive in all available media
- Information management - controlled public reporting in accordance with the Law on the Right of Access to Information
- Counseling - used mainly as education and teaching

What was the goal of the research? The intention of the research of promotional activities of the County of Brod-Posavina (as well as other units of regional self-government) was to to better understand the role and importance of promotional activities in their work. The intensity of individual promotional activities (Table 2) should be a Conty's basic indicator in which direction to go and what promotional activities to develop. By observing and comparing the intensity of particular promotional activities, we can come to measurable results in terms of the financial viability of individual promotional activities, that is, the answer to the eternal question: "Which promotional activity is the most efficient and cost effective for the county?"

Analyzing the official data of the Public Relations Department of the County of Brod-Posavina County in the performance of its activities within the scope of one year (2019), we have obtained the following results (Table 2).

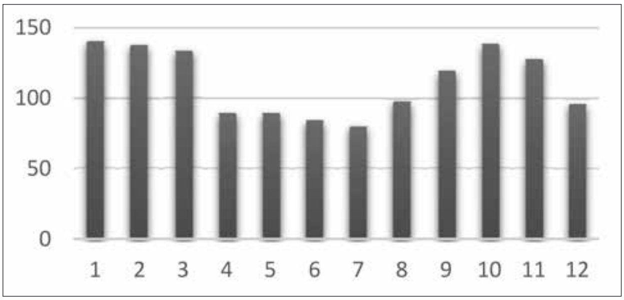
Table 2. Promotional activities in Brod-Posavina County in 2019

Forms of promotion	PROMOTIONAL ACTIVITIES OF BRODSKO-POSAVSKA COUNTY IN 2019												
	Januar.	Februa.	March	April	May	June	July	August	Septe.	October	Novem.	December	IN TOTAL
Editing and Refreshing Website (Pages)	141	138	134	90	90	84	80	98	120	139	128	96	**1338**
Creating a good and positive image of the executive in the public (mayors and deputies)	10	11	13	9	9	10	6	5	10	11	9	11	**114**
Contacting and Communication with the Media (Media Management)	156	119	137	131	125	102	110	156	147	136	163	156	**1638**
Convening and organizing press conferences	4	5	7	3	3	2	2	3	4	7	4	3	**47**
Presenting the successes and projects of the executive	11	8	11	6	6	5	6	5	11	11	10	5	**95**
Information management	53	42	53	33	33	27	26	42	53	53	33	53	**501**
Consultation	-	-	1	2	2	1	-	-	-	-	1	-	**7**
IN TOTAL	375	323	356	274	268	231	230	309	345	357	348	324	3740

Source: originally produced by the authors, processed official data of the Public Relations Office of the County of Brod-Posavina, Report on the work of the Office for 2019.

Considering the promotional activities of Brod-Posavina County in 2019 (Table 2), which are divided into 7 categories, we conclude that the total number of promotional activities in 2019 was 3740. By dividing the total number of promotional activities by 12 months, we reach an average of 311. 66 activities for each month. The highest intensity of counter activities was recorded in January (375) and the lowest in July (230) in 2019.

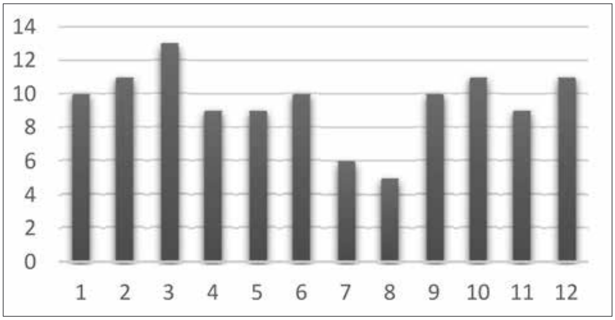
Graph 2. Editing and updating of the web site (page) in Brod-Posavina County in 2019



Source: original authors, according to Table 2. Promotional activities in Brod-Posavina County in 2019

Editing and updating the web site (page) is one of the two most popular promotional activities of the County of Brod-Posavina (Graph 2). During 2019, there were 1338 in total. The intensity of this promotional activity was most frequent in January (141), February (138), March (134), September (120), October (139) and November (128) - (Table 2.) Promotional activity of editing and updating the web site (page) brings the greatest savings to the County of Brod-Posavina. This activity is carried out by officials during working hours. The cost of this activity is the creation of a website, maintenance and annual lease of the website domain.

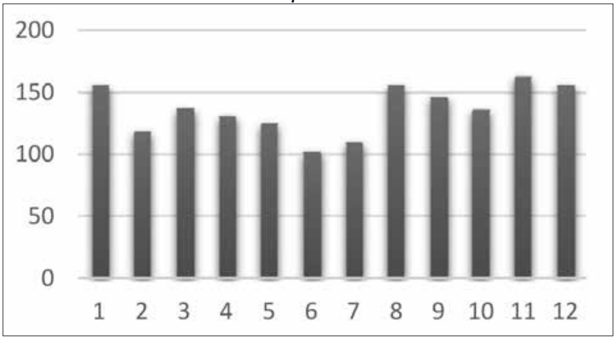
Graph 3. Creating a good and positive image of the executive in public (mayors and deputies) in Brod-Posavina County in 2019



Source: original authors, according to Table 2. Promotional activities in Brod-Posavina County in 2019

Creating a good and positive image of the executive in the public (county prefect and deputy) is one of the most important promotional activities of the County of Brod-Posavina (Graph 3). During 2019, there were a total of 114. The intensity of this promotional activity was most frequent in January (10), February (11), March (13), June (10), September (10), October (11) and December (11) - (Table 2) Creating a good and positive image of the executive in public is in fact the most widely promoted activity of the County of Brod-Posavina (although it is not expressed in numerical values) to which all other promotional activities are subordinate.

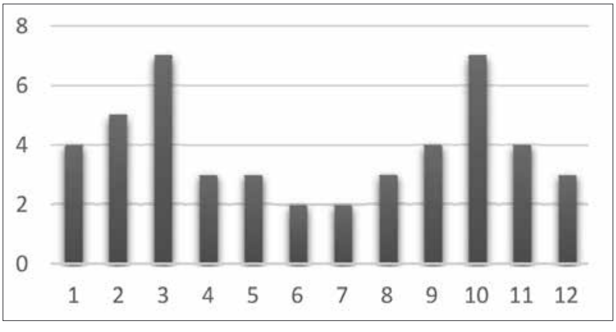
Graph 4. Contact and communication with the media ("media management") in Brod-Posavina County in 2019



Source: original authors, according to Table 2. Promotional activities in Brod-Posavina County in 2019

Contacting and communicating with the media ("media management") is one of the most important promotional activities of the County of Brod-Posavina (Graph 4). There were 1638 in total during 2019. The intensity of this promotional activity was most frequent in January (156), August (156), September (147), November (163) and December (156) - (Table 2).

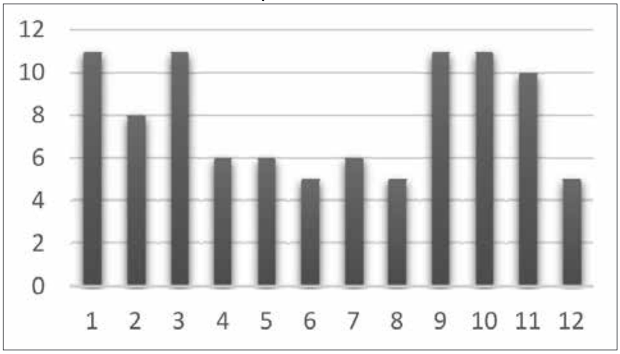
Graph 5. Convening and organization of press conferences in Brod-Posavina County in 2019



Source: original authors, according to Table 2. Promotional activities in Brod-Posavina County in 2019

The convening and organization of press conferences is one of the less represented promotional activities of the County of Brod-Posavina (Graph 5). During 2019 there were 47 in all. The intensity of this promotional activity was most frequent in March (7) and October (7) - (Table 2)

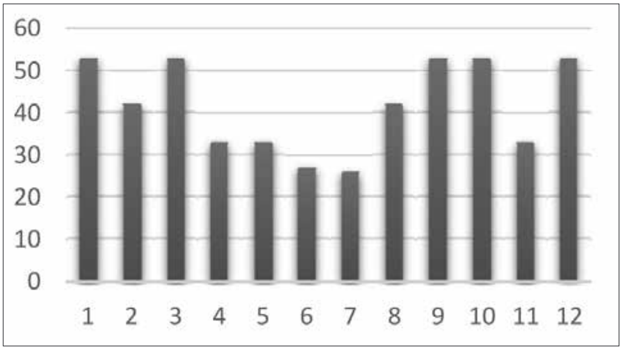
Graph 6. Presentation of achieved successes and projects of executive power in Brod-Posavina County in 2019



Source: original authors, according to Table 2. Promotional activities in Brod-Posavina County in 2019

Presentation of the accomplished achievements and projects of the executive power is one of the most important promotional activities of the County of Brod-Posavina (Graph 6). During 2019, there were 95 in all. The intensity of this promotional activity was most frequent in January (11), March (11), September (11), October (11) and November (10) - (Table 2).

Graph 7. Information management in Brod-Posavina County in 2019

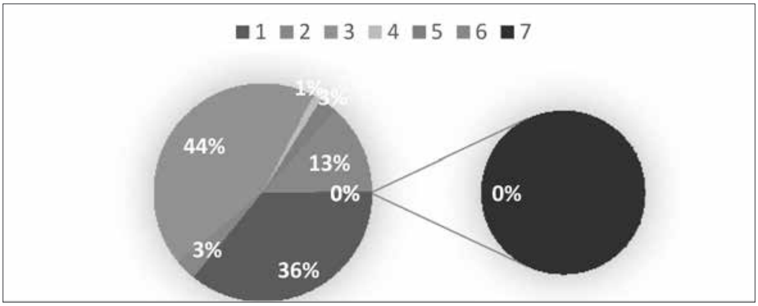


Source: original authors, according to Table 2. Promotional activities in Brod-Posavina County in 2019

Information management belongs to the promotional activities of the County of Brod-Posavina, which seeks to control the flow of information to the public in accordance with the Law on the Right of Access to Information (Graph 7).

During 2019, there were 501 in all. The intensity of this promotional activity was most frequent in January (53), March (53), August (42), September (53), October (53) and December (53) - (Table 2)

Graph 8. Promotional activities in the County of Brod-Posavina in 2019 expressed as a percentage



1. Editing and Refreshing Website (Pages)
2. Creating a good and positive image of the executive in the public (mayors and deputies)
3. Contacting and Communication with the Media (Media Management)
4. convening and organizing press conferences
5. presentation of the accomplished achievements and projects of the executive
6. Manage information
7. Conference

Source: originally created by the authors, in accordance with Table 2. Promotional activities in Brod-Posavina County in 2019

Looking at the promotional activities as a percentage in 2019, we come to the following expressed values: editing and refreshing the web site (page) - 36%, creating a good and positive image of the executive in the public (mayor and deputy) - 3%, contacting and communicating with the media (Media management) - 44%, convening and organizing press conferences - 1%, managing information - 13% and consulting - 0%.

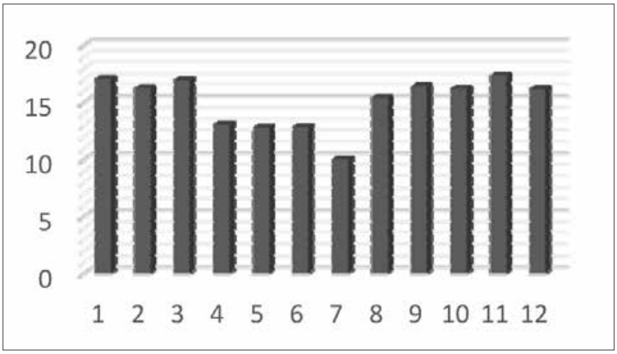
Table 3. Average number of promotional activities in Brod-Posavina County in 2019 per day

Forms of promotion	PROMOTIONAL ACTIVITIES OF BRODKO-POSAVA COUNTY IN 2019												
	January 22 business days	Februar 20 working days	March 21 business days	April 21 business days	May 22 business days	June 18 working days	July 23 business days	August 20 working days	Septem 21 business days	October 22 business days	Novemb 20 working days	December 20 working days	IN TOTAL 250 working days
Editing and Refreshing Website (Pages)	141	138	134	90	90	84	80	98	120	139	128	96	**1338**
Creating a good and positive image of the executive in the public (mayors and deputies)	10	11	13	9	9	10	6	5	10	11	9	11	**114**
Contacting and Communication with the Media (Media Management)	156	119	137	131	125	102	110	156	147	136	163	156	**1638**
Convening and organizing press conferences	4	5	7	3	3	2	2	3	4	7	4	3	**47**
Presenting the successes and projects of the executive	11	8	11	6	6	5	6	5	11	11	10	5	**95**
Information management	53	42	53	33	33	27	26	42	53	53	33	53	**501**
Consultation	-	-	1	2	2	1	-	-	-	-	1	-	**7**
IN TOTAL	375	325	356	274	268	231	230	309	345	357	348	324	**3740**
AVERAGE NUMBER OF ACTIVITIES PER DAY	**17,05**	**16,25**	**16,96**	**13,05**	**12,77**	**12,84**	**10**	**15,45**	**16,43**	**16,23**	**17,4**	**16,2**	**14,96**

Source: official data of the Public Relations Office of the County of Brod-Posavina, Report of the Office for 2019.

In 2019, during the 250 days, or in the observed period, the County of Brod-Posavina realized a total of 3740 individual promotional activities (an average of 15 activities per working day - Table 3). The most popular promotional activities were contacting and communicating with the media (1638) and editing and updating the web site (1338). The intensity of average promotional activities was most frequent in January (17.05) and November (17.24), and the lowest in July (10) - (Table 3).

Graph 9. Average number of promotional activities per working day on a monthly basis during 2019 in Brod-Posavina County



Source: originally created by the authors, in accordance with Table 3. Promotional activities in Brod-Posavina County in 2019 per working day on a monthly basis

Graph 9 shows the average number of promotional activities for the twelve months of 2019. The average number of activities over 250 working days, spread over 12 months, ranges between 10-17 activities per day. There is no day in 2019 where no promotional activities have taken place. By using the new information technologies available today (web site, portal, social networks), we achieve significant savings in the promotion of the County of Brod-Posavina, its activities, services, programs and executive authorities (mayors and deputies).

4. CONCLUSION

Promotion is simply put, presenting to the public. The aim of promotion in the County of Brod-Posavina is to present the services provided by the self-government, ie projects of the current political authority. However, the aim of promotion may also be to promote the executive power (mayors, mayors and mayors together with their deputies) and the representative body (municipal and city council, county assembly). Therefore, we can distinguish three basic types of promotion in self-government with regard to promotion actors: promotion of executive power (mayor, mayor and county prefect), promotion of representative power (municipal council, city council, city assembly of Zagreb and county assembly) and promotion of self-government. Promotion in the County of Brod-Posavina is realized through communication, which occurs as verbal (verbal) communication, as non-verbal (contact) communication, as written communication and as electronic communication, using the available communication channels.

The most common form of promotion in more modern self-governments (as well as in Brod-Posavina County) is manifested through public relations (PR), which has the task of directing media attention to specific persons, services, or projects within self-government (via radio, TV, newspapers, etc.). The task of public relations is to convene and organize press conferences, contact and communication with the media, present successes and projects of the executive, advise, edit the website in self-government, and create a good and positive image of the executive and representative public. The self-governing public relations institute is slowly developing and will need some time to reach EU level. Continuous professional development, education, knowledge and financial resources are required for the development of this institute. The County of Brod-Posavina seeks to present itself and its projects to the citizens of a certain area through promotional communication. Every political authority, including those in local and regional self-government units, wants to present themselves and their projects to the public in the best light. In order to succeed in its intention, the county seeks to be represented in all the operating and existing media in its area, using all available communication channels.

Based on collected data and conducted research of Public Relations Office most common promotional activities in County of Brod-posavina, we can conclude that the most common activities were "contact and communication with the media (ie "media management") and "editing and refreshing the official web site.

The least represented activity was 'counseling'. In 2019, a total of 3740 promotional activities were realized, which would be an average of 15 activities per business day. The highest number of promotional activities was in January (375) and October (367) in 2019.

Although the promotion of "creating a good and positive image" ranks only third in frequency, it is still one of the most important promotional activities in the County of Brod-Posavina. Why is that so? This activity includes substantially all other promotional activities that serve and are in the function of creating a good and positive image of the executive in public. The executive authorities in Brod-Posavina County most often communicate with citizens through digital media (web site, portals, television and radio). The main reasons why digital media are used in communication and promotion are: relatively low costs, easy and fast access to information, relatively easy monitoring of all campaigns and activities, and the constant presence of some information on the media (24 hours and longer if needed).

By looking at the intensity of certain promotional activities in the County of Brod-Posavina, we can come to know about their success in public and among citizens, that is, economic indicators. How successful the promotional activities of some institutions (in this case the executive authorities in Brod-Posavina County) are is assessed by the citizens. Citizens evaluate the work of an institution (county) on a daily basis through praise or complaints and give their final assessment in local elections every four years. It is important for the incumbent executive to continually measure the results of the success of their promotional activities: by measuring the attendance of the official website, by measuring the viewership and listenership of radio and TV content on current topics, by measuring the representation on social networks, as well as by measuring the readability of individual daily and local print media.

It is obvious that the promotional activity of "contacting and communicating with the media ("media management")" is gaining increasing importance in today's modern times, especially due to the fact that communication is carried out at a high speed as is the transmission of information. In order to keep up with the times and modern technologies, the County of Brod-Posavina (like other institutions) must invest in the education of civil servants, ie. continuously monitor and invest in information technologies. The results of the research indicate that County of Brod-Posavina needs more serious approach to promotion of activities and projects of executive branch, especially at a time when we are experiencing the height of information revolution, where all social events are accompanied by media. In the overall system of Brod Posavina County, promotional activities do not occupy any special place, which needs to be changed. The research will help the county to more precisely determine which direction to go and what promotional activities to develop.

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THE POSSIBILITIES OF USING INFLUENCER MARKETING IN CROATIAN TOURISM

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Abstract

The free flow of information in the digital world and social media gives plenty of possibilities for their use in the touristic promotion. One of the unavoidable trends in Influencer marketing. There are several advantages of using Influencer marketing as a marketing strategy, and it is providing benefits no matter the industry. At its core, Influencer marketing connects brands and consumers using social media platforms to spread awareness about a brand and to affect positively customers buying decision - this is achieved by influencers" posts on social networks and their connection with their followers. Influencers can be classified according to the number of their followers, but also by category of activity-travel is the most important for promotion in tourism, but other categories should be included as well.

This paper aims to bring closer the concept of influencer marketing to promotion in tourism. This paper is based on secondary data obtained from the relevant literature and websites, using methods of compilation, analysis, synthesis in a descriptive approach. In terms of scope, this paper focuses on the possibilities of using influencer marketing as a promotional tool that can be used to promote tourism in Croatia. In addition to the relevant literature, the paper gives subjective opinions, keeping in mind current trends in tourism.

Keywords: *influencer marketing, digital marketing, social media, tourism*

JEL Clasification: M31, Z32

1. TOURIST'S DECISION MAKING

The modern traveler is more conscious of the opportunities offered by the internet and therefore is more exigent (Buhalis & Law, 2008, 609-623). It has been demonstrated that travelers spend time to locate accurate information on the internet, checking different information providers (Inversini & Buhalis, 2009, 381-392) before choosing the most appropriate tourism product and eventually making their online reservations (Vermeulen & Seegers, 2009, 123-127).

Before traveling to a destination, the traveler wants to know all the details – from the moment he arrives at the destination to the moment he returns home. Internet, and therefore social networks, has made the process of browsing information about travel easier since it is available 24/7 and contains photos and videos.

Tourist's decision-making process is complex and involves many subdecisions, occurring continuously from before deciding 'where to go' through to 'what are we going to do in the destination' and beyond. Many choices are based on contextual 'facts', but many more are based on perceptions or evaluative judgments of relatively high-risk decisions (Smallman & Moore, 2020, 399). According to Seyidov and Adomaitienė (2016, 113), different elements can be considered in decision-making: social, cultural, personal and psychological factors, the number of tourists' attractions, available amenities, price, human resources and various types of tourism destinations. So social networks can be ideal to impact the decision making process since a published photo can show those elements and attract potential travelers to book a trip.

Consumer behavior concentrates on how people are making decisions to spend their time, money and/or effort on buying things (Seyidov & Adomaitienė, 2016, 115). Um and Crompton (1990) has introduced three core stages in a tourism destination choice: the first stage is called the awareness set; the second is a disposing of some of those destinations to form a late consideration or evoked set, and the last destination chosen from those in the late consideration set. Kotler et. al. (2006) claim consumer purchasing processes are highly influenced by social, cultural, personal and psychological factors. Cultural factors combine elements of culture, sub-culture, and social class. Social factors refer to groups, family, roles, and status. Personal factors consist of age and life-cycle, occupation, economic situations, lifestyle, and personality. Psychological factors could be divided into categories: motivation, perception, learning, beliefs, and attitudes (Seyidov & Adomaitienė, 2016, 116).

According to the results of a survey conducted to identify the existing opportunities concerning the influencer marketing in the tourism sector for 2019., the impact level of influencers in the buying decision-making process of a tourist destination, hotels, airline services, and travel agencies is high. More than 85% of users follow at least 3 travel, fashion, and/or lifestyle influencers which means there is a need to include more than one influencer in the communication strategy of a tourism brand to accelerate the purchasing decision of consumers (Axon, 2019, 5).

2. TRENDS IN TOURISM

According to research TOMAS Ljeto 2017 (2018, 31-36), that describes attitudes and expenditures of Tourists in Croatia, several trends are visible in terms of motivation for arrival to the destination:

- Tourists mostly come with their partners (48%) followed by family members (38%) and friends (10%),
- Most of the guests (55%) are motivated by rest and relaxation, then new experiences (31%), gastronomy (29%), natural attractions (26%), entertainment (24%), sport and recreation (20%), getting to know the cultural sights and events (12%),
- 44% uses the internet for information search, followed by different media (25%), recommendations of friends or relatives (24%) and previous visits (18%),
- Those who collect the information through the internet, in addition to social media (67%), also visit various web pages, such as online travel agencies, tourist boards, and accommodation facilities. Social media has grown from 39% in the year 2014. to 67% in year 2017.,
- Tourists up to 29 years of age use the Internet as a primary source of information (61%), while relying more on relatives or friends (28%) and less on their previous stay (10%). The Internet is the primary source of information for middle-aged guests (30-49 years old), while for those aged 50 and over, it is the second source of information.

While at destination, swimming/bathing is the most preferred activity during the holiday, followed by visits to restaurants, cafe bars, and cake shops, attending local entertainment events, sightseeing, visits to national parks/protected natural areas, organized boat excursions, shopping and a set of other sport, recreational, entertainment and cultural activities (TOMAS Ljeto 2017, 2018, 5).

Tourists are active on the Internet and during their stay in destinations - uploading photos from online travel (51%), updating their status with travel details on social media (31%), or, to a lesser extent, uploading videos to the internet, writing reviews on various web sites and updating blog content with travel details. This makes the Internet a medium for instant 'word-of-mouth' (TOMAS Ljeto 2017, 2018, 44).

3. INFLUENCER MARKETING IN TOURISM

Today's travel market is comprised of young travelers who are seeking their next destination online, through social media, reading reviews and watching videos and pictures while selecting the next destination for their trip. The online world has become as important as the offline word and people look for feedback from others to find out about the best places to visit while making the decision where to travel, what restaurants to visit, where to stay when they travel and others. At this point, influencers are playing a very important role in the tourism industry (Nujić et. al., 2018, 1262). A person is considered as an influencer if it significantly shapes the customer's purchasing decision, but may ever be accountable for it (Brown et al. 2008, 50). Social media influencers represent a new type of independent third-party endorser who shapes audience attitudes through blogs, tweets, and the use of other social media (Freberg et. al., 2011, 90). Because of the loyalty of their audience, an influencer can drive traffic to the company's site, increase social media exposure, and sell a product or a service through their recommendation or story about their experience (Matthews, 2013). Influencer marketing is a phenomenon that continues to grow and is becoming more complex while breaking the traditional rules of communication and advertising.

Word of mouth is the most trusted form of advertising, not only for tourism but in all industries. Since influencers have generated their credibility online through their user-generated content, they can speak to certain niches and reach them more effectively (Nujić, 2018, 1270). Influencers can affect purchase decisions because they are considered as experienced people regarding the subject of promotion, and people of knowledge, authority, or position.

Nujić et. al. (2018, 1270-1271) pointed out the benefits of using influencers in the tourism industry that are paraphrased below:

- Extended content reach: Influencer marketing is a great channel of distribution with ease of access to new audiences and amplifying the content reach by sharing their messages with the audience; influencers lead their audience to a company's site. They can also reach a certain audience that traditional advertising wouldn't influence and create added value that traditional media can't. Successful influencers have a certain niche that can generate more relevant leads. Furthermore, Influencer marketing is not considered as „aggressive" and it feels creative, interesting and different. One more advantage is that created content can go viral.
- Credibility: Since consumers trust recommendations from an influencer more often than a brand itself, they create certain credibility and trust. Influencers are considered as experts in the product or service they "talk" about, and give opinions based on personal experience, which is why they are considered as relevant and trustworthy. Influencer marketing is essentially a virtual word of mouth, and word of mouth is considered to be the most effective and the strongest marketing tool that increases the purchasing probability and is impacting the behaviors of customers. Hence, consumers are more likely to positively perceive and react to their message over a sponsored post that comes from a company itself. Besides, influencers engage with their loyal audience, creating two-way communication.
- Created content: Nowadays, photos and videos affect people's decision making even more and they are considered to be more important in the information search so as well as when choosing a destination. Influencers do not only post photos and videos, but they also give their honest opinions and recommendations. Because they have a reputation for a credible source of information, it is more likely for people to trust their opinions, photos, and videos. One more precedence is that created content on social media can be used forever.
- Incite to action: People are more likely to take action on messages from a source they trust, so the message is actioned reliably.

- Cost-effective: Since influencers have an impact on a certain niche that is a company's targeted audience, there is no need to spend large amounts of money on traditional advertising with no control over demographic. This way, the company can target those who are more likely to purchase their product or service.
- Image building: Some influencers have a certain image that they can lend or transfer to a destination or a company. For instance, an influencer that is perceived as modern, fun and adventurous, will transfer those features to the destination they are creating content about.

There are different types of influencers to collaborate with. They can be sorted by several followers or by sector (category) in which they operate.

Nujić et. al. (2019, 789-791) gathered information about influencers and the number of their followers and concluded that Influencers can be split into four categories; mega-influencers, macro-influencers, micro-influencers, and even nano-influencers. Mega-influencers have a web of followers over 1 million. Macro-influencers have a loyal fanbase between 10.000 and 999.999 followers and have a passion for a specific topic. Micro-influencers have a following under 10.000. They are „real" people with a strong voice online and focus on a specific niche. Nano-influencers have a smaller number of followers - less than 1.000 followers and they influence within their community. The same paper shows that the most popular category, measured in several Instagram accounts, to follow on social media in Croatia is Fashion and Cosmetics, followed by Lifestyle, then Gastro, Travel and Fitness.

Influencity (2018) confirms this division by category (or sector):

- Fashion
- Make-up
- Foodies (gastro)
- Gamers
- Entertainment
- Vloggers (video bloggers)
- Travel
- Fitness

Besides division by sector, influencers can be divided by the types of collaboration (Barker, 2018):

- Sponsored social media content – This is the most common type of collaboration. An influencer creates and posts content to promote a brand or a company on their social media accounts.
- Gifting – Another way to collaborate with an influencer is to gift product samples to the influencer so he or she could create content around it. Since tourism is a service industry, companies could invite an influencer to stay overnight in a hotel, to try culinary delights, go sightseeing in destination or similar. Companies should keep in mind that, if they are simply giving their product or service, without paying them, influencers are not obligated to promote it.
- Sponsored blog posts – As for the sponsored social media content, influencer creates content to post on their blogs. Post can be all about one company or a brand, or about a group of products.
- Guest blogging – This is a tool that can expose the company's content and reach a wider audience. It implies that a company is publishing its content on a blogger's site.
- Takeovers – Another popular format using which brands collaborate with influencers on Instagram is a takeover – it is a type of collaboration where the influencer takes over the company's account and posts content on its behalf.
- Brand ambassador – They use the brand's products or company's services on an ongoing basis and continually promote them online.

For the tourism sector, travel influencers are, of course, the most important, but others such as lifestyle or gastro, should not be neglected since a company can benefit from their audience as well.

Travel influencers share their experiences in a certain destination - they can share experiences in real-time on their social media profiles or include them in more curated content, such as a video summary of their trip or a publication. They create quality content that engages their audience. Influencers know exactly what their audience likes, which is what makes them the best possible content creators a brand could contract to promote their company (Influencity, 2018).

4. INFLUENCER MARKETING TRENDS

Over the last few years, influencer marketing has grown – companies from all industries recognize the benefits of this type of advertising. Global trends in influencer marketing will be outlined below, according to Influencer Marketing Hub (2020), with commentary on their impact in tourism:

- Firms will merge content marketing, Influencer Marketing, and Social Media marketing: according to Influencer marketing hub, until now, most brands and marketers have tended to think of content marketing, influencer marketing, and social media marketing as separate types of online marketing. However, they are all just separate components of a single online marketing process. This means that companies in tourism need to look at influencer marketing as part of their integrated marketing strategy.
- Brands will be more determined to find Influencers with similar values to themselves: there needs to be a better match between the company's values and those of the influencers with whom they work to avoid eventual controversies. A tourism company must choose an influencer with similar or the same values as them to be compatible. If there is a desire to be perceived as a modern and fun destination, an influencer must be chosen to convey these values to the potential guest, creating content that will show all the possibilities to have fun in the destination. The same is if there is a desire to be perceived as a family-friendly destination, or adventurous, etc.
- Influencer platforms will increase in importance and become a tool of choice for most firms wanting to run their influencer campaigns in-house: the assumption is that companies interested in influencer marketing will either outsource their projects to an influencer agency or use one or more platforms as tools to control the campaign in-house.
- Celebrities will become less relevant for Influencer campaigns: having a lot of followers is not enough to be an influencer – they have to be a specialist in some niche. Therefore, a company must carefully choose which influencer to partner with.
- Long-term Influencer relationships will become the norm – rather than contracting on a campaign by campaign basis: In the early years of influencer marketing, most brands selected influencers on a campaign by

campaign basis, so relationships tended to be short-term and fleeting. However, as the influencer marketing industry grows, brands are discovering the benefits of building longer-term relationships with their influencers, taking advantage of their authenticity and ability to build trusting relationships with their followers. From the companies perspective, It also saves the time, expense, and effort of searching for a new selection of influencers for each campaign. Tourism companies need to find a way to build a relationship with influencers so that it doesn't become a one-time thing.

- Increasing regulation and enforcement will help streamline the entire Influencer marketing industry: The FTC (Federal Trade Commission) has made it very clear that influencers in the USA now have to disclose when they have a relationship with a brand. However, influencers have been slow to this, and Croatia still does not have strict regulations regarding Influencer marketing.
- Brands will increase their use of employees and customers as advocates: there are a few other relevant groups of people with an online presence that companies can use to promote their products - people who already like certain products, and who would be willing to use their social channels to promote them. In the tourism industry, for example, this could be a family with an online presence, posting photos from their vacation. In a way, they are nano-influencers, promoting the destination to their friends and relatives.
- Influencers will make more audio and video content: research shows that 6 out of 10 people would rather watch online videos than television and mobile video consumption rises by 100% every year. This is very important for the tourism industry since the visual aspect plays a huge role in advertising. A great photo or video can say a lot about the destination and attract potential tourists, giving them a dose of inspiration and additional incentive to make a booking. Additionally, some people look on social media to seek worthy experiences, authentic properties, even luxury – and this format is a great way of showing it.

Furthermore, one research shows that almost 70% of consumers (68% to be exact) follow an influencer from a country, not their own (Rakuten marketing, 2019). This is great news for the tourism industry, since this way it can attract tourists from all over the world.

Every social network has its distinguishing features, from the way it works to the way users make use of it. Travel influencers mostly work on more visual social networks and tend to get the best results (Influencity, 2018):

- Blogs - Are the perfect tool more promoting touristic services. Bloggers who travel the world, documenting their experiences can share limitless information regarding features and prices, whilst maintaining a friendly and close tone. A blog also allows influencers to include photos and videos, which help tell the story of the trip. Companies in tourism can benefit from this kind of content attracting the blogger's audience, but this content is also permanent.
- YouTube – This social network for videos is a great platform for travel influencers to share their content. Some influencers prefer to record their stays in hotels and city escapes don't just share their thoughts and feelings with their public, but also their top moments and get their audience involved in the fun. Videos allow users to see a location in an up-close and personal way before they've ever visited, and it's for that very reason that travel YouTubers have huge followings.
- Instagram – Instagram influencers are capable of turning every photo into a work of art. They think about every little detail and know just how to boost an image's impact. The use of hashtags, stories, and location tags are other features that this social network has that help make content stand out and be that much more accessible.

5. CONCLUSION

So what of the above can be used in terms of promotion of Croatian tourism? Simply said – all of it. Tourists visiting Croatia are attracted by its gastronomy, natural attractions, entertainment, and of course rest. Travel bloggers can create attractive content that will push their followers to come to the destination and try to experience those things for themselves. The best thing is they will not feel it is an advertisement - they follow an influencer because of content they publish, they trust recommendations from an influencer and consider them credible. Influencers have visited a certain destination and posted a photo or a video, so they are considered as experts – giving their opinions and personal experience. Since photos and videos affect people's decision making even more nowadays, it is logical that blogs, Instagram and YouTube will work in the tourism industry of Croatia as well. Furthermore, more than half of tourists that come to Croatia and collect the information through the Internet, use social media as a source, providing one more reason to use influencers as a promotional tool. Created content can be about swimming, trying local food, visiting bars and cake shops, going sightseeing or on boat excursions, shopping and other – in other words, content can be created about all those activities people prefer to do in a destination. Furthermore, upon their arrival to destination, it is an assumption that tourists will use their social media to post photos or videos from the destination, creating e-Word of Mouth themselves.

The crucial thing for Influencer marketing strategy in tourism is choosing the right influencer(s). Companies should choose influencers whose image and values are similar to those the brand has. The next thing a company must have in mind is – quality content. Influencers know what their audience likes, so the brand should give directions but influencer should be the one that comes up with the idea of how to deliver a message that will attribute the brand to their followers. One company could use several influencers to boost visibility and brand awareness, and finally, increase sales. Influencers can be used in the travel industry to build a destination's image credibility as well, and this collaboration between a company in tourism and an influencer is a relationship for mutual benefit.

It is clear that social media influencers affect customers' behavior because of their credibility and created a relationship with their audience. However, to what extent do their followers trust them? Furthermore, there are no studies on how Influencer marketing impacts consumers' behavior regarding choosing a destination and their behavior in the destination, which is also a direction for future research.

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IMPACT OF A DIFFERENT MEDIA TRENDS ON FLUCTUATIONS IN HEALTHCARE INSTITUTIONS IN THE REPUBLIC OF CROATIA

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Abstract

The purpose of this paper is to make a correlation of current fluctuations in healthcare institutions in the Republic of Croatia with different media trends. The idea is to see how different media trends in the Republic of Croatia impact the migrations of Croatian healthcare workers abroad. What is the scope of media impact on the subject and how important media is for informing healthcare workers about their job opportunities abroad? Authors have compared three different media trends from 2013, Croatia joining EU, until today January 2020. They have also compared those different media trends with political changes. As a concrete example, the authors have summoned application feedback from recruitment agency INCOR Ltd. in which they could compare the impact of their media exposure with the number of applied candidates afterward. Semi-structured interviews with a *few healthcare workers who migrated from Croatia to some other EU member state gave them the final overview of the potential influence of media on fluctuations in the healthcare institutions in the Republic of Croatia.*

Keywords: *fluctuations, healthcare, migrations, media trends*

JEL Classification: I19, L82

1. INTRODUCTION

The Republic of Croatia acceded to full membership of the European Union on 1 July 2013. EU membership has brought many benefits to Croatian citizens but also challenges for which it was not fully prepared. By joining, Croatia has officially become part of the EU internal market, thereby opening up the freedom of movement for goods, workers, services, and capital in the entire Union market. Acceptance occurred at a time when the Republic of Croatia has not yet recovered from the recessionary crisis it entered in 2008 and when it had a high percentage of unemployed people. The standard of citizens also could not be compared to that of the wealthiest countries in Western Europe. Therefore, by opening up borders and the labor market to Croatian citizens with less or no income, a huge job market has opened up. Although this extension automatically resulted in a decrease in the number of unemployed in the records of the Croatian Employment Service, it also resulted in significant emigration of the local population. The residential community was most affected by the departure of medical staff. This sector, otherwise dissatisfied with the functioning of the public health system, compensation for its work and endless benefits in society, and on the other hand, which has been the most demanded in the Western European labor market, has migrated most. Multiplied wages, promotion opportunities, and working conditions were reason enough for a large number of Croatian medical professionals to leave the country. This happening in the labor market has also gained much space in the media. Same means in the form of a social event that has direct implications for the quality of life in the Republic of Croatia. This paper aims to investigate the extent to which the media were mediators in the transmission of information, how timely and accurate their information was, to what extent the reporting method changed over the first six years of membership and to what extent, and whether we have any impact on medical professionals' departure from their homeland. This research aims to observe the impact media announcements have on changes in the labor market and whether they have only an informative character that follows the trends of society, or they encourage trends in the social community themselves.

2. IMPACT OF MEDIA ON ECONOMIC TRENDS: LITERATURE REVIEW

The influence of the media and its power or meaning in shaping society has been examined through the prism of almost every aspect. For example, from the philosophical one to the deliberation one of the key influences of serving the economic interests. The power of the media to be able to shape society at all is identified by its indirect ability to govern society by creating individual impressions, moods, and expectations. According to Manuel Castells, people are controlled by the creation of individual emotional states, that is, moods, more than reasoning arguments (Castells, 2011: 140) Content which is presented by the media and the way they present this content, significantly affect people's moods and attitudes. By choosing what content they publish, the media determines what people will think and talk about. This model is known as "agenda". According to the media's daily schedule or the choice of the primary and secondary news of the day or a certain period, the public is directed to think about social and political issues of prosperity. "Under the agenda-setting theory, the assumption is that the mass media dictates topics that the population considers particularly essential, is the media determines the agenda and they have a thematic role... It is assumed that the media may have less influence on what people think, and more regarding what they think "(Cohen, 1963: 13). Michael Kunczik and Astrid Zipfel have comprehensively addressed the theory of media influence on society in their book "Introduction to Media Science and Communication. "(Kunczik & Zipfel, 2006) Hence, this book outlines four phases of media impact research, and the breakdown of the issues highlights the need to analyze the "pre-communication", "communication" and "post-communication" phases. (Kunczik & Zipfel, 2006: 156) "With the influence, we consider all the processes that take place in the post-communication phase as a result of mass communication, and on the other hand in the real communication phase, these are all behaviors that result from the confrontation of people with statements of mass communication." (Maletzke, 1963: 190)

The focus of this research is on the correlation of media releases and economic trends, and the possible cause and effect relationship. Various studies in different contexts have shown that reporting economic news affects economic evaluations. (e.g. Blood and Phillips, 1995, 1997; Soroka, 2006; Svensson et al., 2017) The impact of the media on the economy is most often considered as the impact on consumption and consumer sentiment. At the same time, less attention is paid to detecting the direct influence of the media on economic trends. However, as noted by Jonkman et al. little is known about how these outcomes are conditioned by a specific context (Jonkman et al., 2019). The impact of the media on the overall economy is considered as media influence on the overall economy. "Created or shaken confidence of the citizens in the economy can ultimately trigger new elections and change the existing balance of power on the political scene" (Hernandez and Kriesi, 2016).

Through numerous studies, it has been confirmed that journalists writing about the economy are prone to over-selecting negative and dramatic stories, events and happenings. This consequently leads to a negative bias in monitoring economic news at the aggregate level (e.g. Damstra and Boukes 2018; Fogarty 2005; Hagen 2005; Hester and Gibson 2003; Jul 2008; Soroka 2006). It was confirmed by empirical researches, which proved that the economic downturn was related to a more significant amount of news (e.g. Damstra and Boukes 2018; van Dalen et al. 2017). On the other side, an increase in the number of newspaper articles was not found during economic growth (e.g. Fogarty 2005; Soroka 2006; van Dalen et al. 2017). Therefore, research on economics also confirms the contrary, often exciting, approach of the media to a particular economic issue, and its impact as such on the public, especially in the consumer aspect (Jonkman et al. .2019). It should be noted that the speech of the media, and hence the attitudes of citizens, shapes the society with its value system and its structural relations of power in society. It closes the circle of the mutual influence between media speech and social reality.

2.1. Impact of media reports on the labor market

The impact of media reporting on economic trends in the context of a real impact on the labor market has so far been investigated only sporadically, and there is no comprehensive research on the interaction between the media and the labor market on the Croatian market. According to a study by Garz, M. J Labor Res (2012), which examines the impact of media reporting on particular perceptions of job insecurity in Germany, it has been found that perceptions of insecurity increase in the years with more news. This effect is significant for socio-demographic groups who otherwise have a lower frequency of perceived insecurity (e.g., highly educated and paid employees). In the last sentence, authors are implying that unequally distributed perceptions converge when media coverage is reliable. The reflection of the labor market and the media has been considered more significant through the impact of social networks on employment and recruitment for specific markets and personnel (Bissola & Imperatori, 2014 and Joos, 2008). Specific studies on the impact of the media on the fluctuations of the healthcare workers have not yet been done in Croatia. The authors of this paper aim to determine to what extent, if there is any impact at all, the media publications related to the health care labor market have on the fluctuation of healthcare workers in their decision to change.

3. LABOR FLUCTUATION IN HEALTH CARE

In 2014, the European Commission published an official report on the employment and retention of healthcare workers in Europe (European Commission, 2015). This report showed that trends in the labor market and vocational forecasts indicate a shortage of skilled personnel in the health and social care sector in the medium term.

According to the official data of the Croatian Medical Chamber, on January 13, 2020, 1,830 doctors applied for a departure from the Republic of Croatia, and almost half of the doctors who left Croatia until now are between 25 and 35 years old. Of the total number of doctors who left Croatia, most, 53 percent, are women, and 47 percent are men. The average age of doctors who went is 39 years, most often going they are moving to the United Kingdom, the Federal Republic of Germany, the Republic of Ireland, the Republic of Austria and the Kingdom of Sweden. Official data of the Croatian Medical Association show that mainly specialists leave the territory of the Republic of Croatia. Among the most outgoing specialties are anesthetists, internists, psychiatrists, radiologists, gynecologists, and general surgeons. Most physicians who left Croatia moved from Zagreb and Primorsko-goranska county, and least of them from Požeško-slavonska county. A survey by the Croatian Medical Chamber found that 60 percent of them would go abroad without thinking when given the opportunity; 30 percent would seriously consider it, while only 10 percent would most certainly stay in the Republic of Croatia. (Hrvatska liječnička komora, 2016)

According to the Demographic Atlas of Croatian medicine in 2017, about 4,000 Croatian doctors will leave the natural public outflow from the Croatian public health system in the next ten years (Čipin et al., 2017).

According to the official data of the Croatian professional union of nurses (HSS MS - MT), 1180 nurses went abroad, and more than 2000 nurses submitted their request for departure. (Hrvatski strukovni sindikat medicinskih sestara - medicinskih tehničara, 2019) Eurostat data from 2017 show that in Croatia compared to many other EU countries as well as its average, there is a significantly smaller number of doctors and nurses per 1000 inhabitants. It is estimated that Croatia currently lacks around 3,000 doctors and 12,000 nurses to meet the EU average. As Jadranka Grubić points out in her work, fluctuations, and absenteeism in health care, the most common causes of fluctuation are dissatisfaction with working conditions, poor working environment, low salaries, inability to grow professionally, and personal problems (Grubić, 2016). The fluctuation of healthcare professionals is a particular problem that needs to be investigated as it compromises the quality of healthcare services. Specifically, the high rate of fluctuation accompanied by a reduced number of healthcare professionals affects the attitude towards patients as the health service becomes of lesser quality.

4. TRENDS IN MEDIA REPORTING OF HEALTH CARE FUNCTIONS 2013 – 2020

On July 1, 2013, the Republic of Croatia acceded to the European Union. On the first day of accession to the European Union, the Czech Republic, Denmark, Estonia, Finland, Ireland, Lithuania, Hungary, Romania, Slovakia and Sweden, Latvia, Poland, and Portugal have fully opened their labor markets. Part of the country exercised a two-year right to restrict Croatian citizens from free access to their labor markets. The big jump in the number of emigrants after joining the European Union was evident already in 2014 when out of the total number of 20,858 emigrants (net migration -10,220) most significant number, 38.2%, moved to Germany, followed by Serbia (14.4%), Austria (9.6%) and B&H (8.5%).

The issue of dispersion of the Croatian labor force after the accession of the Republic of Croatia to the European Union was present in the national media even before accession. The first part of this study aims at analyzing trends in monitoring the emigration of the Croatian workforce into the EU countries through qualitative and quantitative analysis of the sample of titles and texts in the Croatian media, in the context of the departure of health professionals. As part of the research, an analysis of selected texts was conducted through a web search engine from January 1, 2013, to December 31, 2019. Article distinction was made by period. Only texts published between January 1, 2013, and December 1, 2019, related to the migration of healthcare professionals, are considered more specifically. Used search terms were: the departure of Croatian doctors, departure of healthcare professionals, the return of doctors to Croatia.

The authors hypothesize that the media in the Republic of Croatia, in their coverage of health care workers' problems, report through three trends. The observed seven-year period shows a shift in approach to the topic through time adaptation to the new social and economic environment. Shortly before Croatia's accession to the European Union, there is a noticeable beginning of a media trend about fear of opening the labor market. The media, which is otherwise inclined to spread a "culture of fear" (Zekić Eberhard & Levak,2015), is beginning to distribute content that emphasizes the downside of Croatia's membership. It is in terms of the departure of a large number of health professionals into the Western European market, otherwise deficient in this type of workforce. (Poslovni hr, 2013)

In the first year of membership, namely in the first six months of 2013, it is possible to find six articles on the web search engine under the term "departures of Croatian doctors", all six of which exclusively address the requests of Croatian doctors to go to work in the Western European market. These newspaper articles are distinguished by a shocking tone toward the interest of Croatian health professionals to leave. As well as the number of those interested in leaving. In 2014, such a trend in the media regarding this topic continued significantly, and the media is increasingly questioning the future of Croatian healthcare, crippled by the departure of the most skilled personnel. (Bratonja Martinović, 2014) Therefore, in 2014, there were counted 12 articles on the departure of Croatian healthcare professionals.[1] But already in 2014, the first articles appeared that would only four years later distinguish a new trend in media. These are media releases about the first returnees to the Republic of Croatia. (Božić, I., 2014; HRT, 2014) These are articles that primarily professionally guide Croatian high schoolers and students and advise them on which medical expertise they

[1] It is important to emphasize here that in this paper, only original articles are considered, and not all publications of the same item on all the internet portals which have passed the original article. Otherwise, would the number of all the pieces be much more significant, although we are talking about the same content.

have no reason to seek employment outside of the Republic of Croatia. In 2015 and 2016, we recorded an equal number of articles, 13 of them substantively dedicated to the departure of Croatian healthcare professionals, and in each of those years, only one publication in individual cases of return to Croatia.

In 2017, more precisely the fourth year of Croatia's membership in the European Union, there is a noticeable trend of articles appearing on the return of Croatian healthcare professionals to their homeland after several years of experience in Western European countries. Therefore, in 2017, we have recorded 13 articles specifically related to the topic of the departure of Croatian doctors, eight of which are dedicated to the departure of doctors and five about the return of medical professionals to the Republic of Croatia. A similar trend continues in 2018 and 2019. It should be emphasized that since 2017, the trend of media coverage of departures and the atmosphere of discomfort due to the departure of qualified health care personnel are intertwined with reports about returning. However, throughout the period, the negative approach that promotes the issue of departure is more pronounced than the writings about the return of personnel. So, in 2018, we register 18 articles on this topic, three of which are about returns, and in 2019 we recorded a total of 19 articles with as many as eight which are about the return of workforce. The last quarter of 2019 is marked by a new, third trend in media coverage, jointly promoted by returnee health professionals and messages from the current politicians. Grabar –Kitarović in her speech in Karlovac on 11th December 2019: Let the young ones educate abroad, and we should let them do that. I am for establishing a foundation in which we could give stipends to talented young Croatian citizens, to educate on the best Universities in the world, and then come back to their homeland to spread everything they have learned and experienced. (Glas Istre, 2019) In them, it is possible to interpret the maturation of society and awareness of the functioning of the conventional labor market. Hence, in the media reports, it is possible to view messages about the benefits of workers leaving to countries with stronger economies, where they can acquire new knowledge and skills. After a few months or years, they can return home. Viewed by the type of media in which we find publications related to this issue, the original articles have been featured in as many as 42 different media releases. The most significant number of media announcements related to the departure of Croatian health professionals are found in regional daily newspapers, especially in eastern Croatia, more specifically in Glas Slavonije where we have recorded 11 publications in the observed period. Second in the number of publications is the Jutarnji list with eight publications, followed by the Novi list and web portal Index.hr with six posts. They are followed by the Večernji list, net.hr and 24 sata (papers.

Table 1. Numerical representation of reporting presence in line with trends 1 and 2

YEAR	2013	2014	2015	2016	2017	2018	2019
NUMBER OF ARTICLES	6	14	14	14	13	18	19
ABOUT DEPARTURE	6	12	13	13	8	15	11
ABOUT RETURNS	0	2	1	1	5	3	8

The aspect of the connection between media coverage and political events in the country shows that it is not possible to aggregate the link, that the negative statements about the departure of health care personnel are exclusively promoted in favor of particular political interests or options. Hence, the media reporting on the left (Novi list), as well as the ones on the right, or more conservative side (Glas Slavonije, Večernji list), also reported on the departures. The number of the announcement could be related to the economic development of certain parts of the country and the need for migration of the population of more impoverished Croatian regions due to better conditions outside the Croatian borders. Also, the number of announcements related to the issue has been approximate throughout the seven years, with the tendency of growth in the last two years. This type of announcement cannot be linked to the tool of pre-election propaganda as for the country the most important were the parliamentary elections, held in 2014 and then again in 2015 which is when the number of articles on this topic remained unchanged. Local elections were conducted in 2017, but the number of articles has not grown, nor can it be related to this type of election. Also, elections for the President of the Republic of Croatia were held in 2014 and 2019. The number of articles on the return of the Croatian healthcare workers is higher in 2019. It seems that the direction of benefits from these articles went in the opposite direction. Thus, some candidates used existing media trends for their propaganda, (Hruškovec, I., 2019) while it is not evident that articles on this topic were written intentionally in favor of a particular political current. Therefore, it can be concluded that media trends in reporting about this issue were primarily dictated by democratic maturation and adaptation to EU membership. The initial shock of opening up the labor market and fears of losing a skilled workforce is mixed in the fourth year by reporting about the return of a part of the workers. After six years of membership, consolidated reporting on the benefits of the open market begins. This means the possibility of finding a job easier, gaining new experiences and returning to the homeland, and therefore for the economy, the entry of new capital in the form of money and knowledge that health professionals have gained while working in other countries.

5. CASE STUDY: INCOR LTD.

As authors wanted to show how different media trends affected migrations of the healthcare workers, they did an investigation of one Croatian company which is working in the field of recruitment of the healthcare workers from Croatia to the EU. Authors got information from the Croatian company Incor Ltd. regarding their appearance in the media and how did it affect their business. The company is active since 2016, and in the period from April 2016 to December 2019, it has been around fifteen times in different media including printed media, digital media, and television. The authors wanted to find out how each time they were in media affected the number of healthcare workers who reached them afterward. According to their data, the most significant number of applicants they had after the personal media appearance in which leading people from the company were interviewed and their picture was published. After those personal interviews in the newspapers or on the television, the number of health care workers who contacted them has tripled in comparison with other media appearances where they gave information like a company with some custom pictures or their logo. They even had some paid ads in some of the biggest media providers in Croatia such as the Jutarnji list and Večernji list but the conversion to those ads was zero. They have concluded that healthcare workers in Croatia appreciate the most personal contact in media in a related person to person instead of the company to a person.

The best impact had the interview, which was made with the company's owner in the newspaper Slobodna Dalmacija and was shared in all digital media. The interview was regarding the working conditions in the Croatian healthcare institutions, which are one of the biggest triggers for Croatian healthcare workers decided to move abroad. There are also bad inter-personal relations on the departments, outdated medical equipment, minimal possibilities for professional and personal growth, the same as an inadequate number of healthcare workers in comparison with the number of patients. (Luetić, J., 2019) The interview was shared on digital sites of the Jutarnji list, Glas Slavonije, and Index. Sharing of the copywriting in media is crucial because that is the way to reach many more people and among them those healthcare workers who are already thinking about opportunities abroad but do not know to whom to turn to.

After this interview was published, the Incor company had around 70 in mails with questions about job possibilities the company can offer them. From those 70 inquiries, 40 inquiries were from medical doctors, 15 was from nurses and medical technicians, ten was from doctors of dental medicine, and 5 were other professions. From 70 inquiries Incor had five conversions in the next six months.

On the other side, interviews made with the company to gather some more information about the number of healthcare workers who already found their way to work abroad, same as what are the main reasons why the healthcare workers decide to move, were not that much shared and so accordingly did not have many inquiries as well. (Tešić, 2017) When looking at all these media releases regarding Incor, they told us that many healthcare workers have confirmed that all media release which is revealing salaries which can be expected by working abroad are much more interesting to them than information about the situation in Croatian healthcare institutions which is not changing for years. (Latinović, 2016)

5.1. Media trends in case of Incor Ltd.

When authors were comparing all these media trends which have been changing from the entry of Croatia to the EU in July 2013 until today, January 2020, authors noticed that it could be seen in media releases of Incor as well. Authors have noticed that all three different media trends are overlapping one another so authors could not make strict boundaries between them. Dividing that has been made is according to dates of media release with different media trends in it.

5.1.1. First media trend

The first media trend about migrations of healthcare workers authors noticed at the beginning of 2013 before Croatia entered the EU. During this first media trend, all media release was filled with negativity towards healthcare workers who went or thinking about going abroad. All that was with a worry that there will not be any doctors left to treat Croatian citizens if they all move abroad in the search for better living conditions and better salaries. Articles and reports in the newspapers or reportages on the news were focused on showing how negative it is to move from Croatia. In the period of this media trend from the beginning of 2013 until June 2018, all media was writing about migrations of healthcare workers and which negative connotations it has, then that there are many of those who are unsatisfied abroad and came back to Croatia. Interviews with returnees were popping out from newspapers daily emphasizing the wrong sides of working abroad. (Poslovni hr, 2016) Nobody seemed to care about having interviews with hundreds of people who stayed abroad but were focused on those few who returned. There were also many articles talking about problems in the Croatian healthcare institutions which provoked public opinion in the comments to those articles in two divisions. First division were comments saying "greedy healthcare personnel went from their homeland just for couple hundreds of euro more in their pockets" and the second division was "good move to migrate from Croatia and start your life in an organized country". In this period of first media trend regarding migrations of the healthcare workers, Incor had mainly media release regarding better salaries and much better working conditions healthcare workers can expect abroad. (Zekić Eberhard, 2015)

5.1.2. Second media trend

During the period of a second media trend, from January 2018 until December 2019, a media release is mainly focused on interviews with returnees. However, now we can also notice more and more media releases in which Croatian authorities are referring to all those who moved abroad to return to their homeland. (Index.hr, 2017) Furthermore, more media release is focused on essential subjects such as why so many healthcare workers choose to leave their homeland and what is wrong in the Croatian healthcare system. In this period, the right questions are processed, and the media is starting to question what are the lacks in Croatian healthcare. (Zebić, 2018) During this period, media is warning the public, that the collapse of the Croatian healthcare system is very near and that many indicators are pointing to it. For example, many media releases pointed out that there are problems in the system already in the headlines, such as "problems in the healthcare system", "soon there is no one who will treat us", "many young doctors are leaving while many are going in the retirement". (Kovačević Barišić, R., 2019) In this period Incor has also published some media release in printed and digital newspapers the same as they were on the television. Incor has published texts such as "new opportunities in the new country" writing about all the things that were wrong in the Croatian healthcare system and which were well organized abroad. When Croatian media were writing about no opportunities in the United Kingdom because of the Brexit, Incor published media release of the British Ministry of Health which guaranteed to every healthcare worker the same conditions as those British citizens have no matter the outcome of Brexit. (Zekić Eberhard, 2019a) Incor was also working on getting people to know much more about opportunities in each country same as opportunities to work abroad for a while and then come back to Croatia richer for new knowledge and experiences. (Zekić Eberhard, 2018)

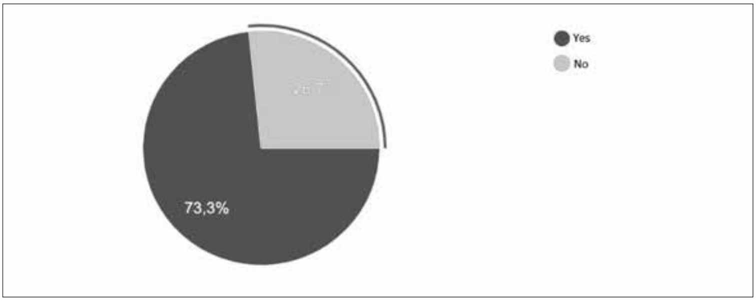
5.1.3. Third media trend

Authors have divided all three media trends only based on the media release published in Croatian media from 2013 to 2020. The third media trend has started in September 2019 and is still lasting now in 2020. Media release in this period is focused on the right side of migrations, on all the options healthcare workers have, such as working permanently abroad, working on locum positions for a week or two or maybe working while having education somewhere abroad. Incor has also been publishing in this period accordingly, so it is important to mention an article from December 2019 in which Incor introduced these three effective options of working abroad. Incor also presented a fourth option in which doctors can work online from Croatia to anywhere else in the world. (Zekić Eberhard, N., 2019 b) Inquiries after this article multiplied because many healthcare workers were interested in presented options to go and work abroad for a while, learn more, earn some money and then return to Croatia.

6. INTERPRETATION OF SEMI-STRUCTURED INTERVIEWS

The authors have done a semi-structured interview with randomly chosen healthcare workers who already work abroad or are making plans to start working abroad soon. Authors wanted to find out how many of them got the information needed about opportunities abroad via media and how much media affected their decision. Authors also wanted to find out if those questioned healthcare workers believed everything stated in media from positive to negative connotations regarding migrations from Croatia. In the semi-structured interview participated 15 examinees randomly chosen and among them were medical doctors and nurses. The following authors wanted to present each question from a semi-structured interview individually interpreting results.

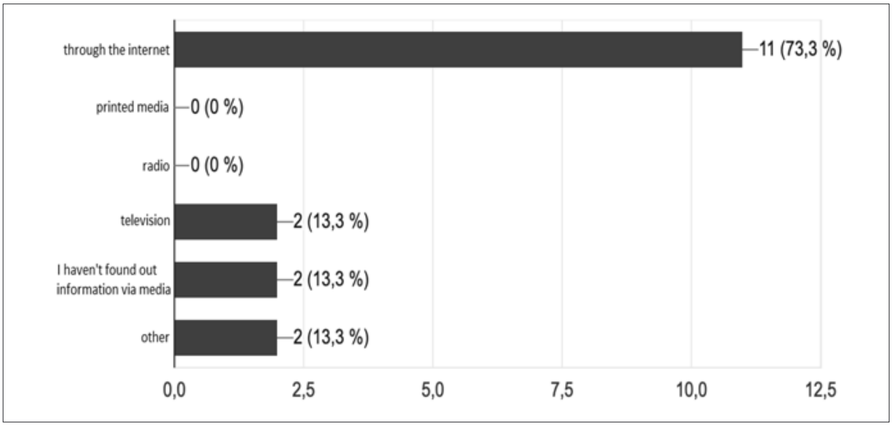
Figure 1. Have you found out about moving possibilities abroad via media? (15 examinees)



Source: Semi-structured interview done by authors

In the first question, 73,3% of examinees have answered that they have found out about moving possibilities abroad via media, while 26,7% answered that they have not. Same means that 11 people from 15 found out useful information via media. The authors got the answer to this question about how much media affected informing healthcare workers about job opportunities, living opportunities, and other information about moving abroad.

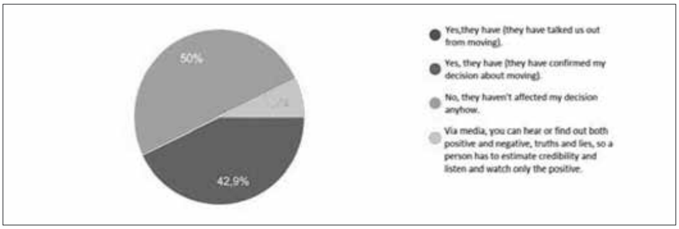
Figure 2. Through which media, have you found out all the information regarding finding the new job abroad? (15 examinees, possibility of more choices)



Source: Semi-structured interview done by authors

In the second question regarding the type of media which brought most information about moving abroad, examinees could choose multiple answers. 73,3% of examinees have gotten information through the internet. Authors have confirmed with this question the same answer they got from firm Incor Ltd. which said that the most outcome they had if their ads or interviews were shared via the internet. That then they could reach many more people with valuable information about their work.

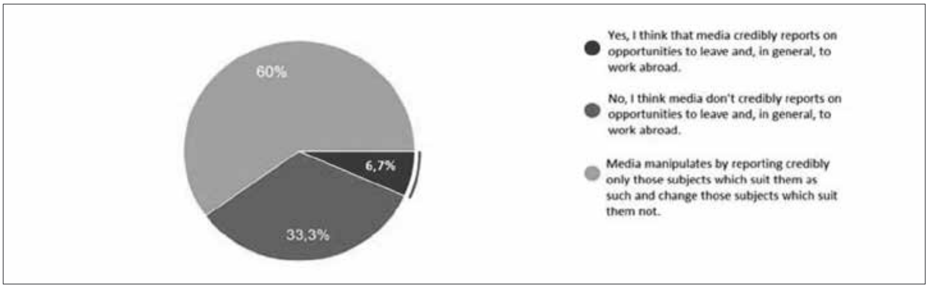
Figure 3. Have media anyhow affected your decision to move abroad? (15 examinees)



Source: Semi-structured interview done by authors

In the third question regarding media affecting examinees' decision to move abroad, 50% said that the media had not affected their decision anyhow. 42,9% said that the media had confirmed their decision about moving and 7,1%, which means one person from examinees, have chosen to write its answer. The answer was "Via media, you can hear or find out both positive and negative, truths and lies, so a person has to estimate credibility and listen and watch only the positive.". This question showed to authors that 50%, which means seven examinees, think that media did not affect their decision to move. While at the same time 42,9%, which means six examinees, think that reports in media confirmed their decision to move abroad. One of the examinees gave its answer showing that on his/her decision affected only positive reports seen in media. In contrast and not those negative ones, while one examinee has not answered this question.

Figure 4. Do you think the media credibly reports on opportunities to leave and, in general, to work abroad? (15 examinees)



Source: Semi-structured interview done by authors

On the fourth and last question regarding the credibility of media reports about working abroad, 60% of examinees have answered that media manipulates by reporting credibly only those subjects which suit them as such and change those subjects which suit them not. 33,3% of examinees have answered that they think that media do not credibly report on opportunities to leave and, in general, to work abroad and 6,7% think that media credibly reports on opportunities to leave and, in general, to work abroad. The same means that nine persons have the opinion that media manipulates with information, five persons have the opinion that media reports have non-credibility. In contrast, only one person has an opinion that the media reports credible about opportunities to leave and, in general, to work abroad.

According to answers from this semi-structured interview and by randomly choosing healthcare workers who participated in it, authors got answers on how much media affected healthcare workers on their way from Croatia. It showed out that the majority of examinees got crucial information about working and moving abroad through media and that for 42,9% of the media helped by confirming their decision to move. On the other side, no matter how media affected examinees the most significant number, 93,3% of examinees, have the opinion that the media does not have credible reports.

7. CONCLUSION

The conducted research has produced results at multiple levels through the aspect of the media, entrepreneurship and the medical professionals themselves. The first part of the research describes the genesis of media reflection and reporting on the fluctuation of the domestic workforce following the opening of the EU labor market. By analyzing the headlines and articles, and the atmosphere they offer with their content, it is evident that over the observed period of seven years, the media also matured in their reflections and understanding concerning how the current labor market is working. Hence, in the first years after Croatia's accession to the EU, the media focus exclusively on the downside of opening up the market and losing skillful employees in the domestic market. Analyzing and categorizing news articles has proven the trend of changing the media trend from negative to accepting, to a trend that promotes the broad labor market as a positive opportunity for the Croatian workforce, as an opportunity to learn, earn and gain experience. Through a seven-year review of media coverage, one can understand the democratic maturation of society and understanding of the functioning of the European Union, its market and its benefits. The authors could not associate media coverage with political events in the country nor decisively conclude that adverse press reports about the departure of health care personnel were solely promoted in favor of particular political interests or options. A case study conducted through the practice of a healthcare professional recruitment company showed the extent to which media coverage affected merely informing medical staff about opportunities of working abroad. In the context of the type of media coverage, it revealed that the paid marketing ad did not affect recruiting potential job seekers abroad as opposed to themed newspaper articles with the business owner herself. It proves that people must personalize a media story through a specific person and not just through the company. Semi-structured interviews provided the most specific results in this study. In them, 73,3% of examinees have answered that they have found out about moving possibilities abroad via media. The authors got the answer to this question about how much media affected informing healthcare workers about job opportunities, living opportunities, and other information about moving abroad. Also, the most important medium through which the respondents accessed the media reports was the internet. Therefore, 73,3% of examinees have gotten information through the internet.

On the other hand, the claim of the theoretical part of the paper that the media can dictate what citizens will think, but not how they will think was confirmed. Consequently, in the third question about media affecting examinees' decision to move abroad, 50% said that the media had not affected their decision anyhow, 42,9% said that media had confirmed their decision. It means that media reports in the event of fluctuation of domestic health workers had an impact only as of the informational purposes but could not affect their decision to leave or to stay. Even though 73,3% of those surveyed received information on the possibility of working outside the Republic of Croatia through the media, simultaneously 60% of examinees have answered that media manipulates by reporting credibly only those subjects which suit them as such and change those subjects which suit them not.

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IMPORTANCE OF MEASURING TOURIST SATISFACTION WITH A DESTINATION – EMPIRICAL STUDY OF DESTINATION NOVIGRAD

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Abstract

Information about tourist satisfaction is very often regarded as a useful tool in tourism planning. The main goal of the paper is to test and modify this tool for future destination planning based on empirical results. Novigrad is a popular coastal tourist destination in Istria County. The paper aims to find out how tourists perceive the different aspects of the destination Novigrad. The research was conducted with tourists, i.e. beach users in the period from July to September 2017 and ultimately 472 questionnaires were obtained. The survey was developed according to the Visitor survey suggested by the European Tourism Indicators System (ETIS, 2016) for sustainable destination management, with additional questions regarding the satisfaction level of different aspects of the destination. Questionnaires were offered to tourists in the English, German, Italian, Russian, Slovenian and Croatian languages. For the evaluation, the 5-point Likert scale was used. For the analysis, descriptive statistics and

Principal Component Analysis (PCA) were used. The results were compared with the results obtained in the research carried out in Poreč and Rabac in the same year. The results obtained can be used for future studies which will evaluate the role of tourist satisfaction in the management of tourism destinations. Also, the research findings can help local tourism managers in making informed decisions to develop a sustainable tourism destination.

Keywords: *destination management, tourist satisfaction, Novigrad, Istria County*

JEL Classification: L83, Z31

1. INTRODUCTION

Istria is one of the most visited destinations in Croatia, and Novigrad is a popular destination in Istria. According to eVisitor statistics, tourist arrivals and overnight stays are increasing year by year, which also means greater pressures on the infrastructure, accommodation and natural resources, especially in the summer peak season. For the planning of sustainable tourism development, it is necessary to design and implement tools that will monitor the tourism situation of a particular destination. One possible tool is to track tourist satisfaction with the destination. The main theme of this paper is to try to modify the model based on empirical results obtained in three different destinations Poreč, Rabac, and Novigrad. The research presented in the paper was carried out in Novigrad, and by using PCA analysis, we tried to explain which components are fundamental for the survey of tourist satisfaction with the destination. The subjective opinion and evaluation of the destination by tourists can be used for comparison with the current situation in the destination to take proper measures for tourism development in the upcoming years. The gathered information about tourist opinions on the aspects of visited destinations should help local tourism stakeholders in future tourism planning. Tourist satisfaction may serve as a valuable tool in future tourism strategies. By monitoring the satisfaction of tourists, we can measure the quality of destination offers. If we do not know the opinions of the users/tourists, it is possible to implement an inappropriate strategy that will not satisfy the demands of tourists in the future. Maintenance of the satisfactory level of tourists with the destination should be the goal of tourism stakeholders, also considering the conservation of natural resources and sustainable tourism development.

2. LITERATURE REVIEW

There are a large number of researches that have studied tourist satisfaction in the destination and which evaluate different destination attributes (Pizam et al., 1978; Cho, 1998; Yoon & Uysal, 2005; Alegre & Garau, 2010; Aktaş et al., 2010; Soldić Frleta, 2018). Wang (2016) emphasized the importance of satisfaction as an indicator of destination performance. Chen & Tsai (2007) emphasized that satisfaction is one of the most important variables that have a direct and positive effect on visitors' behavioral intentions. This result has also been obtained in several studies (Baker & Crompton, 2000; Kozak & Rimmington, 2000; Yoon & Uysal, 2005; Aktaş et al., 2010). Baker & Crompton (2000) confirmed that "enhanced performance quality leads to stronger positive behavioural intentions and that visitor satisfaction does add to the explanatory power of quality". Alegre & Garau (2010) highlighted that, besides satisfaction, it is important to monitor tourist dissatisfaction with attributes in the destination to explain better the impact on tourist overall satisfaction and their intention to return to the destination. Alegre & Caldera (2006) emphasized the importance of evaluating both the positive aspects that most affect overall tourist satisfaction and the negatively rated aspects that affect return visits to the destination. Several authors have emphasized the importance of visitors' levels of satisfaction which ultimately affects the choice of the destination, the decision to make a return visit and recommendations to others (Kozak & Rimmington, 2000; Kozak, 2003; Kau and Lim, 2005; Chen & Tsai, 2007; Aktaş et al., 2010). Prayag (2009) confirmed the link between destination image and overall satisfaction and explained that if visitors' perceptions of the destination improve, the visitor satisfaction level will also improve.

Soldić Frleta (2018) evaluated tourist satisfaction with two different destinations (the City of Rijeka and Opatija Riviera) in different years and noticed significant differences in overall satisfaction, thus concluding that measuring tourist satisfaction provides feedback to destination managers about implemented activities, and the results can provide information for new plans to improve the offered elements and increase the quality of the destination (Aktaş et al., 2010; Vajčnerová et al., 2014; Soldić Frleta, 2018). Moreover, tourist satisfaction is an important component of monitoring sustainable tourism because, as is indicated in UNEP and UNWTO (2005), "sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices among them". The most common elements of the destination used for evaluation by researches were destination cleanliness, sports activities, price, accommodation, cultural activities, safety, nightlife, tourist attractions, facilities for children and/or the elderly, local cuisine, beaches, etc. (Kozak, 2003; Yoon & Uysal, 2005; Alegre & Cladera, 2006; Chen & Tsai, 2007; Chi & Qu, 2008; Alegre & Garau, 2009; Alegre & Garau, 2010; Soldić Frleta, 2018). Kozak (2003) confirmed that multiple aspects of the destination affect the level of tourist overall satisfaction, irrespective of nationality and destination. As Wang (2016) stated, if destinations want to research tourist satisfaction, the managers need to identify the most relevant attributes in the destination and cover both the physical and intangible (service) components. Murphy et al. (2000) revealed that tourism "Infrastructure" is an important predictor of destination quality and perceived trip "Value". Also, it has been found that the destination "Environment" is the key predictor of destination "Quality" and a modest predictor of trip "Value". Pizam & Ellis (1999) concluded that the monitoring of customer satisfaction is valuable to hospitality enterprises because it can enhance the quality of the tourism product. De Nisco et al. (2015) clarified that tourist satisfaction as a management tool aims to help policymakers and tourism stakeholders to discover the main strengths and weaknesses of the destination. Finally, measuring tourist satisfaction would allow destinations to follow the performance over time and to evaluate the productivity of investments made in quality improvement (Wang, 2016).

3. METHODOLOGY

The main objective of the research was to gather information regarding tourist satisfaction with aspects of the destination Novigrad as a tool for sustainable destination management. The research was carried out as part of the MITOMED+ (Models of Integrated Tourism in the MEDiterranean Plus) project, and a survey questionnaire was created for the research. The questions were created with the help of the ETIS Survey of available online questionnaires, and additional questions used in previous researches were added (Kozak, 2003; Yoon & Uysal, 2005; Alegre & Cladera, 2006; Chen & Tsai, 2007; Chi & Qu, 2008; Alegre & Garau, 2009; Alegre & Garau, 2010; Soldić Frleta, 2018) where respondents were required to rate their satisfaction with particular aspects of the destination. The survey was conducted in Novigrad among beach users between July and September 2017 by trained students. The survey was conducted either in the morning from 10 am to 2 pm or in the afternoon from 4 pm to 7 pm. Interviewers went to the field every 7 to 10 days because of the shift of guests and to avoid repeated surveys of the same guests. For any ambiguity, they further clarified the questions to the respondents. Questionnaires were translated and offered to tourists in 6 languages, German, Italian, Slovenian, English, Russian and Croatian. In the end, 472 questionnaires were collected.

The survey consisted of several groups of mostly closed questions but also a few open-type questions. The first part of the survey was related to the mode of transportation, searching for destination information, and the purpose of visiting the destination. In the second part respondents needed to evaluate the offered aspects of the destination. For the evaluation, the 5-point Likert scale was used. Grade 1 means complete dissatisfaction and grade 5 complete satisfaction with the aspect.

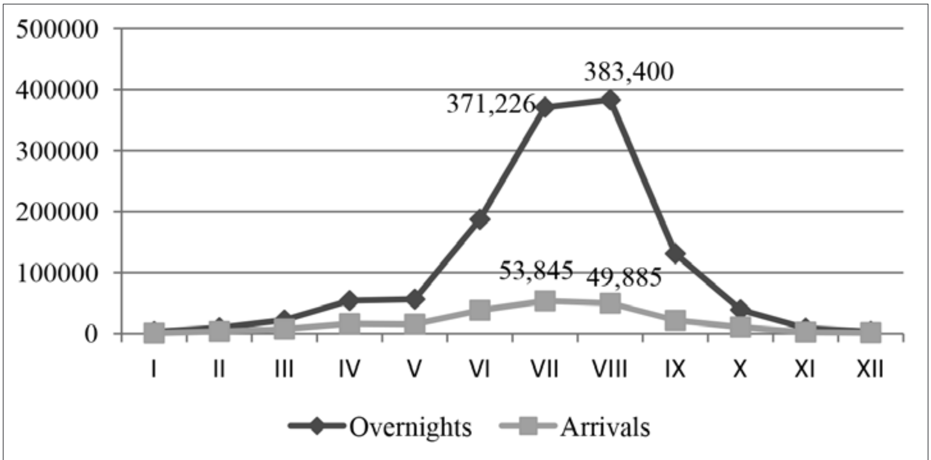
The secondary data about the destination Novigrad and statistical data in tourism were collected from the official website of the Town of Novigrad and eVisitor, the Croatian national tourist information system.

The data were analyzed within SPSS (22) software and descriptive statistics for the presentation of the results were used. The Principal Component Analysis (PCA) was conducted to reduce the number of questions related to aspects of the destination. Furthermore, the goal was to compare the obtained results with the results gathered in the destinations Poreč and Rabac in the same year and to identify the underlying differences i.e. confirm whether questions for each destination can be reduced concerning the PCA components obtained.

4. TOURISM IN NOVIGRAD

The City of Novigrad-Cittanova is situated on the northwest coast of the Istrian peninsula and the urban area covers 27 sq. km. Novigrad is 25 km from the Slovenian border and, according to the Census from 2011, Novigrad has in total a population of 4,345 inhabitants. The main economic development is based on tourism and the local community makes a great effort to improve the facilities in town and the quality of tourist offers and services, the quality of the infrastructure and the improvement of tourism products. According to the official national data from eVisitor (Information system for check-in and checkout of tourists) for the year 2017, the tourists, on average, stayed in the destination for 5.7 days. The number of tourist arrivals was 222,744 and the number of overnight stays was 1,271,303. As listed in Figure 1, the highest number of tourist arrivals was recorded in July (53,845), and the highest number of overnight stays in August (383,400). These months are still the most popular for visits to Istria and are indicators of high seasonality. The occupancy rate of commercial accommodation in 2017 in July was 77.2% and in August 80%.

Figure 1. Number of tourist arrivals and overnight stays in Novigrad for the year 2017



Source: eVisitor (Information system for check-in and check-out of tourists), 2018

According to official data, the number of facilities was 2,301, the number of accommodation units 6,094 and the number of beds 20,357. The highest number of overnight stays in 2017 was recorded by tourists from Slovenia (394,924), Germany (308,558), Austria (214,696), Italy (70,686), Netherlands (43,341), Czech Republic (39,905) and Croatia (36,431). Most of the arrivals were by tourists mentioned in overnight stays but in a different order as follows: Slovenia (69,100), Austria (46,205), Germany (42,092), Italy (16,805), Croatia (8,404), Czech Republic (6,641) and the Netherlands (5,246).

5. RESULTS

5.1. Characteristics of the respondents

Table 1 shows the sociodemographic characteristics of the respondents. In the sample, there were a little more woman (50.32%) than men (49.68%). Most of the respondents were in the age group from 15 to 44 years (73.5%). Furthermore, as regards the type of residence, most of them were tourists (69.36%) or house/apartment owners (15.96%). As to the type of accommodation, tourists stayed mostly in private accommodation (36.92%), private houses/apartments (20.54%), hotels (20.29%) or campsites (19.07%).

Table 1. Characteristics of the respondents

Characteristics of the respondents		
	Share (%)	Number
Gender (n=471)		
female	50.32	237
male	49.68	234
Age group (n=468)		
15 - 24	31.20	146
25 - 34	19.44	91
35 - 44	22.86	107
45 - 54	16.03	75
55 - 64	7.05	33
≥ 65	3.42	16
Type of residence (n=470)		
resident	6.17	29
house/apartment owner	15.96	75
tourist	69.36	326
weekend visitor	4.89	23
excursion visitor	3.62	17
Type of accommodation (n=409)		
hotel	20.29	83
private accommodation	36.92	151
campsites	19.07	78
private house/apartment	20.54	84
sea tourism harbor/marina	2.69	11
hostel	0.49	2

Source: Field research, from July to September 2017

In the total sample, there were tourists from 22 different countries, as listed in Table 2. Most of the respondents were from Slovenia (23.19%), Germany (19.57%), Italy (16.81%), Austria (14.68%) and Croatia (12.13%). It is important to note that the geographical location of Novigrad, close to Slovenia, is convenient for Slovenian tourists.

Table 2. Country of origin of the respondents

Country (n=470)	Share (%)	Number
Slovenia	23.19	109
Germany	19.57	92
Italy	16.81	79
Austria	14.68	69
Croatia	12.13	57
Netherlands	3.40	16
Serbia	2.55	12
Czech Republic	1.06	5
Switzerland	1.06	5
Other countries	5.53	26

Source: Field research, from July to September 2017

The respondents traveled, on average, from home to the destination of Novigrad 526.6 km (SD=767.6, mode=150, and median=400).

Regarding the means of transport that respondents used to travel to the destination the most chosen option was by car - personal, friends or business (81.36%), followed by a bus (5.72%), plane (4.03%) and motorcycle (4.03%). Other answers were given in a very small share.

Tourists were asked to indicate how they had received the information about the destination and in this question, they had a multiple-choice option. Most tourists had already visited the destination (50%), and other respondents got the information about the destination mostly from friends or relatives (39.36%) or through the Internet (23.62%). Apart from these, they got the information from social networks (2.55%), through tourist information centers (1.7%), tourist brochures/flyers (1.49%), and newspapers/magazines (1.49%).

Regarding the transportation in the destination, they mostly used their cars (61.7%), traveled on foot (54.26%), by bicycle (23.4%), local public transport (5.96%), motorcycle (5.53%) and other methods of transportation (2.98%), for example, by boat. In the above question, the respondents had the opportunity to choose more answers.

The main reason for arriving at the destination generally mentioned by tourists was a holiday, free time and recreation (90.83%). Respondents had the option of multiple choice answers, and therefore the further reasons for their arrival in the destination are as follows: visiting friends and family (10.23%), shopping (4.26%), business and professional reasons (4.05%), health and medical care (0.85%), education and training (0.21%) and other reasons (4.48%), e.g. festivals.

The respondents were asked to mark the main features of why they had chosen to visit Novigrad and could choose more than one offered answer. The most common answer was because of the beach (66.6%), which is expected given that the respondents were beach users. Other most common responses were clean sea (40.47%), nature (38.12%), peace and quiet (32.33%), accessibility (30.19%) and the other features mentioned in Table 3.

Table 3. The main features why respondents have chosen to visit Novigrad (n=467)

Features	Share (%)	Number
Beach	66.60	311
Clean sea	40.47	189
Nature	38.12	178
Peace and quiet	32.33	151
Accessibility	30.19	141
Accommodation quality	19.31	90
Hospitality of the host	15.85	74
Destination popularity	14.78	69
Entertainment and recreation	14.35	67
Something else	13.92	65
Cultural richness	10.28	48
Sport	8.60	40
Special event	5.35	25

Source: Field research, from July to September 2017

Tourists were mostly satisfied with all the listed aspects in Table 4. The highest average score is attached to the aspect of destination cleanliness (average=4.18, SD=0.85). Furthermore, the highest marks were given to the following aspects of accommodation quality (average=4.15, SD=0.89), overall satisfaction with the destination (average=4.14, SD=0.79) and local cuisine (average=4.14, SD=0.86). In the last places are ratings for the aspect's nightlife (average=3.72, SD=2.79), cultural events (average=3.66, SD=0.89) and reasonable prices (average=3.53, SD=1.08), but tourists were still satisfied with the mentioned aspects.

Table 4. Respondents' satisfaction with the aspects of the destination

Aspects	Relative frequency (%)					Aggregate score (out of 5)	
	totally unsatisfied	unsatisfied	neutral	satisfied	completely satisfied	average	SD
Destination cleanliness	1.53	2.40	12.23	44.10	39.74	4.18	0.85
Accommodation quality	2.00	2.66	13.53	41.69	40.13	4.15	0.89
Overall satisfaction with the destination	1.52	1.74	11.28	52.49	32.97	4.14	0.79
Local cuisine	1.55	1.99	15.49	43.14	37.83	4.14	0.86
Information availability at the destination	1.57	4.27	23.15	41.57	29.44	3.93	0.91
Facilities for children or the elderly	2.15	2.63	32.78	36.36	26.08	3.82	0.93
Sports activities	1.83	2.98	31.88	42.43	20.87	3.78	0.87
Tourist attractions	1.87	4.22	29.74	45.20	18.97	3.75	0.87
Nightlife	4.11	7.99	30.14	39.04	18.49	3.72	2.79
Cultural events	2.76	3.68	34.71	42.07	16.78	3.66	0.89
Reasonable prices	6.35	9.41	26.26	40.48	17.51	3.53	1.08

Source: Field research, from July to September 2017

For a more detailed analysis, Principal Component Analysis (PCA) was performed with 11 variables, i.e. attributes in the destination used in the survey. The aim was to extract new components that group and include the listed attributes. In the final factorial design 10 variables, instead of 11, were included because the variable "Information available at the destination" could not be explained in the frame of the emerged components. It is important to note that the same research was conducted in the destinations Poreč and Rabac in the year 2017. The PCA was made for both destinations and the same variable, as is the case in Novigrad, was excluded from the final factorial design (Bršćić et al., 2018; Šugar et al., 2019).

Two principal components (KMO=0.876, Bartlett`s Test $\chi 2$ sig. 0.000, satisfactory reliabilities, Cronbach alpha >0.695) with eigenvalues greater than 1 appeared, explaining 55.62% of the total variance.

In Table 5, the correlation coefficients between variables are shown, as well as Eigenvalue, Variance %, Cumulative variance %, Cronbach alpha and Mean for each component. The first emerged component is related to the attributes that can be described as destination quality, and those are destination cleanliness, local cuisine, overall satisfaction with the destination, accommodation quality and reasonable prices. The same first component as in Novigrad emerged in the destination Rabac (Šugar et al., 2019), but in Poreč this was not the case. In Poreč the results were slightly different as the listed component came out as the second emerged component, which means that the strengths of correlation among variables were different (Bršćić et al., 2018). The second emerged component can be described as a destination offers, and it consists of the following attributes: nightlife, sports activities, tourist attractions, cultural events and facilities for children or the elderly. Although the Cronbach alpha reliability value for the second emerged component was too low at 0.526.

Table 5. Principal Component Analysis, tourist satisfaction with aspects in the destination in 2017

Value	Pattern Matrix[a] Component	
	1	2
Destination cleanliness	.833	
Local cuisine	.783	
Overall satisfaction with the destination	.779	
Accommodation quality	.693	
Reasonable prices	.624	
Nightlife		.754
Sports activities		.726
Tourist attractions		.663
Cultural events		.641
Facilities for children or the elderly		.637
Factor statistics		
Eigenvalue	4.247	1.316
Variance %	42.456	13.156
Cumulative variance %	42.465	55.621
Cronbach alpha	0.810	0.526
Mean	4.032	3.753

Source: Extraction Method: Principal Component Analysis.
Rotation Method: Promax with Kaiser Normalization.[a]
a. Rotation converged in 3 iterations.

Besides, we asked tourists if they thought enough was being invested in destination initiatives focused on sustainability. We received 445 responses and 73.71% of respondents answered "yes". We asked them if they were traveling with a disabled person or a person with reduced mobility and we received 461 responses, 5.42% of them said "yes". Moreover, they were asked to evaluate the statement "This destination takes into account the special needs of disabled visitors in all areas - accommodation, public transport, tourist attractions." In total, 123 respondents answered the question, and the average score was 3.59 (SD = 0.90), which means that the respondents agree with the statement and that they consider that the destination considers the needs of the disabled.

6. CONCLUSION

The destination of Novigrad is similar to Poreč and Rabac (Brščić et al., 2018, Šugar et al., 2019) as a car destination. Most of the respondents had already visited the destination before. The main sources of information about the destination are word of mouth and the Internet. Novigrad is a destination that respondents choose mostly for the beaches, clean sea, and nature. More than half of the respondents stated that they had already visited the destination several times, so the assumption, when returning to the destination, was that they were satisfied with most aspects of the destination. This is something that can be considered in analyzing the level of satisfaction.

In general, the average scores for the level of satisfaction with the aspects of the destinations are very high. The worst score is 3.53 to the claim "reasonable prices", and the best score is for "destination cleanliness" 4.18 and "accommodation quality" 4.15. "Overall satisfaction with the destination" is in third place together with "local cuisine" with 4.14. Taking into account that "overall satisfaction with the destination" is suggested as a social indicator within the ETIS (ETIS, 2016) it can be concluded that in the case of Novigrad this indicator, although it did not have the best score, is one of the best evaluated of all the offered aspects for evaluation. Because of that, it confirmed the conclusion obtained in the case of Poreč destination (Brščić et al., 2018). So, it can be suggested that destination managers should monitor and evaluate tourist satisfaction with destinations. In the monitoring of tourist satisfaction, it is recommended that tourists can evaluate more than just "overall satisfaction with the destination". The most useful result can be obtained if the survey is developed according to the needs and goals of the destination.

PCA analysis showed that the tested aspects could be grouped into two components. One can be described as "quality" of the destination that grouped: destination cleanliness, local cuisine, overall satisfaction with the destination, accommodation quality, and reasonable prices, and others can be named as "offer" of the destination that put together aspects: nightlife, sports activities, tourist attractions, and cultural events. These results can be used in developing future researches in different destinations.

For future study, it would be interesting to separately analyze first-time visitors and repeat visitors and to determine the differences between them. Also, it would be interesting to investigate first-time visitors' experiences in the destination and to determine their main intention of returning as well as to identify the most important segments of why repeated visitors come back to a destination, and which are the aspects that affect their returning.

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IMPACT OF POLITICAL MARKETING IN DIGITAL ENVIRONMENT ON VOTERS WITH REGARD TO THEIR AGE

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Abstract

Marketing in the 21st century is based on digital marketing. The authors chose as a research topic the impact of political marketing in the digital environment, given their age, for the reason that political marketing experts could target advertising based on the results. The purpose of this paper is to broaden the knowledge of political e-marketing that is underrepresented in Croatian science. Nowadays, political parties act as business subjects. They use market information to influence the shaping of a product they offer. Political marketing is defined as political subjects and their relationship with or towards the market. Simply speaking, political subjects use marketing techniques to reach political power. The paper shows research results that aimed at determining the impact of political marketing in a digital environment about age. The research used a questionnaire among potential voters. Two electoral units were chosen due to their differences; IV electoral unit as a primarily rural and VIII unit as primarily urban. The conclusion arises *that the impact of political marketing in the digital environment is higher on younger voters than on the older ones. Still, the differences are minimal. The impact of political marketing on voters in Croatia is extremely low. The crucial social implication is that a small percentage of 18-34-year-olds turn out to vote. Political subjects who activate the aforementioned body can achieve their goal – win elections. By activating young people, it is possible to change the political image of Croatia and make necessary reforms. The results can be used to improve political e-marketing and serve political and marketing professionals to create a political campaign and political communication.*

Keywords: *marketing, digital marketing, political marketing, impact, age*

JEL Classification: M31, M37

1. RESEARCH PROBLEM

Political marketing is a term that does not often appear in the media and marketing-related works. It refers to the specific form of marketing that specializes in political subjects. The biggest difference between marketing and political marketing is in the object of the matter. The most complete definition of political marketing suggested by Bongrand (1997) is: "Political marketing is a collection of techniques used to create a specific picture of the candidate among his electorate, to promote his person with each voter individually, to single him out from his rivals and to gain the maximum number of votes using the lowest level of resources, optimizing several votes necessary to reach during a campaign". Certainly, the aforementioned definition can apply to all marketing definitions, regardless of the market of the competing subjects. We cannot claim that political marketing represents solely the use of marketing techniques in politics.

According to the definition by Bongard, political subjects, apart from market research and familiarizing the voters and selling themselves, use political marketing to decide what to offer to the public. Identically as business subjects, they use research to study the public opinion on what politics should be suggested and adopted, which persons to choose to represent the party and how to communicate about good, as well as bad news. The term political marketing refers to the strategic process that consists of several phases: market research, design of a political product, adaptation of the product, implementation, communication, campaign, elections, fulfilling the program (product delivery) and continuous market orientation. The strategic approach enables political subjects to achieve long-term success. The largest difference between classical marketing and political marketing is that the potential buyer, through effective marketing activities, receives the idea the candidate promised. The market represents the political public, and profit means being elected to the public function. Voters, as the final result, get satisfaction and promise from their candidates to realize the program they communicated about during the campaign. Political subjects have a great moral responsibility towards voters and citizens. A product that was promised is, in most cases, improvement in citizens' quality of life.

Marketing of the 21st century is marketing in a digital environment. The term represents the Internet, e-mail and social networks. Experts of political marketing use search engine advertising, social media advertising, video advertising, sponsored (paid) articles, banners, etc. Before the research, it is necessary to emphasize how the Republic of Croatia represents a specific political market that is still strongly influenced by the War of Independence. Certain parties ruled during the proclamation of independence and the War. The aforementioned still has a strong influence on voters who still support the parties mentioned, regardless of the non-realization of their programs, as well as of their numerous affairs. To confirm the results of this research, it is advised to repeat it during the election campaign for the Croatian Parliament in 2020. The thesis analyzes the impact of political marketing in a digital environment concerning voters' age. The sample was voters from the IV and VIII electoral units during the campaign for the Croatian Parliament in 2016. The research was conducted using a questionnaire among voters. The aforementioned electoral units were chosen due to their differences. IV unit is a primarily rural electoral unit and VIII is a primarily urban electoral unit. The study, whose results are used in the research part of the work was carried out during the writing of the doctoral dissertation author's work (Stylin, 2018). Paper is based on primary and secondary research used for presenting a theoretical background. Methods that were used during writing are analysis, questionnaire, and synthesis. The survey method is a questionnaire among voters.

For research, the following hypotheses were made:

- Political marketing in a digital environment affects younger voters more since they spend more time on the Internet and social networks.
- Political marketing in the digital environment influences the decision of voters on who to vote for in the elections.

The research contributes to a better understanding of the application of political marketing in the digital environment and election campaigns. Results can be used to improve political marketing, as well as serve as a framework for further research.

2. POLITICAL MARKETING IN DIGITAL ENVIRONMENT

At the beginning of the research, the theoretical background of the concepts of political marketing, e-marketing and political marketing in the digital environment will be presented. Political subjects use market information to influence the design of the product they offer. Marketing is an activity that is focused on satisfying the needs and desires through the exchange process. The goal of marketing is to make a profit, while from the consumer's point of view, marketing aims to meet their needs. Marketing uses a set of techniques that tailor the product to the market, get to know the consumer, highlight differences in competition and with minimal resources make a profit. Political communication means verbal, non-verbal communication and visual means, that is, all the elements of communication that make up the political image. It is important to emphasize that political communication is not only the communication of politicians but also the communication of the observer who is informed about the state of politics through the media, discussions... The above-mentioned form of communication takes place between politicians, journalists, and citizens. It represents all forms of communication, regardless of the form of government, social and political conditions, and the content used.

The definition of political marketing by Bongard shows that the term can be defined for any form of marketing, while hereby it is adapted to the political subject. Of course, political marketing does not simply use marketing techniques in politics. It means using marketing tools: voters profiling, market segmentation and shaping the political product. In a situation when parties become market-oriented, they implement the marketing process strategically. The aforementioned represents a complex process that yields long-term success. Through such activity, political subjects realize their authenticity and create credibility, which results in the growth of votes gained on the elections.

The goal of each political activity is winning the elections, i.e. political power. Political marketing should be viewed as a multilayered communicative activity in the phase of research of political issues and needs of the population (Tomić, Spahić and Granić, 2008). For example: in mass-media and a public affirmation of their program (goal), while addressing the widest recipient structure; in contact with economic subjects – sources of financial need and in a wide range of establishing relationships with individuals, cultural, political, sports and other public institutions with which the political subjects have common interests. The aforementioned activities yield a conclusion: there are no differences between the product of political subjects and the product of business subjects. Whether it is the marketing of a business or political entity, the process begins with market research, creating your product, adapting to the market, and acting on the market to get the product accepted.

Unlike economic marketing, which is focused on the realization of a specific, concrete product that meets one or more human needs, the result of successful political marketing is a change in the total, or for the most part, social conditions of life, from economic conditions to business, to education, health, pension insurance, but also the international position of the country and relations with others (Šiber, 2000). One of the reasons why the authors decided to write this paper is because digital technologies are the cornerstone of the 21st century. Technology increases the effectiveness of a business, saves time and enables the simple presentation of products, services, and demands. E-business is a general concept that encompasses all shapes of business transactions or information exchange done by using information and communication technology among companies, companies and their customers, or companies and public administration (Sić, 2007).

The term represents all activities done by legal, physical or political persons to exchange goods or services, use thereby computers and modern communication technologies. Business subjects who do not implement the Internet in their business fall behind their competition and cannot stay on the market long-term. E-business changes the principles of management. Technology helps market research, product development, strategy development, and tactics to encourage consumers to buy the products, enables immediate distribution and manages effective customer support. E-marketing is a way of realizing the marketing activities of a company with an intense application of information and telecommunication (Internet) technology (Panian, 2000).

E-marketing is defined as a process of creating and maintaining relationships with users through online activities to achieve the exchange of ideas, products, and services and achieve certain goals. The basic goal of e-marketing is to familiarize, attract, satisfy and keep the customer who is online long-term. Internet and information technology changed the nature of marketing. Business subjects develop relationships with consumers through the strengthening of technology. E-business will improve relationships and enable business subjects to focus on their consumers.

Political subjects function identically. In the analysis of political marketing in the digital environment, the basis of communication and presentation of the political subject is their website. The development of technology brought the creation of new means of communication, which is something political subjects have to keep track of. In the 21st century, websites become a basic source of information for Internet users, regardless of the information being searched.

The website can be defined as a collection of mutually connected web pages that make a whole and are situated within one Internet domain on a web server. The name website is not commonly used; the web page is more common. The aforementioned must not only be user-friendly, but effective regarding their content. Political parties and candidates cannot implement their marketing process without a website. The goals of websites of political subjects are: presenting their candidates and programs, creating and maintaining a brand, promotion of products and ideas, sending information, communicating with target groups, collecting information, recruiting… The goals are complementary. Nowadays almost every political party has their: e-mail address, website, social media profiles, mobile applications, YouTube channels…

Through the aforementioned channels of communication political subjects implement e-marketing processes and perfect their final product to achieve the goal – winning the elections. All communication and the website itself aim to communicate with as many potential voters as possible. Today, every Internet and smartphone user has access to mail and other information channels 0-24. The potential for disseminating information online is increasing day by day. People spend more time connected to the Internet, and Internet connection is defined as a basic human need according to many users. The next essential item besides the website is social networks. They have various functions during the election: information, organizing members, two-way communication, targeted communication, listening to citizens, mobilization... They are an ideal channel to attract new members, but also to mobilize old members. For the successful use of social networks, it is necessary to have a vision and a mission. Social media users are not naive and easily identify everyone who uses them just one month before the election, which can only hinder the situation and attract negative comments.

A strategy that has to devote time, money and human resources are necessary. The biggest advantage of social networks is direct communication with voters. In a situation where a politician answers every question of the population, a sense of friendship and concern for citizens is created. Strategic management of social networking profiles and websites requires continuous communication with the population and respect for their wishes and needs. Developing a follower base on social networks creates a continuous relationship between politicians and the population. Today's Internet user notes that during the campaign, ads and programs appear on all channels to sell "programs" and secure votes.

Most users find this communication aggressive. In addition to the channels listed, political entities use all other available channels of communication and digital marketing methods. Through e-marketing tools, political subjects inform the population, encourage political participation, and open up opportunities for decision-making. Political marketers promote their ideas on popular portals, social networks, and applications to promote their ideas and candidates through paid ads. It is almost impossible for an Internet user not to be part of an election campaign.

3. METODOLOGY OF RESEARCH

Research is based on primary and secondary research. It was conducted using a questionnaire among potential voters. The survey was conducted by the cati system during the political campaign for parliamentary elections in August 2016. to conduct a questionnaire on a representative sample of participants in the political process; in the IV and the VIII electoral unit. The tested sample is defined as a stratified sample. The stratification process was done according to counties and settlement sizes for each electoral unit. Two electoral units were chosen due to their differences, IV being a primarily rural unit and VIII being a primarily urban unit. The IV unit research was conducted on 703 participants, while in VIII unit it was done on 700 participants.

4. RESULTS OF RESEARCH ON THE IMPACT OF POLITICAL MARKETING IN DIGITAL ENVIRONMENT WITH REGARD TO AGE

As it said in the introduction goal of this paper is to research the impact of political marketing in a digital environment on voters regarding their age. The hypotheses are:

- Political marketing in a digital environment affects younger voters more since they spend more time on the Internet and social networks.
- Political marketing in the digital environment influences the decision of voters on who to vote for in the elections.

One of the research aims is a better understanding of the application of political marketing in a digital environment. Political marketers based on the results can adapt their campaigns and adapt their programs to voters according to their age. Moreover, the results can serve as a basis for further research. Voters in IV and VIII electoral units were analyzed during the campaign for the Croatian Parliament in 2016. The hypothesis was set with the assumption that young people in the Republic of Croatia spend more time in the digital environment, which results in long-term influence on their political views. As mentioned in the introduction, the paper uses research conducted by the author of the paper (Stilin), who conducted a part of the research during his work on a Ph.D. thesis named "Political Marketing in Digital Environment".

Table 1 and Table 2 show the use of social networks concerning participants' age. The limits are set according to the recommendation of the profession and the age division of the population. There is no previous research on this topic. The first two groups in tables are younger voters, but to research and analyze the hypotheses, participants between 35 and 44 will be counted in that group. So participants from 18 to 44 will be younger voters and participants from 55 to 65 + will be older voters.

Tables present the results that show that younger participants are social network users, while the percentage of users decreases with age. Interestingly, there are more social network users in the IV electoral unit in comparison to the VIII electoral unit, which is the consequence of the fact that agricultural production no longer exists in Croatia in the general sense. One can assume that citizens of rural areas spend less time on the Internet and social networks, which is refuted by Table 1 and Table 2. This information can be very useful in the next researches.

Table 1. Percentage of social networks users among participants of the IV electoral unit

Distribution of responses within each subgroup of participants (row)		Percentage of social networks users	Sample (N)
AGE	18-24	100,0%	51
	25-34	90,5%	74
	35-44	79,4%	102
	45-54	67,6%	173
	55-64	57,2%	187
	65+	57,8%	116

Created by the author based on the research

Of those surveyed, 69,7 percent are social network users.

Table 2. Percentage of social networks users among participants of the VIII electoral unit

Distribution of responses within each subgroup of participants (row)		Percentage of social networks users	Sample (N)
AGE	18-24	95,8%	24
	25-34	87,1%	31
	35-44	81,9%	94
	45-54	65,8%	155
	55-64	53,2%	190
	65+	47,6%	206

Created by the author based on the research

Of the total number of participants, 61,1 percent are users of social networks. The next variable examined is the frequency of Internet visits, or how often the participants are on the web. Possible answers are: I am online all day, several times a day, once a day, once every three days, once a week and less frequently than once a week. It should be noted that more frequent use of the younger population is expected in this research item as well.

Table 3. Frequency of Internet visits of participants of the IV electoral unit

Distribution of responses within each subgroup of participants (row)		Percentage of daily users	Arithmetic mean (1-6) *	Sample (N)
AGE	18-24	96,1%	2,10	51
	25-34	91,9%	2,30	74
	35-44	89,2%	2,37	102
	45-54	82,1%	2,76	173
	55-64	77,4%	2,87	186
	65+	69,8%	3,07	116
TOTAL		81,9%	2,69	702

Created by the author based on the research

Table 3 shows the result according to which the participants in the IV electoral unit spend on average between several times a day and once a day online. Of course, younger participants usually spend all day online or several times a day. The 55-year-old participants average in being online between once a day and once in two days.

Table 4. Frequency of Internet visits of participants of the VIII electoral unit

Distribution of responses within each subgroup of participants (row)		Percentage of daily users	Arithmetic mean (1-6) *	Sample (N)
AGE	18-24	95,8%	2,04	24
	25-34	90,3%	2,42	31
	35-44	89,2%	2,38	93
	45-54	92,3%	2,32	155
	55-64	82,6%	2,64	190
	65+	81,4%	2,78	204
TOTAL		86,1%	2,54	697

Created by the author based on the research

Table 4 shows the result according to which the participants from the VIII electoral unit use the Internet several times per day and once a day on average. Habits are the same as with participants in the VIII electoral unit, but, interestingly, participants in the VIII electoral units are somewhat more often online in comparison to participants from IV electoral unit. The following is research on how often participants are on social networks.

Table 5. Frequency of checking social networks, participants of the IV electoral unit

Distribution of responses within each subgroup of participants (row)		Percentage of daily users	Arithmetic mean (1-6) *	Sample (N)
AGE	18-24	98,0%	1,84	51
	25-34	92,4%	2,09	66
	35-44	77,9%	2,74	77
	45-54	79,3%	2,91	111
	55-64	66,3%	3,29	101
	65+	54,5%	3,48	66
TOTAL		76,7%	2,81	472

Created by the author based on the research

Table 5 shows that participants from the IV electoral unit check social networks several times per day or once a day on average. The table shows that younger participants are more often on social networks, which is significant for political subjects and marketing experts that they should direct social network campaigns to the aforementioned part of the population.

Table 6. Frequency of checking social networks, participants of the VIII electoral unit

Distribution of responses within each subgroup of participants (row)		Percentage of daily users	Arithmetic mean (1-6) *	Sample (N)
AGE	18-24	100,0%	1,83	23
	25-34	96,3%	2,22	27
	35-44	75,7%	2,88	74
	45-54	79,8%	2,72	99
	55-64	70,4%	3,06	98
	65+	65,3%	3,17	95
TOTAL		75,7%	2,85	416

Created by the author based on the research

Comparison between Table 5 and Table 6 yields the conclusion that there is no difference in behavior and frequency of checking social networks between participants of the IV and the VIII electoral unit. It is necessary to emphasize how only participants who use social networks were questioned. On average, each participant visits social networks once to several times per day, which is an excellent indicator of the potential of quality marketing in a digital environment.

Table 7. Impact of the election campaign in the digital environment on participants of the IV electoral unit

Distribution of responses within each subgroup of participants (row)		I decided on the campaign	I decided on the campaign	I still have not made the decision	The campaign will not influence my decision	Sample (N)
AGE	18-24	73,5%	5,7 %	14,2%	6,6%	51
	25-34	50,5%	11,0%	38,5%	0%	74
	35-44	82,0%	9,5 %	7,5%	1,0%	102
	45-54	76,0%	11,0 %	11,5%	1,5%	173
	55-64	75,8%	12,5%	7,5%	4,2%	187
	65+	84,6%	5,9%	6,8%	2,7%	116

Created by the author based on the research

According to Table 7, the largest number of participants aged 25 to 34 did not decide who to vote for. This is followed by participants aged 18 to 24. Also, it is the population that spends most of its time on the Internet and social networks. An interesting fact is that the largest number of respondents decide who to vote for before the election campaign.

Table 8. Impact of the election campaign in the digital environment on participants of the VIII electoral unit

Distribution of responses within each subgroup of participants (row)		I decided on the campaign	I decided on the campaign	I still have not made the decision	The campaign will not influence my decision	Sample (N)
AGE	18-24	75,0%	4,2%	12,5%	8,3%	24
	25-34	53,3%	10,0%	36,7%	0,0%	30
	35-44	79,6%	10,8%	9,7%	0,0%	93
	45-54	73,4%	11,7%	9,7%	5,2%	154
	55-64	78,8%	14,3%	5,8%	1,1%	189
	65+	82,4%	6,3%	8,8%	2,4%	205

Created by the author based on the research

According to Table 8, identical to Table 7, the younger population is undecided and does not know whom to vote for in the elections. It is a fact that young people have the greatest political potential, but the results show that the older population in the IV and VIII electoral units decide on who to vote for based on the campaign.

Table 9. The impact on decision-making during the election campaign in the digital environment on participants of the IV electoral unit

Distribution of responses within each subgroup of participants (row)		Yes, only during the campaign did I find out about candidates	No, they did not influence me	Sample (N)
USE OF SOCIAL NETWORKS	Daily	10,3%	89,7%	224
	Rarely	22,9%	77,1%	48
MAKING THE ELECTION DECISION	Campaign affected	36,6%	63,4%	41
	Have not yet made the decision	23,5%	76,5%	17
	Campaign did not influence	7,5%	92,5%	265
TOTAL		12,2%	87,8%	328

Created by the author based on the research

Table 9 presents devastating results for marketers. According to the research, 12.2% of participants said the campaign in the digital environment influenced their decision.

Similar results were reported in the VIII electoral unit. It is concluded that the political campaign on digital networks has a low impact on the elections in the Republic of Croatia.

It should be noted that young people are not interested in political events. For the most part, they ignore the aforementioned ads and do not follow politics due to a large number of affairs and high levels of corruption in society.

Analyzing the results of the research, the hypothesis that "Political marketing in the digital environment more influences younger voters since they spend more time on the Internet and social networks" is not accepted. The fact is that young people spend most of their time on the Internet and social networks, but participants say they decided on the campaign in the smallest percentage.

Also, the highest number of respondents in the younger population also in the IV and in the VIII electoral unit has not yet decided on who to vote for. The stated fact is the foundation of the potential of digital marketing. Based on the results obtained, it is concluded that despite not accepting the hypothesis, huge political and marketing potential is hidden on the digital platform. The reason why it failed and why it did not influence young people in Croatia is because of the quality of the content and the way it is implemented.

Table 10. The impact on decision-making during the election campaign in the digital environment on participants of the VIII electoral unit

Distribution of responses within each subgroup of participants (row)		Yes, only during the campaign did I find out about candidates	No, they did not influence me	Sample (N)
USE OF SOCIAL NETWORKS	Daily	7,1%	92,9%	170
	Rarely	17,5%	82,5%	40
MAKING THE ELECTION DECISION	Campaign affected	22,6%	77,4%	31
	Have not yet made the decision	19,2%	80,8%	26
	Campaign did not influence	4,3%	95,7%	234
TOTAL		7,8%	92,2%	293

Created by the author based on the research

The fact is that young people are online 24/7. A way must be found to get them interested in political events that would encourage them to go to the polls and vote.

Second hypothesis: "Political marketing in the digital environment influences the decision of voters on who to vote for in the elections" is not accepted. About 10 percent of those who frequently use the Internet and social networks say that marketing in the digital environment has influenced their decision about voting.

5. CONCLUSION

Marketing is an activity directed towards the fulfillment of needs and wishes using the process of exchange. The goal of marketing is gaining profit, while from the consumer's point of view, marketing should satisfy their needs. Political marketing is synonymous with marketing, just on a different market and with a different product. It denotes a collection of techniques that aim to contribute one candidate's adequacy concerning their potential body of voters, to familiarize the largest numbers of voters with them, each of them individually, to single him out from his rivals and to gain the maximum number of votes using the lowest level of resources, optimizing several votes necessary to reach during a campaign. The goal of each political activity is winning the elections, i.e. political power. E-business is a general concept that encompasses all shapes of business transactions and information exchange that are done using information and communication technology among companies, between companies and customers, or between companies and public administration.

Nowadays, every political party has its own: e-mail address, website, social network profiles, mobile application, YouTube channel… Through these communication channels, political subjects implement the process of e-marketing and perfect their final product to win the elections. Apart from these channels, political subjects use all other available communication channels and digital marketing methods. Through e-marketing tools, political subjects inform the public, encourage political activity and open possibilities for participating in decision-making. Political marketers use paid advertisements on popular portals, social networks, and applications to promote their ideas and candidates. It is almost impossible for an Internet user not to be part of an election campaign.

Research among voters of the IV and VIII electoral units was conducted during the election campaign for the Croatian Parliament in 2016. It is necessary to emphasize that two electoral units were chosen due to their differences; IV being a primarily rural, and VIII being a primarily urban unit. Also, research was done only during the campaign and does not present how social networks and political marketing in a digital environment influence voters' decision-making long term. Results show that the impact of political marketing in the digital environment is lower on younger voters in comparison to older voters. Also, a small percentage of voters change or make decisions based on political marketing in a digital environment.

Based on the results of the research, it concludes that young voters spend more time online, but that political marketing has less impact on them than older voters. The aforementioned is a devastating fact for all foreign and marketing experts who were a part of the campaign. A large potential among young people is evident because most of them do not vote and do not know who to vote for. The question is why such results are. All political marketing stakeholders had to examine the market and find out why their efforts failed. The results of this survey should be applied before creating the election campaign for the next election. Political entities should interview young voters to find out what they are interested in and how they want to give them political information. The political party that implements a long-term marketing strategy based on that information and focused on voters younger than 40 years of age has a large potential for long-term victory on the Croatian political scene.

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THE IMPACT OF LOGISTICS FACTORS ON FINANCIAL PERFORMANCE: A STUDY ON GERMAN COMPANIES

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Abstract

The increasing attention towards supply chain management has determined researchers to analyze how such factors' performance, efficiency or effectiveness influence the financial performance of companies. The purpose of our paper is to select supply chain management factors, from the area of logistics, and empirically assess their relationship to financial performance measures. We employ data from companies listed on the German stock exchange, to have a consistent and reliable selection. Data collected for five years, fall into two categories: logistics indicators and financial indicators, both calculated based on information from released annual statements. Our logistics overview includes an analysis of assets and inventory, while our financial assessment is based on return and connected with sales, assets, investment, equity and capital em-

ployed. Starting from comprehensive literature on supply chain and financial performance, as well as their interference, we build up the foundation for an empirical case study. Our econometric model consists of a fixed-effects regression, through which we attempt to correlate the two fields of interest from our research. Analyzing numerous companies from several areas of activity, all of which imply a large extent of logistics activities, our work contributes to the field with evidence on the importance of a performant supply chain for the financial success of a company. Limitations to our research pertain to data analysis, which is not explanatory of the numerous particularities in the data and among the correlations obtained. Thus, we assess that further research implies a more in-depth data collection, with more sophisticated tools for econometric analysis.

Keywords: *supply chain management, logistics, financial performance*

JEL Classification: G39, M21

1. INTRODUCTION

In the context of the fourth industrial revolution, also known as Industry 4.0 paradigm, it has become increasingly important for companies to correlate their logistics performance indicators with financial performance metrics, to maximize their advantages and identify and correct their supply chains' weaknesses. In the present paper, the authors aim to empirically analyze this relationship, to outline the most significant logistics-related metrics that can impact the financial performance of companies. For this purpose, we have selected 50 German companies, for 5 years to be analyzed with fixed and random effects regressions.

On one hand, by constructing fixed and random effects regressions by taking six of the most widely used financial performance indicators as dependent variables, we ensure the relevance of our analysis for all stakeholders. Our return-based financial metrics are connected to assets, equity, sales, investment, and capital, thus having an extensive overview of this area of financial metrics. On the other hand, employing both the fixed and random effects models tests for both time-invariant and time-variant differences across our models. We decide on the appropriateness of the fixed effects, time-invariant model by employing the Hausman test in our econometric analysis.

Myerson's (2012) framework for supply chain metrics includes the following steps: establishing the proper metrics ('reliable, valid, accessible and relevant'), connecting the metrics to strategic objectives ('align with mission and strategy') and creating a detailed metrics bank. Ensuing leading, lagging and diagnostic indicators ensure that performance indicators can be employed by management in the supply chain and other fields to identify opportunities, root causes and solutions. Our case study outlines the metrics proposed for the financial and logistics performance assessment and further dictates a focus on assets structure – current and fixed assets – depreciation and turnover. The mission and strategy of companies are therefore in line with the technologization direction under the paradigm of Industry 4.0, where assets become increasingly important. The value of innovative and digitized equipment is therefore essential not only for an Internet of Things (IoT) set-up but also for generating financial performance through the supply chain value creation.

The paper is structured into chapters, as follows: we start from the literature review, a comprehensive section that gathers the most relevant research adjacent to our topic, followed by a case study where we describe the data set and methodology used and present our analysis, the final chapter representing the conclusion to our research.

2. LITERATURE REVIEW

Myerson (2012) underlines the importance of logistics performance indicators to support competitiveness and to enhance financial performance. In his work, Myerson analyses how supply chain performance and efficiency can contribute to profitability, proper use of resources and long-term cost-reduction. The author's 'Perfect Order Measure' indicator reunites five measures including all steps in an order cycle, as follows: 'order entry accuracy, warehouse pick accuracy, delivery on time, shipment without damage and invoicing correctness'.

Tarasewicz (2016) underlines that a company's success in deliveries implies coordinating several processes and cooperating efficiently in all areas of the supply chain. As a result of the research, the author enumerates the following criteria for evaluating 'the perfect order' delivery: 'right product, correct quantities, specified delivery time, correct place of delivery, perfect product quality and accurate documentation'.

The prerequisites for meeting these criteria are that: system data is reliable, ordered products are available, the company's distribution system is flexible, the finished orders are accurately registered by the company, the company can provide full documentation, the orders placed can be delivered on time and in perfect conditions and correct invoicing and payment is ensured.

Cook and Hagey (2003) conclude their study on over 160 US-based companies by outlining that the overwhelming majority of senior executives have placed supply chain improvements at the top of their priorities but very few monitor performance and even fewer collect the appropriate data. Khan et al. (2014) underline that the lack of performance measures in the supply chain can lead to the following failures in the supply chain: inability to meet customers' expectations, sub-optimal company performance, loss of competitive advantage against competitors and creating contradicting actions and measures among supply chain processes.

Khan et al. (2014) identify three categories of performance indicators. First, to measure operational performance, across literature the following measures are present: inventory, quality, delivery time and customer satisfaction. Second, for financial performance across the supply chain, cost, sustainability, and cash measurements are most used in research. The most used cash indicator about the supply chain is the 'cash-to-cash cycle', showing to some extent both the financial status and the operational capability of the supply chain. Finally, environmental performance, an area of which companies, investors and policymakers are increasingly aware, measures waste and waste disposal associated with the company.

Kim (2018) classifies inventory into three categories: raw materials inventory, work in progress inventory and finished goods inventory, each of these inventory categories being representative for a process stage in the supply chain. The author highlights that the level of inventory can be managed to reflect the service level desired as an output from the supply chain, for the involved stakeholders. All inventory types serve a 'client' and this service level outlines desired performance, risk coverage, and financial operations.

DeSmet's (2018) extensive research has proposed and tested the following financial indicators: Return on Capital Employed (ROCE), EBIT (Earnings Before Interest and Taxes), Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI). Operationally, the author outlines the following stock categories: 'strategic stock, anticipation stock, pipeline stock, safety stock and cyclical stock'. The level of every single one of these categories serves a different service level for customers, the decision on the levels of stock being a strategic one. Considering the costs associated with inventory storage – acquiring or renting space, handling stocks, insurance, etc. – it is apparent that there is a direct relationship between inventory and financial performance. The lower and less complex the inventory, the lower the costs associated, thus in theory having a considerable impact on return on assets.

DeSmet's (2018) triangle of service, cost and cash for the supply chain outlines perfectly how financial, operational and strategic decisions in a company stem from the connection established between supply chain and finance. Creating bidimensional metrics, where both supply chain and financial performance are considered, is indicative of the comparative advantage that can be exploited, the weaknesses that require mitigation and the compromises that need to be addressed.

Fixed assets in the balance sheet include intangible, tangible and financial assets categories. For supply chain analysis, our focus is on tangible and intangible fixed assets as our research into the importance of digitalization in the Industry 4.0 era indicates that technological advancement in systems and machinery is key for competitive advantage. Processes and operations are determined by the flow of information, materials, and goods, meaning that tangible and intangible aspects are implicit for the analysis of supply chain performance. Across literature reviewed we have not encountered studies that link supply chain performance and fixed assets. One reason behind this lack of information can be linked to the scarcity of data available for researchers to determine the importance of assets in the processes and flows within a company's supply chain performance and financial outcomes.

We have included indicators related to fixed assets, including both tangible and intangible, considering the following reasoning. First and foremost, intangible fixed assets represent the essence of the supply chain in the current fourth industrial revolution, meaning that the current functionalities are based on Cyber-Physical Systems (CPS) such as the Internet of Things (IoT) or Radio Frequency Identification (RFID). Second, tangible fixed assets represent a variety of equipment, sensors, vehicles, tracking devices, etc. that equip the Industry 4.0 ecosystem. Together, tangible and intangible fixed assets are prerequisites for the capacity of a performant supply chain, being directly related to a performance they generate, but also to expenses associated.

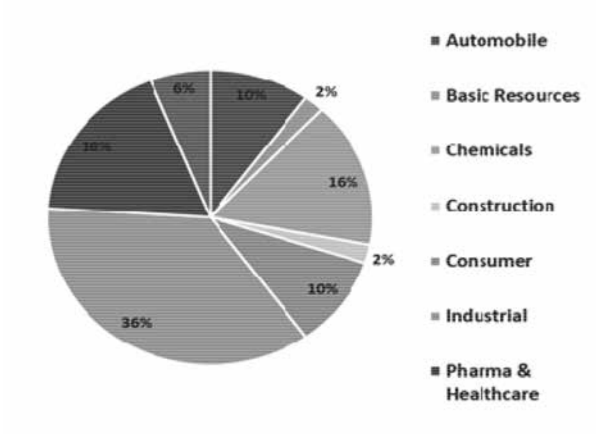
3. CASE STUDY

The authors have decided to collect data for German companies considering the country's reputation as a leading pioneer in the fourth industrial revolution. Germany has ranked for several years in the top five of the World Bank's (2018) Logistics Performance Index (LPI), as of 2014 ranking consistently number one. The LPI is constructed on six dimensions: customs, infrastructure, ease of shipping arrangements, quality of logistics services, tracking and tracing and timeliness. Moreover, Germany ranks in the top five countries according to the World Economic Forum's (2018) Global Competitiveness Index, which is constructed based on 12 indicators grouped into four categories: enabling environment, human capital, markets, and innovation ecosystem. By studying 50 companies quoted on the stock exchange, we aim to validate the hypothesis that logistics indicators are correlated with financial performance indicators. We have collected the data from the website of the Frankfurt Stock Exchange for five years, 2014 to 2018. The companies included belonging to eight different sectors, as displayed in Figure 1.

We consider the following ratios for our logistics performance assessment:

- Fixed Assets Ratio – calculated as the ratio of fixed assets in total assets (FATA) to indicate the level of investment of the company into fixed assets;
- Inventory Ratio – calculated as the ratio of inventory in total assets (ITA), to indicate the level of efficiency in processing orders from storage;
- Sales Fixed Assets Ratio – calculated as the ratio between net sales and fixed assets (SAFA), to indicate investment necessity in fixed assets;

Figure 1. Sector distribution of analyzed companies



Source: authors' design

- Accumulated Depreciation Ratio – calculated as the ratio between accumulated depreciation and fixed assets (FADE), to indicate the remaining value and the age of the fixed assets employed;
- Inventory Turnover – calculated as the ratio between sales and inventory (ITO), relevant for management in defining the production, price or marketing strategy, considering altogether the cost associated with maintaining a certain inventory level;
- Total Assets Turnover – calculated as the ratio between sales and total assets (TATO), to indicate the efficiency of using the company's assets;
- Fixed Assets Turnover – calculated as the ratio between sales and fixed assets (FATO), to indicate the efficiency of using the company's fixed assets.
- We consider the following ratios for our financial performance assessment:
- Return on Total Assets – calculated as the ratio between EBIT and total assets (ROTA), to indicate the efficiency of using assets to generate earnings;
- Return on Assets – calculated as the ratio between net income and total assets (ROA), to indicate to all stakeholders the assets' ability to generate profit;

- Return on Capital Employed – calculated as the ratio between EBIT and capital employed (ROCE), to indicate the profitability of the company;
- Return on Sales – calculated as the ratio between EBIT and ROS, to indicate the operational efficiency of the company through cash generated by sales;
- Return on Investment – calculated as the ratio between net income and cost of investment (ROI), to indicate the value generated by the investment made.

We start our econometric analysis in the software Stata with the input of the panel data into the system, followed by the command that declares data as a panel collection. We declare our dependent variables – the financial indicators presented above – and our independent variables – the logistics performance indicators previously presented. We have a set of data comprising 50 companies for a period of 5 years, 2014 to 2018. We summarize the data loaded into Stata and obtain the results displayed in Table 1. We can notice already that we have variables with high means, such as FATA, ITA, ITO and ROE, and variables with high standard deviation values, such as FATO, FADE, ITO, and ROS. Our stata output, tested by xtset declares a strongly balanced model.

Table 1. Summary of data

Variable	Obs	Mean	Std. Dev.	Min	Max
company1	250	25.5	14.45982	1	50
year	250	2016	1.417051	2014	2018
rota	250	.08448	.0674368	-.16	.34
roce	250	.1066	.0924936	-.18	.44
roe	250	.12732	.0920604	-.22	.41
ros	250	.05236	.1312025	-1.22	.27
roa	250	.06368	.0522972	-.16	.26
roi	250	.05636	.0534808	-.17	.26
fata	250	.51508	.1562108	.16	.85
ita	250	.28252	.88259	0	6.97
safa	250	.0212	.0148676	0	.08
ito	250	1.18196	10.38106	0	111.84
tato	250	.00956	.0048477	0	.03
fato	250	.04552	1.138666	-10.25	10.79
fade	250	.03204	.1966635	0	2.18

Source: authors' design

First, we will make a fixed effects regression, considering that such a model controls for all time-invariant differences in our companies, meaning that the model cannot be biased as a result of time-invariant characteristics. Second, we input a random-effects regression, as this model assumes the variation across our companies to be random and unrelated to our inputted independent variables. As we don't want to assume that differences across our dataset influence our dependent variables, we employ a random-effects model. Ultimately, we use the Hausman test to decide whether a fixed or random-effects model is the most appropriate for our dataset.

We make a regression by using the xtreg command, as we have inputted panel data into the system, for each of the dependent variables: ROTA, ROCE, ROE, ROS, ROA and ROI. The first regression, using fixed effects, validates all models except the ROS one (Prob>F = 0.2041). Table 2 shows the most significant coefficients for each dependent variable, while Table 3 displays the t-values that are above 1.96, for a 95% confidence. We focus thus on the variables that have the most significant influence on our dependent variables analyzed, namely the financial performance indicators. Additionally, we considered the two-tail p-values and selected the logistics factors with values below 0.05 to ensure relevant influence on the dependent variables.

Table 2. Fixed effects regression coefficients

ROTA	ROCE	ROE	ROA	ROI
SAFA (1.97)	SAFA (3.47)	SAFA (3.26)	SAFA (1.46)	SAFA (1.31)
TATO (1.32)	TATO (1.66)	TATO (1.54)	TATO (0.47)	TATO (0.53)
FADE (-0.06)	FADE (-0.08)	FADE (-0.08)	FADE (-0.06)	FADE (-0.07)
			FATA (-0.06)	FATA (-0.06)
Rho = 76,93%	Rho = 78.20%	Rho = 67.36%	Rho = 71,65%	Rho = 73.10%

Source: authors' design

Table 3. Fixed effects regression t-values

ROTA	ROCE	ROE	ROA	ROI
SAFA (3.79)	FATO (-2.60)	SAFA (3.62)	SAFA (3.25)	SAFA (2.96)
FATO (-2.37)		FATO (-2.06)	FADE (-2.35)	FATO (-2.10)
FADE (-1.95)			FATO (-1.97)	FADE (-2.68)

Source: authors' design

The second regression, using random effects, validates the models for all our dependent variables, including ROS, the most significant loadings being presented in Table 4. Table 5 presents the t-values above 1.95, for a 95% confidence that have been displayed in our regression. Additionally, we have considered the two-tail p-values lower than 0.05, as to maintain focus on the logistics factors with the most significant influence on the financial performance indicators defined as dependent variables in each regression that we have performed in the system.

Table 4. Random effects regression coefficients

ROTA	ROCE	ROE	ROS	ROA	ROI
SAFA (1.53)	SAFA (2.94)	SAFA (1.63)	TATO (0.49)	SAFA (1.00)	SAFA (0.92)
TATO (1.62)	TATA (2.14)	TATO (3.14)	FADE (-0.42)	TATO (1.01)	TATO (0.87)
FADE (-0.07)	FADE (-0.08)	FATA (0.94)	SAFA (0.19)		FADE (-0.07)
	FATA (0.04)	FADE (-0.90)	FATA (0.09)		
Rho = 64,67%	Rho = 64.67%	Rho = 42.24%	Rho = 0	Rho = 44,75%	Rho = 51.59%

Source: authors' design

Table 5. Random effects regression t-values

ROTA	ROCE	ROE	ROS	ROA	ROI
ITA (3.41)	SAFA (5.00)	ITA (2.37)	ITA (3.35)	ITA (4.13)	ITA (3.65)
SAFA (3.36)	ITA (2.07)	SAFA (2.20)	FADE (-12.42)	SAFA (2.70)	SAFA (2.44)
FATO (-2.23)	FADE (-2.41)	FADE (-2.35)		FADE (-3.63)	FATO (-1.87)
FADE (-2.87)	FATO (-2.40)				FADE (-3.73)

Source: authors' design

After performing the fixed and random effects regressions, we use the Hausman test to decide between the fixed and random effects model appropriate for the analysis of the models constructed based on the 6 financial indicators. Table 6 displays the results of the Hausman test for our regressions, highlighting the values of prob>chi2 indicators that is under 0.05, indicating the use of a fixed-effects model. Opposite, the values of the indicator above 0.05, signal that the random-effects model is more appropriate for our dataset. As all values of the Hausman test are under 0.05, we consider the fixed effects model to be the most appropriate. Apart from the ROS regression, for which the F test invalidated the model, all our regressions are evaluated as suitable for a time-invariant model.

Table 6. Hausman test results

Dependent Variable	Hausman test results	Fixed/ Random effects Model
ROTA	0.0018	Fixed Effects
ROCE	0.0085	Fixed Effects
ROE	0.0002	Fixed Effects
ROS	0.0094	Fixed Effects
ROA	0.0019	Fixed Effects
ROI	0.0112	Fixed Effects

Source: authors' design

To continue our analysis, we have performed the Breusch-Pagan Lagrange multiplier (LM) test for independence and the Pasaran CD test to further confirm that our model is free of any issues related to cross-sectional dependence. According to Torres-Reyna (2007), macro panels are most subjected to issues of cross-sectional dependence while micro panels with a limited period and numerous cases are relatively rarely affected. We have performed the cross-sectional dependence correlation test (xttest2) that resulted in confirmation that the correlation matrix of residuals is singular, thus the test being invalidated. For the Pasaran CD test (xtcsd, pesaran abs) the results are displayed in Table 7. As displayed, there is no risk of cross-sectional dependence present in our six models based on the dependent variables.

Table 7. Cross-sectional dependence test results

Dependent Variable	Pasaran CD test results
ROTA	0.0535
ROCE	0.0003
ROE	0.0000
ROS	0.0000
ROA	0.0000
ROI	0.0000

Source: authors' design

Furthermore, we apply for our fixed effects models the modified Wald test for groupwise heteroskedasticity (xttest3), the results being displayed in Table 8. The null results indicate the presence of heteroskedasticity thus the size of the error differs across the values of our independent variables.

Table 8. Modified Wald test for groupwise heteroskedasticity results

Dependent Variable	Wald test results
ROTA	0.0000
ROCE	0.0000
ROE	0.0000
ROS	0.0000
ROA	0.0000
ROI	0.0000

Source: authors' design

To summarize the learnings from our analysis, we have demonstrated that SAFA, TATO, FATA, and FADE are the most significant logistics factors, independent variables in our model, that influence financial performance indicators expressed in our models as dependent variables. We have deemed unfit the model for the financial indicator ROS, as it was invalidated by the F test, and we can exclude this financial performance assessment from the relationships expressed.

First, ROTA is significantly influenced by SAFA, TATO, and FADE. The connection to logistics performance indicators based on fixed assets, assets turnover or depreciation is rather logically intuitive. A logistic and financial performant company must employ its assets properly and manage its turnover and depreciation to its advantage. Second, ROCE and ROE indicators are influenced by the same factors, depicting the same relationship as in the previous case.

Third, ROA and ROI indicators are influenced by SAFA, TATO, FATA and FADE most significantly. Besides the asset-related indicators' influence on the return financial indicators, we notice that the ratio of fixed assets in total assets also exerts influence. Thus, it is not only the turnover and depreciation that can impact the contribution of assets use to the company's return but also its management and balancing of the fixed and current assets' levels.

4. CONCLUSION

To conclude, our research confirms the relevancy of the asset structure, depreciation, and turnover to our fixed effects models with return-based indicators set as dependent variables. Thus, we reconfirm that the value created in the supply chain through assets significantly impacts return indicators associated with assets, equity, capital, and investment. Considering our learnings from the key literature selected in our paper, logistics performance can be integrated with financial metrics to create the proper environment for defining and exploiting competitive advantage, as well as recognizing and compensating for weaknesses within the company's supply chain.

The added value of our research consists of the empirical model to assess the relationship between supply chain performance and financial performance, as it is a known gap in the currently available research. While we are limited in the number of indicators that stem in the supply chain and therefore consider proxies in assets-based indicators, we attempt to correlate our findings with the ones presented in the literature. Our goal has been to find a starting point in generating financial performance through the means and cycles in the supply chain. As for directions for future research, we consider first and foremost extending our database to more companies, from more countries and further including more indicators with more in-depth supply chain data.

A limitation in our research is the use of the fixed and random effects regressions for our empirical study. On one hand, the fixed effects regression is known to be limited in analyzing time-invariant causes related to the chosen dependent variables, therefore we might not account for changes of different natures in our analysis and interpretation. On the other hand, the random effects regression is time-variant but the Hausman test has indicated that it is not the correct econometric approach for our dataset.

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MOTIVATIONS OF ACTIVE SPORT CONSUMPTION AMONG THE HUNGARIAN POPULATION

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Abstract

Mapping motivations behind active sports participation has an important role in understanding sports consumption as accurately as possible. The aim of our research was to develop a scale that can be used to measure the sport motivations of those who do sports regularly in the Hungarian population comprehensively. This approach represents a novelty compared to other sport motivation scale research because it focuses mainly on the motivations of av-

erage people who somehow engaged in sports and not only on those athletes who are competitors in sports. We surveyed our scale through a comprehensive sports consumption questionnaire conducted in the framework of the HRDOP-3.6.2-16-2017-003: "Creating a Cooperating Research Network for Sport, Recreational and Health Economy" project. Our survey is based on 2000 pencil and paper interviews which sample is representative of the Hungarian population in age, gender and the region of residence. In the present study, after examining the validity of our sport motivation scale, we explain the main findings of it, thus providing a comprehensive picture of the sport motivation of Hungarians. Our scale proved to be suitable for measuring the motivation behind the sport of ordinary people, but so far it has been used only in Hungary. For this reason, it is required to examine the validity of our scale at an international level. Maybe it should be adapted to local specificities which could be a further direction of research.

Keywords: *sport motivation, motivation research, sports consumption, sport marketing*

JEL Classification: Z20, Z21

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1. INTRODUCTION

Mapping the motivations behind active sports participation has an important role in understanding sports consumption as accurately as possible. By measuring different types of motivations and incorporating them into psychographic segmentation processes, sport marketing professionals can increase the accuracy of their target group definition. The aim of our research is to develop a scale that can be used to measure the sport motivations of those who do sports regularly in the Hungarian population comprehensively. This approach represents a novelty compared to other sport motivation scale research because it focuses not on competitive athletes but on the motivations of the average people who engaged in sport. It would enable companies that produce sports products or services for the common people to incorporate sports motivation into their segmentation tools. In this paper, we first outline the steps to develop and validate our concept of a general sport motivation scale. Then we present the segmentation of the Hungarian population based on our general sport motivation scale and the characteristics of the formed groups, demonstrating the scale's practical applicability.

2. MOTIVATION RESEARCH IN SPORT

2.1. Possible motivations for sports

Sports consumption can take many forms, depending on the nature and degree of involvement and commitment to the sport. At the individual level, involvement and commitment are influenced by internal personal characteristics along with external, environmental factors (Funk, 2008). The external factors include culture, climate, geographical characteristics, marketing behavior of sports companies, opportunities related to sport and reference groups. On the one hand, they directly influence the individual in sport-related consumer decision-making, and on the other indirectly through their influence on the individual's internal, personal characteristics. Internal factors include self-awareness, lifestyle, life cycle, physical characteristics, learning, perception, attitudes, and motivations. External environmental and internal individual factors together determine the level of commitment and involvement in sport, and thus the behavior of sport consumers (Mullin et al., 2014). In this study, we focus on motivations as one of the internal factors that affect sports consumer behavior.

Motivation itself is a set of factors that trigger a particular behavior when a person begins a task that is important to him or herself or starts competing with others. However, motivation is not only responsible for triggering behavior, but it also determines the direction of this behavior (Roberts, 1992). In a marketing approach, motivation is created when environmental influences prompt the driving force to meet a need. This driving force can be considered as motivation, which can take many forms.

The potential motivations for sports have been collected extensively by Mullin et al. (2014), suggesting that the following factors may motivate people to actively engage in sports:

- Achievement and self-esteem
- Possibility to develop physical skills
- Health and fitness
- Fun for the joy of sport

- Living a sense of belonging to a community
- Eustress due to uncertain output
- Escape from everyday life

At the individual level, different combinations and strengths of these types of motivations affect participation in sports and thus active sports consumption. It is also clear that the type and strength of motivation affect the type of pursued sport and the regularity and intensity of it (Trenberth & Garland, 2007). To understand sports consumer behavior as fully as possible, it is a great opportunity to explore the motivations behind sports, for which researchers have developed various scales.

2.2. Measuring sports motivation using the SMS scale

Among the scales that measure the motivation of active sports participation, the most remarkable is the SMS scale (Sports Motivation Scale), which consists of 7 factors and 28 items. The original version of this scale was first validated scientifically in French and then in English (Pelletier et al., 1995). The success of the scale is demonstrated by the fact that many citations - 2170 at the time of writing this paper - can be linked to the original publication of the scale (Google Scholar, n.a.) and that it has been translated into several languages and validated in several countries (Paic et al., 2018).

The original scale was criticized by many researchers, and according to these criticisms, several people tried to create the updated version of the SMS scale. As a result, the SMS-6 and BRSQ scales were born in the same framework as the SMS scale, but researchers modified some parts of it. (Lonsdale et al., 2014). The creators of the original SMS scale, responding to critical remarks and new modified scales, created the SMS2 scale, the improved version of the SMS scale (Pelletier et al., 2013). This scale has been translated and validated in several languages, like the SMS scale, in many countries, including Hungary too (Paic et al., 2018). Based on my literature review, it is evident that nowadays the SMS2 scale can be considered the most widely used scale to measure motivations for active participation in sports.

This scale is suitable for measuring the sport-related motivation developed from the AMS (Academic Motivation Scale) (Vallerand et al., 1992). The scale was developed by psychologists in the framework of self-determination theory map the motivations of people who engage in sports, seeking answers to why some people have the desire to do sports for a long time, while others quit doing sports relatively quickly. Self-determination theory provides the framework for understanding how the types of extrinsic and intrinsic motivations affect an individual's commitment to the sport. Different intrinsic motivations make sports enthusiasts sporting because they find it interesting or enjoyable. While, external motivations explain when individuals exercise because it leads to, or achieves, something for them (Pelletier et al., 2013). These external and internal motivations relate to achievement, self-esteem, possibility to develop physical skills and having fun listed in Chapter 2.1.

The popularity of the SMS scale and its applicability in certain areas are acknowledged and not disputed by us. However, after a primary survey of the H-SMS (Hungarian Validated version of the SMS) scale on a sample of 2000 people, we found that it was less suitable for segmenting the population-based on marketing considerations. Measuring the sport motivation of ordinary people, the scale is consistent with the structural fit and reliability indicators of psychometric instruments, but it is problematic to form different segments based on it. The 7 different dimensions are problematic, on the one hand, because in many cases their contents differ only slightly in terms of consumer behavior. On the other hand, the characteristics of the groups formed along the 7 factors make a too complex structure that is difficult to interpret due to the multitude of dimensions.

3. PRIMARY RESEARCH

3.1. Research methodology

The aim of our research was to develop a sports motivation scale that can be used to comprehensively assess the sport motivation of those Hungarians, who do sport regularly. This approach represents a novelty compared to other sports motivation scales, as it focuses not on competitive athletes but on the motivation of the average person's engagement in doing sports.

After reviewing the literature on sport motivation scale research, we first identified the issues that could be addressed in order to reach our goal. The questions were changed and refined several times until the final item pool with 14 questions was finally created. The next step was to survey the items in the item pool with a representative sample of 2000 people. The survey was conducted with the support of the Human Resource Development Operational Programme, grant No.: HRDOP-3.6.2-16-2017, Creating a Cooperating Research Network for Sport, Recreational and Health Economy. The research took place in May 2018. Our face-to-face survey is representative of the Hungarian population aged 15-74, by gender, age group (10-year intervals) and region of residence.

We used exploratory factor analysis to answer our sport motivation questions to develop measurement dimensions. In the factor analysis, the weakest performing items were deleted until a factor structure was obtained whose factor weights and internal reliability met the preset criteria. The resulting dimensions eventually measure three different types of motivation in sports.

Subsequently, in order to accurately delineate the groups of the Hungarian population with different sport motivations, we performed a cluster analysis using the three dimensions of our sport motivation scale. First, we used hierarchical cluster analysis to determine the ideal number of clusters. Due to the high number of items in our sample, k-means cluster analysis was used to form groups with different sport motivations. The characterization of the groups was done by motivational and demographic characteristics. Data processing was performed by using IBM SPSS for Windows 25 and Microsoft Office Excel 2017.

3.2. Developing the factors in the sports motivation scale

In our study, we first developed 14 items in the item pool to explore the possible motivations for ordinary people to do sports. After conducting a representative survey of 2,000 people, it turned out that 22.06% of Hungarians do sports regularly. As a result, the sample size used to construct our sports motivation scale was 441 persons. To eliminate distortions due to the limitations of the data collection, data cleaning was performed prior to the analysis and cases with a standard deviation of 0 were excluded. For technical reasons, we also excluded respondents who were unable or unwilling to answer certain questions in our item pool.

Thus, the exploratory factor analysis finally included 411 key responses that correspond to the generally accepted rule of factor analysis, "n / q> 5", where "n" represents the sample number of the sample and "q" represents the number of variables used (Nagy, 2016). However, some researchers say that a fivefold multiplier between respondents and variables is not enough, it should be at least tenfold. Our sample meets this higher-level condition too, as there are 14 variables per 411 people. A necessary prerequisite for factor analysis is the use of metric variables, which is also true in our case, as our variables were measured on a five-point Likert scale (Sajtos - Mitev, 2007).

Examining the correlations between the variables to be included in the factor analysis, it turned out that 82 of the 91 correlation coefficients were significant. The highest correlation was 0.571. Based on the correlation results, we found that the variables are suitable for factor analysis since most of the variables have correlation and their coefficient is sufficiently low.

Table 1. Factor loadings

Statements	Factors		
	Social influence	Intrinsic value	Body effect
In sports, racing is the best.	0.704		
What I love most about sports is the company, the community.	0.695		
I can make important relationships with sports.	0.670		
In sport, play is the best.	0.633		
By doing sports, I gain recognition in my environment.	0.370		
I can only stay active in sports.		0.766	
Sport is true to character development.		0.700	
Doing sports is a joy.		0.564	
I can really relax in sports.		0.559	
I exercise to achieve a beautiful body.			0.823
I want to lose weight in sports.			0.489

Source: own editing

For factor analysis, due to the number of elements and our aims, we chose the maximum likelihood method with promax rotation. Our exploratory factor analysis was run at eigenvalues greater than 1, which clearly resulted in a three-factor solution. We then subtracted variables below 0.3 factor loadings and those with high cross-loadings (secondary factor weight to at least half of the primary factor weight) from the analysis one by one. Finally, a factor structure consisting of three factors and eleven items was obtained, which has a total explanatory power of 44.46%. With the variables included in the final structure, factor analysis can also be performed based on the KMO value and the results of the Barlett test. The KMO is 0.819, which considered a very good value. The significance level of Bartlett's test was 0.000, which is within the acceptable range of 0.05. The factors were named social influence, intrinsic value and body effect factors according to their content. The result of our analysis is shown in Table 1. It illustrates the statements used in the analysis and their factor weights.

To test the internal reliability of the factors, we used three indicators, Cronbach's alpha, composite reliability (CR), and average variance explained (AVE). The expected minimum for Cronbach's alpha and composite reliability was 0.70, while for the average variance explained the same was 0.50 (Fornell & Larcker, 1981; Hair et al., 2010). The values are shown in Table 2.

Table 2. Internal reliability indexes

	Cronbach's Alpha	Composite Reliability	AVE
Social influence factor	0.81	0.87	0.56
Intrinsic value factor	0.72	0.82	0.54
Body effect factor	0.57	0.78	0.66

Source: own editing

For internal reliability, one factor, the body effect factor, does not fully meet all of the preconditions. In this case, Cronbach's alpha value is 0.57, which is lower than the acceptable value of 0.7. However, Cronbach's alpha is very sensitive to the variables involved, so the reliability index (CR) and average explained variance (AVE) are the most relevant, as only two variables remain in the body effect factor. Taking this characteristic into account, we did not subtract the body effect factor from further analysis due to the corresponding values of CR and AVE.

When analyzing the composition of the factors, the meaning of the factors is as follows:

- Social impact factor: Doing sports is social activities were not only individual performance matters but also cooperation. Adaptation, play, playfulness, racing, and tolerance for success and failure are important. This factor also implies that the appearance of sport, or its effect on body and behavior, triggers reactions in the environment, mostly with a positive charge. This factor highlights the relationship between the individual and his / her environment, the main motive is to achieve a positive image of the environment.

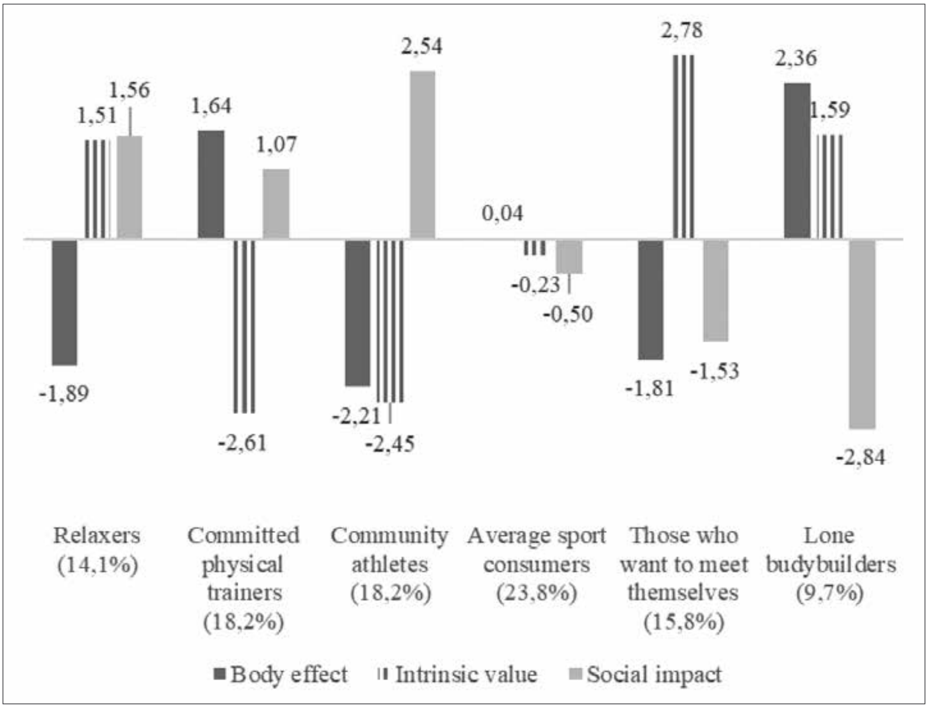
- Intrinsic value factor: Sports contribute to the individual's endurance and character development. It is important for the individual that by exercising he/she can relax from his / her daily routine, it also functions as a stress reliever, while also causing pleasure. Exercise is also associated with the concept of health and health preservation, while there are also associations of activity and mobility. This factor covers the areas of importance to the individual, motivating them to achieve their own satisfaction.
- Body effect factor: Sport has an effect on the body, it is able to shape the body and follow the current exemplary body image. This factor characterizes the individual's relation to his / her own body and the need for shaping. On the one hand, it involves the desire to achieve a marketable lean body, and on the other hand, a workout for a well-shaped body. In this case, the influence of the media, and the influence of the current trends, is largely reflected.

Based on the adequacy of the majority of the presented criteria, our scale measuring the sport motivation of ordinary people was considered suitable for drawing conclusions about the sport motivation of the Hungarian population on a regular basis.

3.3. Cluster analysis

Because the motivations of some groups may be significantly different, we used cluster analysis to accurately delineate groups with different sport motivations using the 3 dimensions of our sport motivation scale. To do this, we first subtracted the mean of their agreement with the statements from the extent of their agreement with the statement in order to exclude general respondent propensity. With this method, we also increased the standard deviation of individual ratings, thereby also measuring the measurement efficiency of the original Likert scales.

Figure 1. Cluster centers of segments identified based on sport motivation



Source: own editing

The k-means cluster analysis method proved to be the most effective solution for the identification of groups with different sport motivations, taking into account the size of the sample. Before that, we used hierarchical cluster analysis to determine the ideal group number, which was set up using the Ward method. Based on the resulting dendrogram, the number of ideal groups was 6.

The values of the three factors were standardized to measure the deviation of the respondent's responses from the mean, and they were included in a k-means cluster analysis where the number to be formed was set to 6. The groups formed are named after their characteristics so that their name is sufficiently eloquent to illustrate their main characteristics. The cluster centers of the formed groups and their ratio to the population who regularly do sports are summarized in Figure 1.

In the following, the groups are described in detail, in addition to their sport motivations, the age characteristics, gender, income status, sporting habits, and monetary value of their sports consumption were also examined.

The group of *relaxers* is made up mainly of male respondents, for whom sport means relaxation. Young and middle-generation members typically form the group, who recognize the sporting impact of sport but are not interested in racing. Beautiful body, weight loss does not interest the members of the group, just like networking, setting goals and achieving them. They do exercises periodically. Compared to other groups, they have a high proportion of those who play football and the lowest are those who run or practice gym sports. Their spending on sports includes buying nutritional supplements, spending on sports insurance, renting sports equipment, which refers to that they do seasonal sports. Entry to sports events is also above average, which seems interesting because racing is less of a concern to the group. However, this can be explained by the high proportion of footballers, which has the special feature of having to pay the buy-in for the lowest level matches. In the case of the group, sport-related content consumption is high, and members spend above average. 14.1% of Hungarians who regularly do sports belong to this group.

The group of *committed physical trainers* is characterized by a balanced sex ratio with a slight female weight. The group is made up mainly of middle and young generation members. They exercise regularly and do sports at least 1-2 times a week. It is important for them to have a beautiful body and to achieve the goals they achieve through sport, which demonstrates the strength of their commitment. They are mainly engaged in gym sport and running, but there is also a high proportion of people who cycle. Relationships created through sports are also considered important, and doing sports frequently is also likely to provide opportunities. In their sports spending, the purchase of passes for fitness and gym is considered a significant amount. In addition, they mainly spend on sportswear and sports shoes. The average value of total spending on sports in this group is the lowest of all groups. 18.2% of the Hungarians who regularly do sports belong to the group of committed physical trainers based on their sport motivations.

The group of *community athletes* is more represented by young men who strongly agree that they like the community in doing sports. They show the highest level of agreement that racing, playing and pleasure are important qualities of sports. According to the members of the group, their sport also has a positive effect on their environment and their environment recognizes their efforts. They consider it important to achieve the goals set in sports, and the opportunity to build relationships with sports. Most of them play football, far exceeding the other groups. This is the youngest group, they have a basic level of education and are probably still studying. They have a relatively good income, so they spend above average on rentals, attending sports events, sportswear, sports equipment. They consume offline events and spend on personal trainers, but not to an extreme degree. 18.2% of the Hungarians who do sports regularly are community athletes.

Members of the *average sports consumer* group agree with a high proportion of what is said to be stereotypically related to the sport as a healthy, enjoyable physical activity. Neither statement has an outstanding value compared to the other groups, and their answers are around average values. This is a slightly male-dominated group, typically with middle-generation members with secondary education. They spend the highest amount on sports spending compared to the average of other groups, but this is due to the exceptionally high spending on personal trainers and gym or gym rentals, which obviously doesn't appear for all group members. They spend on sports above the average, they even spend on sportswear and sports shoes. They are diverse in the sense of sports that they do. Many of them do gymnastics, run, swim or bike. They represent the highest proportion since 23.8% of the regular sports population belongs to them.

Those who *want to meet themselves* are middle-aged and older, highly educated, rather male. This is the highest average age group with a good income. For them, compliance with the community and the environment is not an objective, the motivation of sports is clearly to relax and to relieve work-related stress. They do not want to build relationships, lose weight, set sports goals, but work on themselves once or twice a week. Accordingly, they have the highest rates of running and cycling, as these are sports that can be practiced alone. Almost none of their members play team sports. This is the second group with the highest spending on sports. Above average, they also spend attending sports events, renting sports equipment, buying sports content, sneakers and registering for sports competitions. However, they spend only moderately on sportswear. 15.8% of the Hungarians who regularly do sports are among those who want to meet themselves.

The *lone bodybuilders* are the youngest group, of which women are strongly overrepresented, with a significant proportion of highly educated members. They do sport intensively, approx. a quarter of the train at least five times a week, and they also spend a lot on sports club memberships and passes. It is a recognized goal of their sports activities to lose weight and achieve a beautiful body, and they do not crave community building. Although it is important for them to create a controlled body, their responses do not result in recognition of the environment but in their own satisfaction. There is a high proportion of those who exercise in the gym or aerobics. Compared to other groups, swimming is also the highest rate here. Their spending overall is not outstanding, although their income situation would allow it. They buy sport-related applications and spend above-average on fitness or gym rentals and sport-related souvenirs. The personal trainer also appears in their spending, if not to a great extent.

4. SUMMARY

In our research, we have succeeded in creating a scale that can measure in 3 factors the motivations toward the sport participation of ordinary people. These dimensions, which represent different types of motivations, have been termed social impacts, intrinsic values, and body effects. After the final factor analysis, we checked its feasibility and then, through several metrics, also verified the internal reliability of the established factors. Subsequently, our scale was considered valid for measuring three different types of sports motivation. With the help of the three dimensions of the scale, we performed a cluster analysis to segment the Hungarian population on the basis of their motivations toward sport participation. As a result, we succeeded in distinguishing 6 groups with different sport motivations who are the relaxers, the committed physical trainers, the community athletes, the average sport consumers, those who want to meet themselves and the lone bodybuilders. The validity of our research and its applicability to segmentation procedures as evidenced by the fact that, besides their motivation for sports, the formed groups are remarkably different in their demographics, sporting habits, and sport-related spending too. One of the limitations of our study is that our scale has only been applied in Hungary so far. The other one is that only exploratory factor analysis has been performed during the validation process yet. For this reason, the confirmatory factor analysis of the scale on another sample and the examination of its suitability at the international level also provide further research direction.

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ENVIRONMENT CONSCIOUSNESS AND SENSITIVITY TOWARDS RESPONSIBLE TOURISM IN THE TRAVEL PRACTICE OF THE HUNGARIAN POPULATION[1]

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Abstract

In just one lifetime tourism has shown a dynamic development, becoming a real mass phenomenon in a decade or two. The dynamic growth of tourism has resulted in several positive phenomena: it has promoted the strengthening of the local and national economies, improved the service supply also available for the local population, created jobs, promoted dialogue among cultures and thereby strengthened tolerance as well, etc. Looking at today's mass tourism, however, one must realize that side-effects of tourism, non-desirable from social and environmental aspects, have also appeared. Within certain destinations, the volume of tourism has grown so enormously that tourism now deteriorates the living conditions of the people living there and jeopardizes the natural environment. Overtourism is one of the most pressing issues of tourism today. To preserve the popularity of tourism and promote its further development, change is needed, both in the supply of tourism and the demand of consumers. The paper, using the findings of a representative survey conducted in 2018, looks at how open the Hungarian population is towards following an environmentally conscious and responsible behavior during their travels, and how typical it is in practice to follow behavior patterns related to ecotourism. It is well-known that different generations have various consumer behaviors, but it is a less researched area in the field of tourism. The survey of the attitude and consumer behavior of the different generations is indispensable for successful market operation and successful innovations within the tourism sector, so the authors' research also deals with the presentation of the reasons for the differences among generations.

Keywords: *environment consciousness, responsible tourism, ecotourism, generations, research*

JEL Classification: Q56, Z32

1. INTRODUCTION

In just one lifetime tourism has shown unbelievable development. Since the middle of the 20th century, it has now become a very important social phenomenon with a considerable impact on people's quality of life and the completeness of life. The world market of tourism makes an integrated, interdependent system, in which both demand and the supply side have gone through spectacular transitions, as much in space as in time, in both qualitative and quantitative sense. New and new areas join both international and domestic tourism, and in the ever more intensive competition only those attractions, destinations or tourism service providers can stay alive that meet the increasingly higher quality requirements (Törőcsik & Csapó 2018). One must not forget, on the other hand, the fact that mass tourism is also the cause of several environmental and social problems. One of the most frequently discussed issues today is climate change, the future of the planet. It is not accidental that in the research of tourism the survey of consumer behavior, including the attitude towards the issue of environmental responsibility, is now in the focus. The opportunity for such an examination was given by a research implemented with the resources of the European Union, in which the examination of a representative sample was conducted. The rapid analysis of the research findings has been done (Csapó *et al.* 2018), the more in-depth and detailed analyses will be a continuous task for the members of the research team shortly. The writing of this paper was part of this work process. In the research and the paper, the attitude of the Hungarian population towards environmentally-conscious behavior and the requirements of ecotourism was looked at – in other words: their consumer attitude was examined.

There are important issues, risks generated by the mass tourism that a single tourism business cannot handle on its own, but a favorable change in the value system of consumers may promote the improvement of the situation. Fortunately enough, travelers themselves change: a growing proportion of them get fed up with the standard supply offered by mass tourism and become conscious tourists, endowed with health- and environment-conscious consumer attitude, thinking responsibly and seeking locations that are safe and match their value systems (Törőcsik & Jakopánecz 2011).

2. SUMMARY OF LITERATURE

Tourism, by becoming a mass phenomenon, has not only become a social and economic factor impacting people's everyday lives but also a factor with a strong influence on the environment. The volume of tourism has reached a level where it is no longer an exaggeration to speak about "total tourism", in which: (1) the total of the planet can be interpreted as a tourism destination, (2) the largest part of the world's population is concerned in the flows either as travelers or as the population of destinations receiving tourists, (3) states, local governments, integrations and also individuals try to utilize as large a share of their resources in tourism as possible (Michalkó 2005, Aubert 2010).

The ecological footprint of humankind grew so big by the 1980s that it now exceeds the long-term regeneration capacity of the Earth (Wackernagel & Rees 2001). Negative environmental impacts of tourism were also discovered decades ago, already. Parallel to the dynamic development of tourism, besides the formerly one-sidedly, emphasized positive impacts the negative effects of the tourism industry became apparent too. It was stated by some authors from a general perspective (Puczkó & Rátz 2005), and concerning the examination of certain specified destinations by others (Kovács 2017, Marton *et al.* 2016) that tourism is larger and larger stress on the environment, as it inevitably entails the use of the environment. Among the negative environmental impacts of (mass) tourism, some are visible, like littering, vandalism, constructions, noise pollution, etc. The identification of indirect effects, however, is more problematic – an impact like this may be the emission of pollutants by transport vehicles used for travels. The most serious environmental degradation can be seen in the most popular tourist destinations (Gonda 2017). Visits – in the case of the introduction of special values, natural rarities – are often oriented towards protected areas, national parks (Horváth & Rimóczi 2011). Environmental stress is concentrated not only in space but also in time, due to the seasonality typical of the tourism industry. Mass tourism with its crowds and the concomitant traffic chaos has negative impacts in many areas and it stresses degrades the environment (air, soil, water, flora and fauna, and the landscape).

By the burden on and damaging of the environment it is often just the resource that is the base of the tourist attraction which is damaged (Michalkó 2003). Tourism can only have positive impacts, or at least can be without negative impacts on the environment, if adequate control and management mechanisms are used. The response to challenges may be sustainable tourism. Several definitions have already been made for sustainable development, and UNWTO itself worked out its definition of sustainable tourism, which is also used by the European Union: *"sustainable tourism development satisfies the needs of present tourists and host regions while protecting and enhancing opportunities for the future. … management of all resources must be exercised so that they meet the economic, social and aesthetic needs, but also protect the cultural integrity, essential ecological processes, and biological diversity and life support systems"* (UNEP & UNWTO 2005; p. 11.). In the last two decades, several efforts have aimed at decreasing the negative and optimizing the positive impacts of tourism. Issues that are all in the research foci include the issue of tourism and territorial development (Aubert *et al.* 2007, Dávid *et al.* 2010), tourism sustainability (Csapó 2013a, 2013b) and responsible tourism (Ashley *et al.* 2001, Csapó 2015). One of the forms of travel that is sensitive to the environment ("mild", "soft") is ecotourism, a form of tourism that is the most suitable for the decrease of the negative environmental impacts of tourism, or even for the elimination of these and for maximizing the positive environmental impacts of the sector (Dombay & Magyari-Sáska 2010). Just like in the case of sustainable tourism, ecotourism lacks a single definition accepted by all. The most widespread may be the definition by the Ecotourism Programme of IUCN (International Union for Conservation of Nature and Natural Resources – the official environment protection organization of the world), according to which *"ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, to enjoy and appreciate nature (and any accompanying cultural features – both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations"* (Ceballos-Lascuráin 1996, p. 25.).

Ecotourism is a collective notion and an attitude at the same time (Fennell 1999, Dombay *et al.* 2008): as a collective notion it means those different forms of tourism that are based on the sustainable use of natural, biological resources, within the carrying capacity of the respective ecosystem; as an attitude, it aims at making all forms of tourism sustainable so that tourism should contribute to the preservation or restoration of the ecosystem.

In the best case, all tourism activities and all market segments should reflect this attitude, but it is especially important in the case of tourism built on natural and cultural heritage where the potential of damaging the environment or the socio-cultural fabric of the destination is bigger, not to mention the fact that as tourism involves ever larger masses in the coming decades, stress on these territories will inevitably increase.

Visitors participating in ecotourism, with a growing proportion (but still rather small absolute numbers) are far from being a homogeneous group: based on their dedication to nature and environmental protection, and their primary travel motivations (Pannon Egyetem & Aquaprofit Zrt. 2008), travelers in ecotourism can be divided into several segments. The group with the weakest dedication and offering the slightest environmental advantages are the so-called *occasional green tourists*, making approximately 50-60% of all ecotourists: for them, ecotourism is not a number one motivation, and nature is not more than the setting, the backdrop of their activity. *Active green tourists* or "outdoor" tourists, making approximately half as big a group as the previous one, have a level of environmental consciousness that is somewhat higher, but even in this group the will to do something for nature is not more than nice words, and during their travels, they require those amenities the ecological footprint of which is high. The share of *real ecotourists* and the most dedicated ecotourists – who choose destinations based on ecological considerations and have a wish to actively do for nature, are even willing to abandon amenities for the sake of nature protection and to pay more for tours that are proven ecological – is one-fifth or one-sixth of all eco-tourists in the best case, and their proportion in Hungary maybe even smaller (Gonda *et al.* 2016).

The degradation of the condition of our environment and the further growing volume of tourism, and its increasing share in environmental pollution mean that probably the only way for tourism management and destinations will be the drastic strengthening of the attitude of ecotourism, and environmental consciousness within the tourism sector. There is another way, but that does not lead to the growth of tourism: this is a strict prohibition of tourism or the drastic limitation of the number of tourists, with administrative tools, as it has been observed in a growing number of destinations in the world. Trends, nevertheless, forecast the growth in both the number and the share of tourists with such an environment-conscious attitude (Törőcsik 2011; Raffay *et al.* 2016). Besides traditional (mass) tourism a new form of tourism is on the rise: *slow tourism*, a growing market segment the annual growth rate of which is forecasted to be over 10%. Together with the other forms of alternative tourism, ecotourism is a chance for destinations unknown to tourists so far, or forgotten by tourists long ago, to become tourism destinations (again); thereby ecotourism may even become a considerable factor in regional and even more so in rural development.

Less is spoken about the community development impact of ecotourism, although it may have a significant role in the integration of the local society and the strengthening of their cohesion, in addition to the protection of the environment (Stone-Wall 2004, Winkler 2012). Ecotourism has synergy effect with several other slow tourism products: an ecotourist spends more time on the average in the destination than a mass tourist does, s/he gets more and more in-depth experiences, builds closer contacts to the local community – and thereby ecotourism is also related to agri-tourism; besides keeping in touch with the local community, the target group of slow tourism prefers locally grown and produced foods (gastro-tourism).

It is true for all sorts of tourism that their uncontrolled development does more harm than good and that their advantages or the moderation or avoidance of the detrimental impacts can only be realized within adequate frameworks and with regulations (Inskeep 2000). This is especially true for ecotourism: if for example a seaside resort or a popular city is (over)filled with tourists, the problem may be manageable: by environment-conscious infrastructure developments and the more proportionate distribution of the visitors' flow, etc. touristic attraction may be preserved or even enhanced. If, on the other hand, an ecotourism destination is visited not by travelers (ecotourists) who are environment conscious enough but irresponsible ecotourists and they ruin everything, then real ecotourists will no longer come, as there will be nothing for them to come for (Raffay 2018, Saarinen 2006).

3. METHODOLOGY

In the framework of support gained from a European Union fund (EFOP), an online questionnaire survey of a sample of 1,085 respondents was made in April-May 2018, to examine the attitude of the Hungarian population towards tourism, in a breakdown by generations. The survey was representative of the Hungarian population aged 15-74 as regards gender, generations (10-year intervals) and the region of the place of residence. Processing of the results was done in two steps: first the primary (frequency) analyses are presented, which are followed by the demographic background analyses. During these, it is examined by statistical methods if the responses of the respective demography groups to the questions feature statistically detectable (so-called significant) differences. Variables included in the analyses are gender, generations, settlement category of the place of residence, schooling, and subjective evaluation of income positions. This paper is an analysis of the responses given to questions related to environmental consciousness and sensitivity to the supply of ecotourism.

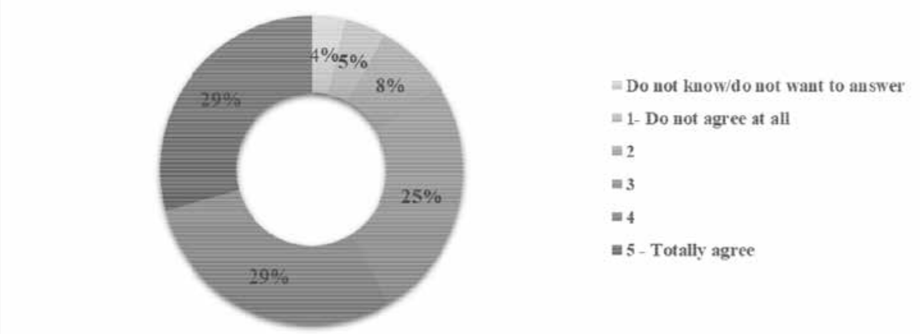
4. RESEARCH FINDINGS

4.1. Environment consciousness in the purchase and travel decisions of respondents

In the research, two sets of questions were used to examine the environmental consciousness and the appearance of the aspects of the environment in the buying and travel decisions of respondents. In the first set of questions, respondents had to agree on a scale from 1 to 5 concerning nine questions, where 1 meant total disagreement and 5 was a complete agreement of the respondent. (Of course, the possibility of not answering was also offered, which was used by respondents – more exactly: non-respondents – at each answer.) The nine statements were as follows: (1) In my travel decisions I always consider the protection of the environment; (2) I am willing to tolerate inconvenience during travel if I know this protects the environment and nature; (3) I travel by car as little as possible; (4) I know what sustainable development means; (5) I know what ecotourism means; (6) During my travel I collect a lot of information about the place where I am; (7) Before travels I collect information about the place where I am traveling; (8) I am willing to pay more for an accommodation that operates with an ecological attitude; (9) I (would) participate in environmental actions (frog saving program, picking garbage, etc.).

A significant part of the respondents of the questionnaire said that they always paid attention to the protection of the environment in their travel decisions: the two strongest categories (5: fully agree and 4 meaning almost full agreement) were both given 29-29%. To sum it up, way more than half of the respondents said that the protection of the environment is an issue of selected importance when making their travel decisions (Figure 1). For a quarter of them this issue was indifferent (3 means that they do not really agree with the statement but do not agree with the opposite, either), for 8% of them this was of lesser importance and only 5% of respondent said it was not important for them at all. (Those who did not want to or could not answer made 4% of all respondents.)

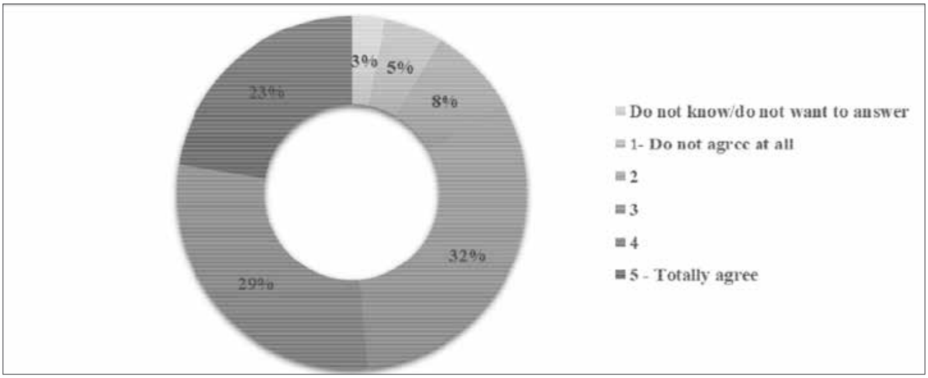
Figure 1: "In my travel decisions I always consider the protection of the environment." (n=1,085)



Source: edited by the authors

The rather general question was followed by ones that were related to the exact possibilities and steps of doing for nature. Not surprisingly, the agreement of the respondents was more reserved in these cases: when their willingness to tolerate inconveniences during travel, limitation of car use, paying extra for eco-conscious accommodations, or active participation in environmentalist actions is considered – the proportion of those who act in this spirit is smaller. Those willing to take less comfortable situations to protect the environment (Figure 2) are less than half of all respondents (22.5% fully agree and 28.9% agree by and large with this statement), while the proportion of those opting for the easiest solution, a mean was the highest (3 indicated by almost one-third of all respondent: 31.8% of them). Those not willing to take inconvenience for the sake of the environment protection (and brave enough to admit it) are approximately one-seventh of the respondents, another 5.4% are unwilling to do anything for environmental protection, and only faint-hearted efforts can be expected of the remaining 8.3%. Finally, 3.1% left this question unanswered.

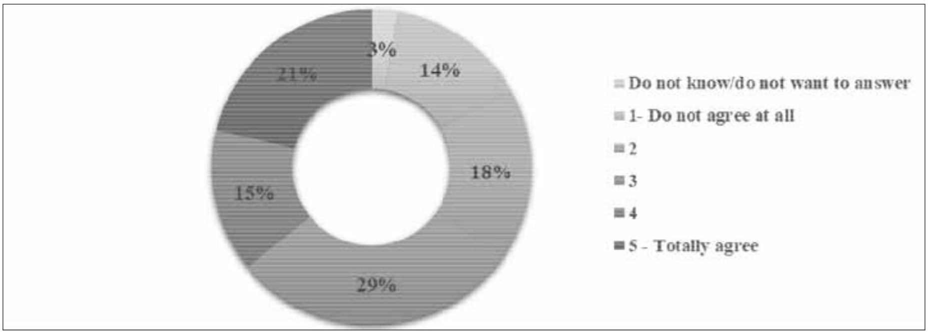
Figure 2: "I am willing to tolerate inconvenience during travel if I know this protects the environment and nature." (n=1,085)



Source: edited by the authors

As regards inconveniences, one of the biggest ones is to abandon the comfort offered by one's own car (Figure 3). A bit more than one-fifth (21%) of respondents try to avoid the use of a car, and another 15% quite agree with this statement. Their share combined (36%) is not much below the share of those who did not want to take a stand in this issue (value 3: 29%), and their number is almost reached by the number of those who will not or only reluctantly will abandon the advantages of using a car: value 1, i.e. total disagreement was indicated by 14% and value 2, "rather disagree" by 18%. Only 3% did not take a stand on this issue.

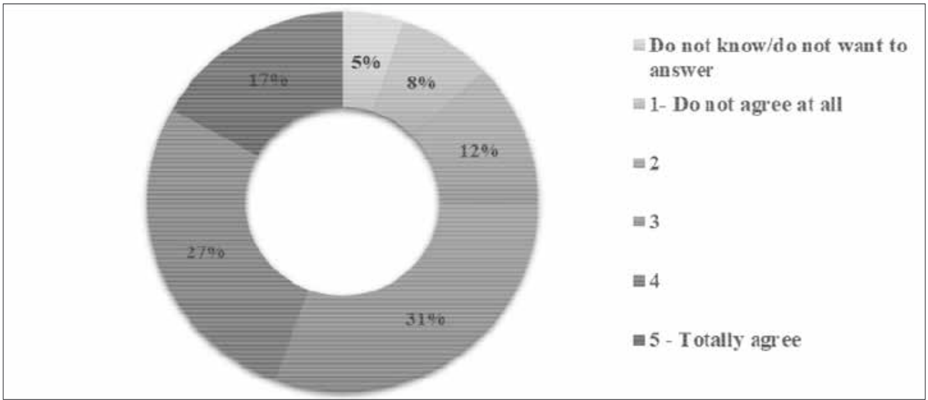
Figure 3: "I travel by car as little as possible." (n=1,085)



Source: edited by the authors

What reveals a real environment consciousness of a person is if they are willing to pay extra for eco-accommodation of other services that are ecologically managed, and not even tolerate the lack of amenities heavily stressing the environment but may even take it as a value. Some hotels have already specialized for meeting the needs of travelers in this target group (Hajmásy 2018, Horváth 2019, Ásványi-Komár 2018). The largest group also at this question was those who did not take a stand (value 3, i.e. a neutral response: 31%), it is promising, on the other hand, that the number of those willing to pay extra for ecologically managed touristic services considerably exceeds the number of those who will not (fully agree: 17%, by and large, agree: 27%, do not agree at all: 8% and not agree 12%). It was only 5% that did not say anything about this issue (Figure 4).

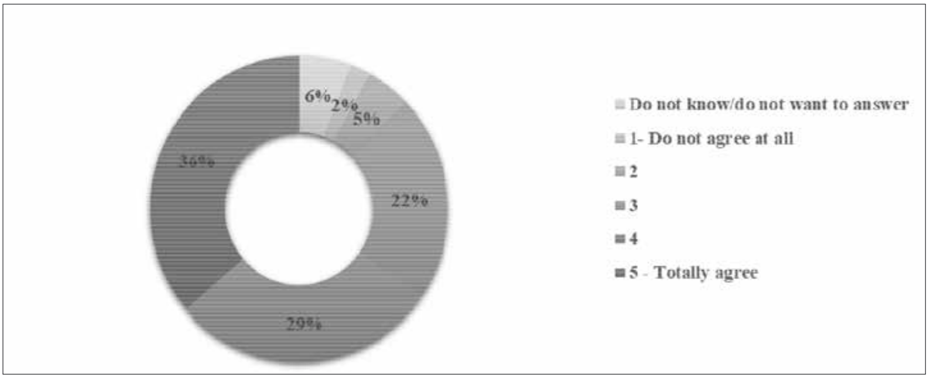
Figure 4: "I am willing to pay more for an accommodation that operates with an ecological attitude." (n=1,085)



Source: edited by the authors

Conscious tourists, as the specification implies, are aware of certain things. They know what sustainable development and ecotourism mean.

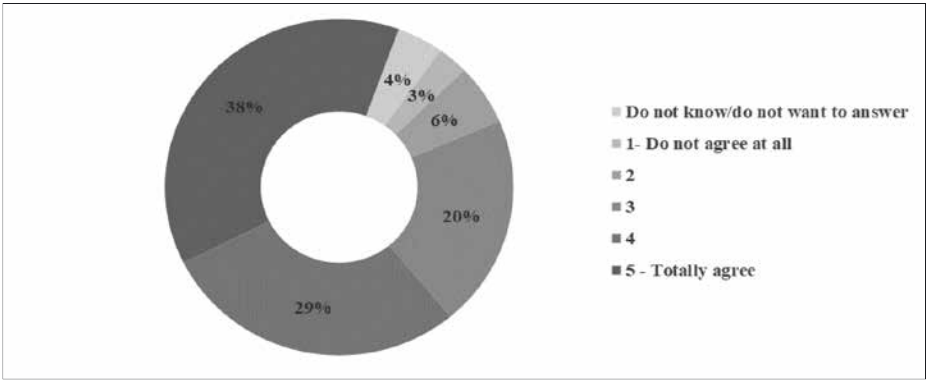
Figure 5: "I know what sustainable development means." (n=1,085)



Source: edited by the authors

As regards the concept of sustainable development, over one-third of respondents (36% of them) said they were fully aware of what this concept means (Figure 5), and not much lower is the proportion of those who think they more or less know what it means (29%). Their share combined (65%, i.e. almost two-thirds) is not even approached by the proportion of those who do not know at all (2%) or hardly know (5%) what sustainable development is. Six percent of respondents did not take a stand, and only 22% chose the golden (and comfortable) mean by indicating a value 3. The essence of ecotourism is known by the respondents to almost the same extent: an even higher proportion, 67%, i.e. over two-thirds indicated that they knew exactly (38%) or quite knew (29%) what ecotourism is about (Figure 6). Only a fifth of them, 20% did not take a stand (response 3), another 4% refused to answer this question. Those who admitted not knowing anything about ecotourism made 3% of all respondents; the share of those with little information was another 6%.

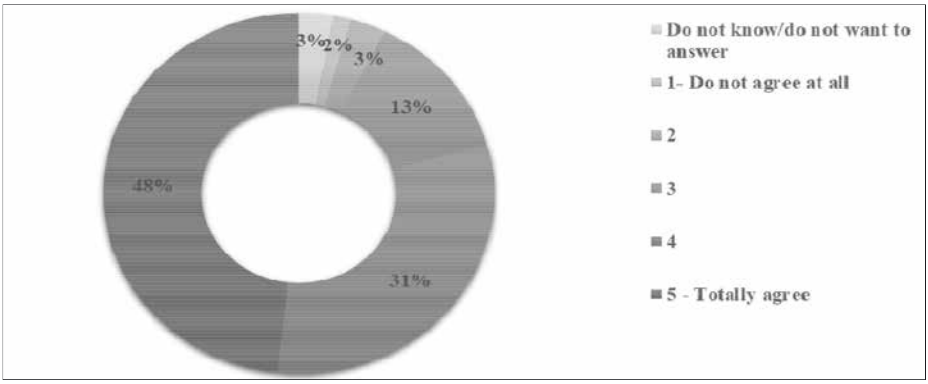
Figure 6: "I know what ecotourism means." (n=1,085)



Source: edited by the authors

Knowledge also means that travelers actively collect information about the destination to be visited before travel. The overwhelming majority of respondents said they collected the necessary information before travel (Figure 7): almost half of them (48%) fully agreed with this statement (value 5), while this statement is quite typical for another 31% (value 4). This is 79% combined, an astonishing, almost four-fifth proportion, whereas only 13% thought that their level of agreement and disagreement were the same (value 3), and not more than 5% said this statement was not at all valid for them (2%) or valid with some limitations (3%). The proportion of those who could not, or did not want to answer this question was 3%.

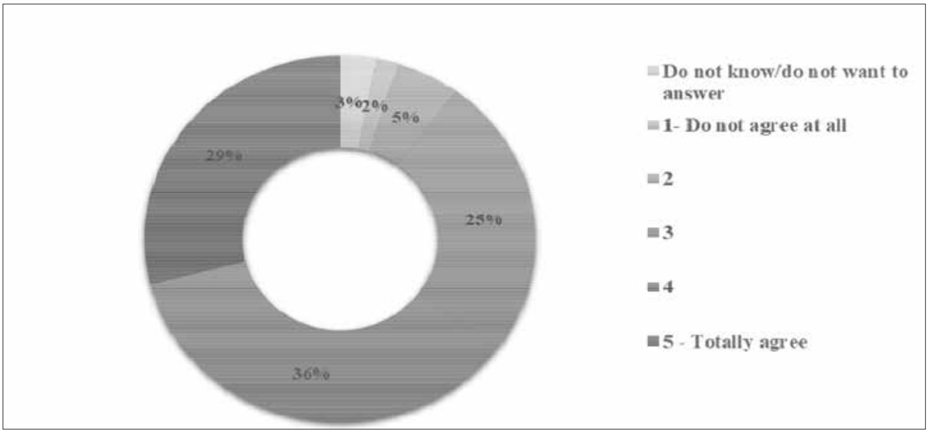
Figure 7: "Before travels, I collect information about the place where I am traveling." (n=1,085)



Source: edited by the authors

For most respondents, getting information does not end with collecting information before they travel, they want to get to know as much of the destination as possible also *in situ*. During their travels, 29% of respondents get to know the place of their visit thoroughly, another 36% do so by and large – it is almost two-thirds, 65% combined (Figure 8). Exactly one-quarter of them cannot decide which statement is true for them, and only 2% said they did not even try to get to know the place where they are, whereas the efforts of another 5% to do so were rather limited. The proportion of non-respondent was 3%, just like in the previous question.

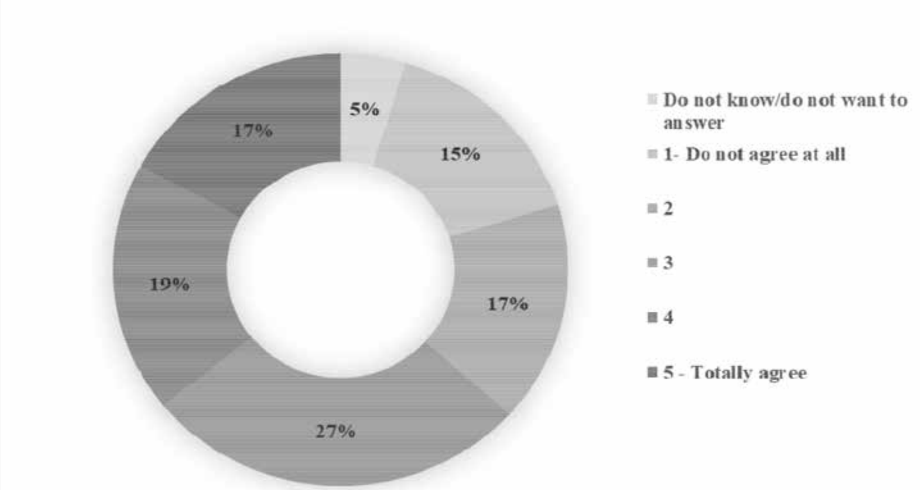
Figure 8: "During my travel, I collect a lot of information about the place where I am." (n=1,085)



Source: edited by the authors

One of the most exciting traits which distinguish an ecotourist from an occasional green tourist is the will to actively do something for nature and environmental protection. Less than one-fifth of the respondent felt it was true for them (17%), 19% said it was rather typical of them – this is not more than 36% combined, just over a third of all respondents (Figure 9). Another almost one third did not take a stand in this issue, by indicating the middle value, 3 (27%), or by simply ignoring the question (5%). Those who would not participate in environmental actions at all, or with very small likeliness, are another third of respondents: 1, no way 15%; 2, reluctantly: 17% - 32% combined. Among all questions, the proportion of positive, negative and neutral answers is the most balanced in this case.

Figure 9: "I (would) participate in environmental actions (frog saving program, picking garbage, etc.)." (n=1,085)



Source: edited by the authors

4.2. Environment consciousness in the everyday practice of respondents and during their travels

The second block of questions contained a total of 15 yes-or-no questions, to examine the environmental consciousness of the respondents visible in their everyday consumption and their travel decisions. At most of the questions they answer 'yes' meant a positive attitude towards the environment, there was only one question where the answer 'yes' suggested a certain level of insensitivity towards the environment ("I am not interested in ecotourism"). The proportion of yes and no answers, or do not know/will not answer reactions given to the questions can be seen in Figure 10.

The answers to the question demonstrate that the highest proportion of positive answers was given to the rather general statement "In my everyday life I find it very important to protect the environment": 89.1% of respondents said yes to this and only 5.9% indicated it was not important for them. (This was the only question where the share of 'no' answers did not exceed 10%, all other questions seem to have divided respondents more: even at the second most positively answered statement – "I use energy-saving solutions in my household" – the share of negative answers was 11%.)

It is remarkable that among all questions, the one "In my everyday life I find it very important to protect the environment" was the most general, all other questions and statements were much more concrete. One must not forget, either, that the use of energy-saving solutions is not necessarily the reflection of the environmental consciousness of the inhabitants; they are more likely to buy and use such energy-saving devices after careful calculations, for their economic interests.

A high level of acceptance was measured at two more questions: "I consciously limit my purchases; I avoid unnecessary consumption"; and "I collect waste selectively". The shares of 'yes' answers to these questions were 78.1% and 76.9%, respectively; it is true, on the other hand, that proportions of negative answers were also surprisingly high (15.7% and 17.8%, respectively), besides very low levels of refusals to answers (6.2 and 5.3%, respectively). The high proportion of those collecting waste non-selectively (together with non-respondents: 23.1%) does not necessarily reveal a lack of environmental consciousness, it is just as well possible that at the place of residence of the respondents the selective collection of waste is not solved yet.

At all other questions, the share of positive answers is drastically less. Instead of a car, public transportation or bicycle is used by 61.5% of respondents, but the share of those who will not abandon the comfort offered by the car is strikingly high: 32.4%. Only 6.1% did not answer, so the majority of respondents took a stand in this issue.

There was only one more question to which the proportion of positive answers exceeded 50%: an ecotourism journey would be attractive for 50.1% – it is also true, on the other hand, that one-third (32.4%) would not participate in ecotourism. This not too high share of "yes" answers is not surprising, considering that a large part of the respondents admitted not being completely aware of the concept and practice of ecotourism. This is also revealed by the second-highest proportion of the non-replying (16.6%, every seventh respondent).

The proportion of "yes" answers was close to 50% in two other cases ("In my buying decisions I always consider the protection of the environment, I check whether the given product is environment friendly"; "I do not use single-use, disposable products"). The rates of positive answers were 47.6% and 45.7%, respectively. However, the proportions of negative answers approached those of "yes" answers in both cases: 41.3% rejected the consideration of environmental aspects during shopping, and only 45.3% said no to using disposable products – almost the same number of respondents used and rejected disposable products that are serious stress on the environment.

At all other answers, the proportion of respondents saying no was over 50%, in fact, in two cases it exceeded 60%. Just over 40% of respondents compost waste suitable for that (42.4%) – it is true that in the background objective reasons may be found, like the lack of facilities, so this does not necessarily reflect the low level of environmental consciousness of the respondent that may be suggested by the 51.1% rejection rate.

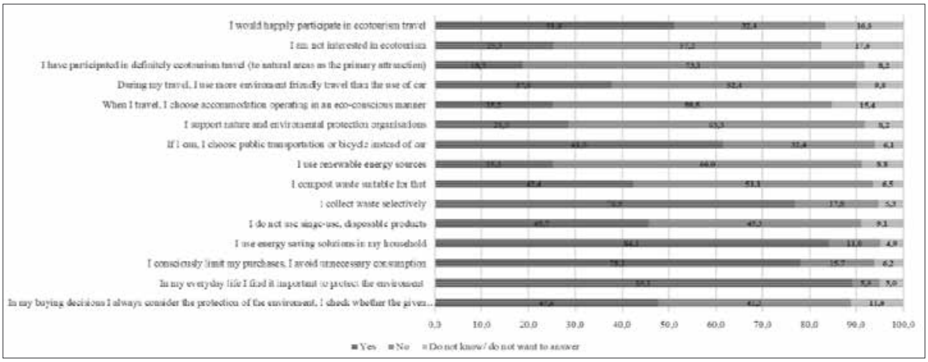
The picture is more nuanced when it comes to choosing more environmentally friendly means of transport than a private car: only 37.8% of respondents choose public transportation and 52.4% insist on the car (the 9.8% who did not answer belong to the latter group, probably). It is a fact that public transportation in Hungary is far less developed than in several other countries, but the high rejection rate is probably also due to the lack of willingness to abandon personal comfort.

Not more than 28.5% of respondents, i.e. just over a quarter of the support environment and nature protection organizations – and 63.3% of them do not (the third-highest proportion of 'no" answers in the questionnaire). The remaining 8.2% who did not answer are quite unlikely to be among the relatively few supporters and enthusiasts of such organizations in Hungary, which means that approximately two-thirds of the population does not do anything for the support of environment and nature protection organizations, despite that fact that everybody has the opportunity to do so, irrespective of their places of residence, either financially (by offering 1% of their income tax that is allowed by the law) or by volunteer work.

Just over a quarter of the respondents, 25.2% of them said "yes" to choosing accommodations operating in an environmentally conscious way and to the use of renewable energy sources. The proportions of negative answers were slightly different: 66% did not use renewable energy (the second higher proportion of negative answers) and 59.5% did not care about the ecological character of the chosen accommodation. (Of all respondent, 15.4% did not even answer this question, while 8.8% did not say anything about the use of renewable energy).

By far the highest share of negative answers was received at the following statement: "I have participated in definitely ecotourism travel (to natural areas as the primary attraction)". Almost three-quarters of respondents (73.1%) had never taken place in such a journey (with another 8.8% not answer), and only 18.7% had done so. This is in line with the relatively low level of knowledge about ecotourism, already revealed by the questionnaire.

Figure 10: Environment consciousness in buying and travel decisions (n=1,085)

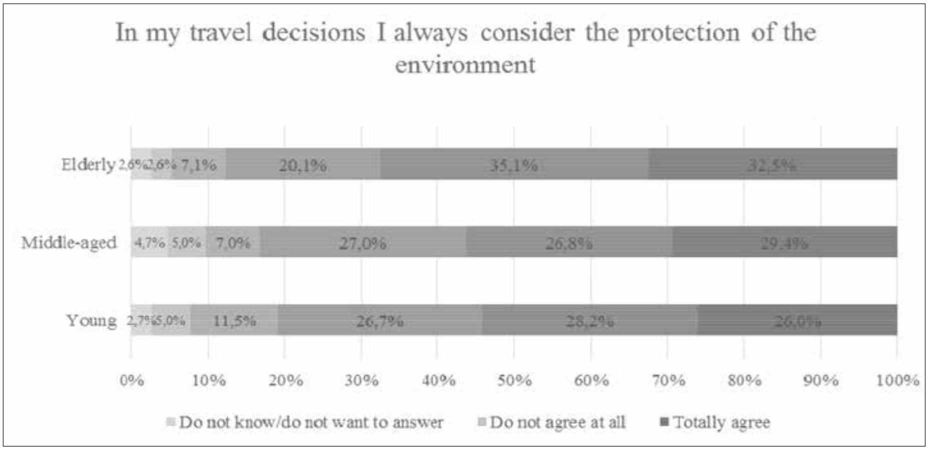


Source: edited by the authors

4.3. Generational differences in the responses to the respective answers

As has already been mentioned, the questionnaire survey was representative of the Hungarian population aged 15–74 by gender and generations (10-year intervals). Respondents are examined here in three generations: young, aged 15-29; middle-aged, between 30 and 59 years; and elderly, from 60 to 75 years. The respective age groups had the following numbers of respondents in the survey: 262 young, 555 middle-aged and 268 elderly. Processing the data of the questionnaire survey by SPSS software, a clear, statistically justifiable, a so-called significant correlation was found at the responses given to the questions below.

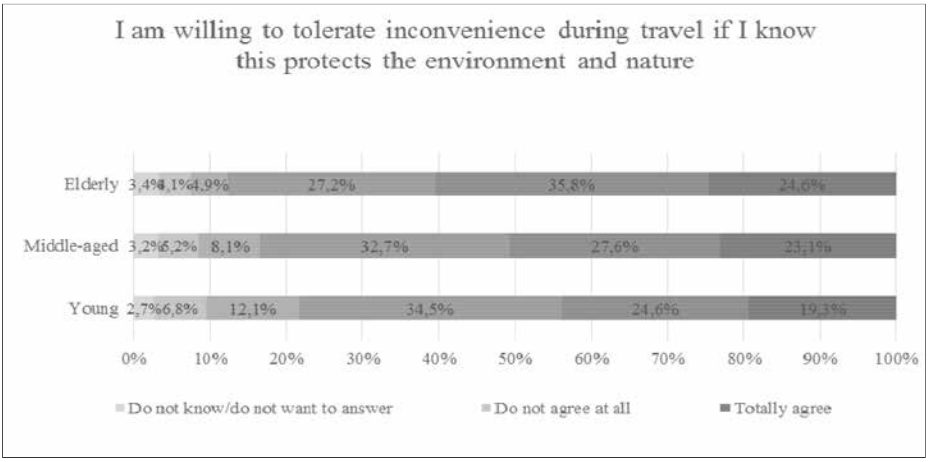
Figure 11: "In my travel decisions I always consider the protection of the environment." (n=1,085)



Source: edited by the authors

A look at the figures in Figure 11 reveals that respondents from the elderly generation chose both values 5 and 4 in higher proportions. The share of responses in these two categories combined is 67.6%, which is a clear indication of the dedication of the silver generation towards environmental protection. A similar situation is observed when it comes to whether the respondents are willing to make sacrifices, tolerate less comfortable conditions for the sake of nature- and environmental protection (Figure 12). This is fully accepted by 24.6% of the elderly generation (value 5 on the scale), another 35.8% agree with this (value 4 on the scale).

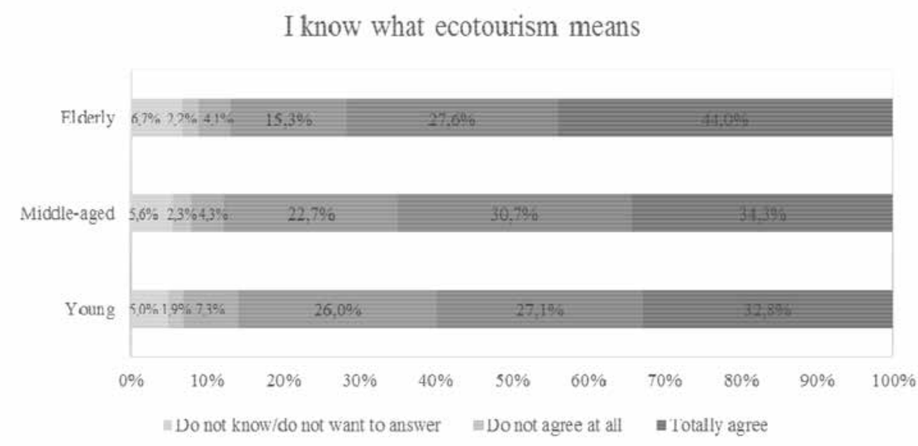
Figure 12: "I am willing to tolerate inconvenience during travel if I know this protects the environment and nature." (n=1,085)



Source: edited by the authors

Knowing the results of the previous two tables it is not surprising that it is the elderly who are more open to ecotourism. This supported by the 80% proportion of elderly respondents who (think they) know what ecotourism is: the shares of middle-aged and young respondents are only 65.2% and 53.8%, respectively (Figure 13).

Figure 13: "I know what ecotourism means." (n=1,085)



Source: edited by the authors

5. CONCLUSION

The research findings indicate that the issues of sustainability and environment consciousness influence not only spatial processes but also consumer behavior. In line with the international and domestic trends impacting today's tourism, the change in the behavior of the consumers, i.e. the tourists and the new tendencies of this behavior play a more and more dominant role of in the development and transformation of tourism, which is even more valid for the issue that is the subject of this paper. It is evident that although it is still the supply and demand of mass tourism that prevail within the travel industry, there is a visible growth in the number of people who are aware of the negative impacts of tourism on the environment, and who want to minimize or avoid these impacts during their travels. As regards generational differences, it can be seen that it is the elderly generation that shows the most conscious attitude towards this issue, and it was proven by the survey that for the environmental sustainability and the implementation of environment-conscious travels are of utmost importance. They are the ones most aware of the concept of ecotourism, they are willing to make sacrifices and tolerate less comfortable circumstances if they know that they protect the environment thereby, and it is them whose travel decisions are influenced by environment consciousness.

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PERCEPTION OF THE ATHLETIC QUALITIES AMONG THE OLDER GENERATION

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Abstract

In our aging society, we consider it important to examine the mentality and value judgments of the old cohorts to optimize their quality of life. Relevant factors are the activity, sport, and attitude in this but Hungary is below the European average. In our study, we examined the characteristics associated with athlete types among the older generation - with particular regard to the 50-70 years old people. Our segmentation focus is aging as a life course change which may relate to the entry into the next decade *or the change of the economic activity. We surveyed our scale through comprehensive sport consumption questionnaires conducted in the framework of the EFOP-3.6.2-16-2017-003: "Creating a Cooperating Research Network for Sport, Recreational and Health Economy" project. These questionnaires were personal paper and pencil interviews with a representative sample of 2000 people and computer-assisted web interviews with a non-representative sample of 3000 people. The members of Hungarian old society perceive different types of athletes differently. By making a correspondence analysis, we found that the attributes associated with each athlete type are separated from each other. We search for different value judgments among older people when we examine the different cohorts, the 65-year-old turning point or the distinct economic activities. The research limitation is that we had only Hungarian records. For this reason, it is required to examine the validity of our scale at an international level. Maybe it should be adapted to local specificities which could be a further direction of research.*

Keywords: *aging, the older generation,* athlete types, *qualities, Hungary*

JEL Classification: M30, Z20

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1. INTRODUCTION

Our society is aging. Life expectancy at birth and age 65 is increasing, and showing an accelerating trend. In 2017, there were 962 million people aged 60 or older in worldwide, accounting for 13% of the world's population, but demographic projections estimate the number of older people to be 1.4 billion by 2030 and 2.1 billion by 2050 (United Nations, 2017). They have the highest proportion in Europe - 25% of the population, Hungary is not far behind this. By 2018, the proportion of 65+ year-olds will rise to 19%, representing an increase of more than 3% over the last 10 years alone. According to Eurostat's forecasts will reach 29% by 2070 (Monostori & Gresits, 2018). The consequence of longer life expectancy is an increase in the age of the elderly, which is markedly different from the active age in biological, psychosocial, economic, financial and health terms (Molnár, 2004). As a result, there is a growing need to focus not only on the quality of life or the economic role of older people but also on their role of opinion and influence.

Another cornerstone of our research is the sport and sport-related changes in consumer behavior. The role of sport has grown significantly in Europe in recent years. As a result, athletes are also receiving more attention, strengthened brand value and their impact on consumption. In addition to performance, account must also be taken of athlete personality and its attribute's brand image transfer solutions (McCracken, 1989; Mayerhofer, 1995; Gross, 2014). The demand for sporting events and products and experiences is growing, changing the perception of what consumers consider an attractive athlete and what qualities they associate with it. The business value of professional athletes is well established and the revenue from personal branding is growing relative to that from sports performance.

As a result, the question arises as to what attributes consumers value for athletes, but it also becomes interesting what type of athlete they associate with which attributes. The purpose of this paper is to examine what the 50-70 age group thinks about the sport, and in particular, what attributes are associated with each type of athlete. In our study, we show the results of a sample analysis based on personal and online surveys, in which we conducted a correspondence analysis beyond the basic statistical processing, with a deeper analysis of the responses of various segments.

2. AGING AND SPORT

2.1. The effect of aging on older people's attitudes

There are several age-ranges in the public opinion to delineate the elderly, most often in the 60s or 65s. However, in our research we are looking at aging as a change in attitudes, thinking and consumer behavior, which is why we have chosen a broader age range. The focus is on the 50-70 age group because during this period of human life many changes are made on the psychological, physical and social level (after the mid-life crisis, the change of fifty years, and later on getting older and experiencing it) and bring about habitual changes (see, inter alia, Frolkis, 1980; Erikson, 1982; Gorman, 1993). These changes may appear in age perception (Hegedüs, et al., 2018a), consumption, shopping or intergenerational conflicts (Törőcsik & Németh, 2018), and attitudes towards sports, athletes, or leisure (Csóka, et al., 2019; Csóka, 2019; Hegedüs, et al., 2020).

The period before, during and after the retirement brings about fundamental transformations and adaptations in the life of both the individual and the immediate environment (Giddens, 2003; Turai, 2009; Vargha, 2015). The income decrease (one has to think about what and how much one spends); work and other relationships begin to deteriorate; the time freed up initially or permanently is a problem (what to do about it), and losing the respect of the younger generation for their knowledge and expertise can lead to the same mental problem as feeling unnecessary or impaired. This period can lead to a mental breakdown in many people if they do not have the right coping strategies, as they change their usual agendas, locking them in their homes, moving them into the background and creating a negative worldview. In Hungary, on average, women retire at the age of 61 and men retire at the age of 64 (KSH, 2019).

The "good" aging is determined by health, active life, emotional and mood state, quality of social relationships, financial security and awareness of the usefulness of the individual. it is also the responsibility of the elderly to maintain all of these. Maintenance of these is also the responsibility of the elderly person (Iván, 2002). The healthier, active and satisfied the person and his/her feelings, the less thinking negatively about the world, its elements, or the age-related indications. However, regard to health and sport, Hungary is below the European Union average (Global age-watch index, 2015; Boros, 2017). Health status of people 65 and above in Hungary was appraised in 2016 explicitly unsatisfactory by 18% of respondents, 10% said they were quite disappointed with their health, about a quarter reported being satisfied. Not counting daily labor, observing the physical activities during leisure time, only the third of the adult population exercise at least once a week. Examining the age groups, in the elderly cohorts, there are less active sportsmen: four-fifths do sports at the ages 15-17, but when we look at ages 65 or higher, only one out of seven people does sports. The difference between male and female is not considerable, but the greater activity of the men aged 18-34 is statistically justified (ELEF, 2018). The Hungarian inactivity in sports has been proven by multiple pieces of research (S. Molnár, 2004; Ács, et al., 2011; Simon, et al., 2018; Eurobarometer, 2018).

2.2. Attributes associated with athlete types

An increasing amount of consumers spend their leisure-time consuming services related to sports, so more companies make investments in the area, since the participation or as a spectator involved in sport-activities, manifest as consumer demands. The increase of spectators generates media attention for sports agencies, leagues and official event managers who provide products and services concerning sports (Walker & Enz, 2006). In this connection, values and lifestyle reach appreciation represented by the professional athletes. Special attention must be paid to sportspeople, as on the one hand, they are the most important medium of demand, and on the other, their model role may enlarge today's market. We may analyze the effect of both professional and amateur sportspeople in this respect. However, there is a slight difference on the side of professionals mainly due to their awareness and media presence.

In the case of professional sportspeople, we may observe the practice of personal branding, or them being transformed into a brand, which goes far beyond a successful sports career by opening up new possibilities for income and popularity (Huber & Meyer, 2008). This phenomenon has become more and more prominent, thus it is no surprise that there is a growing volume of studies examining it as personality marketing (Ewert, 1993) and self-marketing (Törőcsik, 2017), or highlighting certain aspects of it such as the star-effect (Pringle, 2004) or visibility (Kotler, et al., 2006), as well as introducing the category of self-brand (Royston-Lee & J., 2012). The analysis of success is akin to this topic and the growing number of publications on success resulted in the discovery of several remarkable rules (Gladwell, 2009; Barabási, 2018).

In the course of endorsement, the brand and personality brand is being connected, the brand owner pays for using the celebrity's face, fame and interest generating appearance. The greatest advantage of it is that the celebrity appearing next to a brand triggers the priming effect (Meyer & Schvaneveldt, 1971), that is, the celebrity prepares the processing of the next stimulus, the message or advertisement of the brand, thus guaranteeing attention. This transaction is advantageous and profitable for both parties. Personality brands can convey very direct messages and can effectively fill the personality of otherwise lifeless brands with content and emotions (Pringle & Binet, 2005).

However, influencers and even micro-influencers – the representatives of different sports - exert a strengthening impact with their blogs on the selection of travel destinations, special equipment, training locations, and trainers. This calls attention to the growing importance of amateur sportspeople, the more so in non-mainstream sports. Often a kind of para-social relationship is evolving between fans and famous sportspeople. By cultivating this purposely built relation – mainly on social media surfaces – the celebrity becomes a "friend", the "boy or girl next door", and can strongly affect brand choice (Yuan, et al., 2016). If this all results in connecting fans, that may multiply the effect triggered by the sportsperson. These relationships become intricate and psychologically complex in the case of e-sport, for example, if one examines the avatar and self connections, or the definition of identity (Loyer, 2015). In summary, we may state that the current exciting processes between sportspeople and business make the scrutiny of these processes and the involved parties timely.

2.3. Research methodology

In May-June 2018, we made a paper and pencil personal interview with 2000 people to examine the behavior and opinion of the Hungarian population on several issues related to sports consumption. Our study was representative of the 15-74-year-old Hungarian population by gender, age groups (10-year intervals), and region of residence. With our quantitative research, our purpose is to give a valid picture of Hungarian sports consumption habits and attitudes. In our survey special focus was given to sporting habits, sports consumption characteristics, the link between sport and tourism, and the motivating factors behind the sport. For further clarification and expansion of the gathered data, we have made non-representative online research (n=3000) during 2019 to analyze sport consummation habits. The personal research had 680 elderly (ages 50-70) participating, of which 46% was pensioner, 47% still relevant to the employment market (active blue or white-collar worker) and 7% of them was other categorized (f. e. unemployed, housewife, another inactive status). The online survey had 1352 elderly, 42% were still employed, 50% pensioners and 8% were in the other category.

We used IBM SPSS Statistics 24 and Microsoft Excel 2013 software to process and analyze the results.

Our current study presents the opinion of the Hungarian responders regarding sport attributes – with particular regard to the age 50-70. We used 20 predetermined qualities and 5 selected athlete types (Table 1). The online survey was expanded with "technical sportsman" and "extreme athlete" categories. During the surveys, participants could also categorize as "none of them" if the individual did not know one of the athletic types related to the given property.

Table 1. Selected attributes and athlete types

Young	Humble, modest	Slow	Try new things	Traditional
Joy	Richness, money	Free	Have a good time	Honest
Male	Pay attention to others	Fast	Successful	Modern
Female	Appreciation	Respect	Adventures, interesting life	Creativity
Hobby athlete // Professional individual athlete // Professional team athlete // Nonphysical athlete // E-sport athlete // Technical sportsman // Extreme athlete				

Source: Authors

The results of our interviews were first analyzed based on the frequency of the answers. Then a correspondence analysis was performed on the data to determine which attributes belong to which athlete types the most. To better understand the opinion of the 50-70 years old people regarding different athlete types, we examined the significant differences (in the statistical sense) which can be found in the frequency of responses (at 1% significance level). Our main goal to analyze the changes of attitudes and thinking that comes with aging, the sample was examined by economical activity (retirement) and divided by age categories (65. year as a turning-point and groups of 50+ years old and 60+ years old); comparing personal and online survey results. The selection of the age of 65 was because of two factors. Reaching pension-age comes up as an important change of life for both men and women, and on the other hand, Hungarian responders link the beginning of "old age" to 64-66 years old (Hegedüs, et al., 2018; Törőcsik & Németh, 2018). In the examined age of 50-70, respondents gave three outstanding results at the start of old age. The highest rate (31%) marked 70 years old, 23% had marked 60 and 19% marked the age of 65 as the starting point of the old age.

2.4. Results

To describe the attitudes of the selected age group to sports, we first analyzed a variety of attitude statements. The cohort features obtained this way make the interpretation of their opinions about sportsmen more subtle, since, as will be discussed later, this is a group whose members are not interested in sports in general, and therefore neither in sportsmen. The results obtained by the online survey and the personal interviews are discussed together.

We were interested *in what the members of the cohort think and how they feel when they hear the words "sports", and "doing sports"*. The subjects were asked to rate their attitudes on a 10-point Likert scale, where 1 reflected very negative feelings, and 10 referred to very positive ones. 50% of the respondents had fairly positive attitudes, but older subjects provided less favorable opinions, and this difference was obvious in 10-year intervals suggesting that the older the respondents were, the more negative their opinions were. It can also be stated of the chosen age group that there was a balanced number of those *who were interested in sports* (36%, with Likert scale values between 7-10) and of those who were not interested (37%, Likert scale values between 1-4), while the rest of the group can be treated as neutral. Taking the group as a whole, slightly more than half of the group were not interested in sports (doing sports). We were also interested in finding out if the chosen age group associates sports with the young (*To what degree do you agree with the following statement? Doing sports is only for the young.*). A 5-point Likert scale was applied, with scale value 1 indicating the respondent's strong disagreement, while 5 referred to a strong agreement. 43% of the subjects refused this statement, but 13% of them strongly agreed, and, in general, the majority of the subjects agreed or strongly agreed with it.

5-point Likert scales were applied to all of the following attitude statements. 57% of the respondents agreed *that a sportsman can become a real role model*. Most of them had positive feelings when they *heard the expressions of professional sports/competitive sports*, but *only a few of them support professional teams of sportsmen or individuals*. The order of the most popular team sports as football, handball, water polo, while the same order for individual sports was swimming, football, Formula 1, tennis, and fencing. Most of them (75%) *would not be happy to buy a product recommended by a sportsman*, although some 55% of the group *thought that sportsmen are perfect figures for advertisements*. It is an interesting difference that 84% of the respondents who were interviewed were not happy to buy a product associated with their favorite sportsmen ("*I am happy to buy products related to my favorite sportsman or team.*"), the same figure for the online respondents was only 56%.

In our research, we also wanted to know what characteristics the respondents associate with different types of sportsmen. We provided 7 types of sportsmen and 20 different characteristics and asked the respondents to indicate which characteristics they would associate with each type of sportsmen (allowing multiple choices). We first created a frequency table of the responses, highlighting those who were interviewed, and the respondents of the survey with 3000 subjects (Tables 1 and 2), and before carrying out a correspondence analysis, we checked which characteristics were most frequently associated with each type of sportsmen, and also, we identified which characteristics to what degree were associated to one or more types of sportsmen. Since the main focus on the elderly in our present paper, the detailed results of the individual interviews concerning the general public in Hungary can be read in Csóka et al. 2019.

For the *hobby and non-professional sportsmen*, the characteristics "have a good time", "joy", "free" and "female" were at the highest proportion. Those who were interviewed in person thought that "richness, money" and "successful" were the least relevant characteristics of that group, while online respondents thought it was "successful" and "fast". While the property "young" was among the first 10 characteristics mentioned in the individual interviews, online respondents only rated it to the 13th place. The other significant difference was found with the concept of "creativity". Online respondents thought it was much more important for hobby sportsmen than the respondents of personal research.

For *individual professional sportsmen*, in the individual interviews, "successful", "appreciation", and "richness, money", "fast" and "male" characteristics were mentioned at a larger proportion, while the online respondents preferred "appreciation" to speed and the sportsmen's being a male. Furthermore, this type of sportsmen can be better described with the characteristics like "female" than "male", which suggests that the cohort does not think that individual sports are masculine, and, as will follow, the same applies to team sports as well. Their least typical property is "slow", "paying attention to others", or being "humble, modest", while the online respondents said it was "try new things". Having a look at the results from the viewpoint of the characteristics, "young" was most typically associated with professional individual sportsmen, and also with those playing in teams, which may be related to the attitude statement which said that sports are for the young, clarifying it so that only professional sports are for the young, since less than 30% associated this with hobby sportsmen.

Table 2. Relationship between attributes and athlete types (personal research) „What do you think, which type of athlete has these characteristics?"

Attributes	Hobby athlete	Professional individual athlete	Professional team athlete	Nonphysical athlete	E-sport athlete	None of them
Creativity	27,0 %	38,9 %	33,9 %	37,3 %	16,8 %	13,0 %
Richness, money	9,1 %	71,9 %	55,7 %	14,6 %	9,1 %	8,8 %
Male	37,8 %	69,0 %	57,9 %	38,1 %	29,9 %	13,0 %
Appreciation	15,3 %	67,4 %	49,2 %	23,8 %	8,8 %	10,4 %
Female	46,6 %	60,5 %	54,0 %	36,4 %	24,6 %	13,5 %
Try new things	39,4 %	37,8 %	27,3 %	23,6 %	25,2 %	11,2 %
Young	40,9 %	59,3 %	50,2 %	32,5 %	30,3 %	11,1 %
Pay attention to others	23,3 %	26,4 %	65,9 %	15,1 %	8,5 %	10,0 %
Humble, modest	31,7 %	24,1 %	28,8 %	20,1 %	4,8 %	25,1 %
Traditional	30,3 %	27,1 %	35,1 %	15,5 %	4,0 %	22,9 %
Free	50,8 %	35,1 %	23,8 %	19,8 %	15,8 %	14,0 %
Slow	19,0 %	7,4 %	4,2 %	18,6 %	5,9 %	54,1 %
Successful	10,1 %	79,1 %	58,8 %	21,0 %	9,1 %	7,5 %
Fast	16,1 %	69,9 %	53,8 %	17,5 %	12,1 %	11,4 %
Adventures, interesting life	22,9 %	58,4 %	47,2 %	14,8 %	10,0 %	13,3 %
Respect	25,0 %	59,7 %	52,4 %	26,2 %	11,0 %	12,0 %
Honest	42,1 %	46,9 %	44,5 %	30,7 %	16,7 %	14,7 %
Modern	22,2 %	31,0 %	24,3 %	26,9 %	40,4 %	12,5 %
Have a good time	55,8 %	52,7 %	46,4 %	30,2 %	22,6 %	8,3 %
Joy	55,4 %	59,7 %	51,7 %	34,4 %	24,4 %	8,4 %

Source: Authors, n=680

Individual interviewees thought that *professional team sportsmen* typically "pay attention to others", they are "successful", and "male", while the online respondents thought that "appreciation", "fast" and "female" are more characteristic to them than "male". While "richness, money" was at the 4th position in the interviews, in the order by the online respondents it was at the 12th place, as being typical for them. "Slow", "free", "modern" and "try new things" were considered as least typical for them.

Respondents were the most neutral and uncertain with *sportsmen doing mind sports,* because none of the characteristics reached 40%, while the individual and online rank orders present large differences and variabilities. For the individual respondents, "male", "creativity" and "female" were mentioned as most typical, while the online respondents chose "creativity", "honest", and "respect". Their least typical characteristics were "richness, money", "adventures, interesting life", "fast", and "paying attention to each other". It is interesting to observe that the property "young" was at the 5th place in the order by the individual respondents, it was ranked to the 16th place by the online respondents. Regard to slowness the opposite is true because online respondents perceiving intellectual athletes more slowly.

Table 3. Relationship between attributes and athlete types (online research) „What do you think, which type of athlete has these characteristics?"

Attributes	Hobby athlete	Professional individual athlete	Professional team athlete	Nonphysical athlete	E-sport athlete	Technical sportsman	Extreme athlete	None of them
Creativity	34,9 %	16,1 %	15,5 %	36,9 %	14,3 %	25,0 %	23,2 %	12,5 %
Richness, money	12,7 %	43,5 %	30,5 %	7,1 %	7,5 %	20,9 %	28,0 %	14,4 %
Male	28,0 %	33,0 %	34,1 %	21,4 %	21,3 %	38,8 %	44,2 %	21,2 %
Appreciation	11,3 %	47,1 %	38,1 %	26,6 %	6,9 %	18,4 %	24,2 %	18,3 %
Female	50,7 %	37,0 %	37,2 %	27,4 %	16,9 %	15,8 %	18,3 %	21,3 %
Try new things	38,4 %	12,6 %	5,5 %	14,7 %	19,4 %	27,0 %	50,0 %	10,0 %
Young	27,5 %	36,1 %	31,5 %	14,2 %	30,9 %	29,2 %	41,1 %	14,1 %
Pay attention to others	28,7 %	11,4 %	62,1 %	14,0 %	7,3 %	15,6 %	12,7 %	13,7 %
Humble, modest	32,0 %	19,5 %	18,2 %	25,9 %	5,9 %	7,5 %	6,4 %	27,2 %
Traditional	30,5 %	26,3 %	27,8 %	20,9 %	3,0 %	11,3 %	4,2 %	24,7 %
Free	61,7 %	15,5 %	4,1 %	18,1 %	14,1 %	10,5 %	27,5 %	12,9 %
Slow	28,2 %	2,8 %	2,3 %	22,3 %	8,3 %	3,2 %	2,1 %	42,8 %
Successful	8,0 %	67,2 %	53,4 %	22,5 %	9,3 %	25,9 %	24,3 %	12,1 %
Fast	10,4 %	45,8 %	37,9 %	9,1 %	10,5 %	36,7 %	33,3 %	14,9 %
Adventures, interesting life	23,9 %	12,8 %	12,0 %	7,5 %	8,5 %	25,0 %	70,0 %	11,6 %
Respect	21,7 %	45,3 %	42,5 %	33,5 %	10,0 %	19,5 %	22,9 %	16,8 %
Honest	40,2 %	35,8 %	36,2 %	35,0 %	18,9 %	22,0 %	21,5 %	20,6 %
Modern	18,0 %	13,0 %	11,2 %	14,2 %	46,2 %	36,5 %	42,3 %	13,2 %
Have a good time	70,8 %	28,5 %	31,1 %	29,1 %	24,5 %	26,2 %	30,7 %	10,6 %
Joy	70,0 %	35,8 %	37,2 %	32,8 %	28,2 %	30,1 %	36,4 %	10,3 %

Source: Authors, n=1352

In the case of *e-athletes,* the degree of agreement in the opinions of the 50+ age group is much higher. They see them as "modern" and "young", rather as "men" who "try new things". They also mention them with "joy", and "feel good". The least true of them is that they would admit to "traditional" values and that they would be "humble, modest" or that they would "not pay attention to others" and would not consider them "slow".

The categories of *technical athletes* (e.g. model sailors) and extreme athletes were introduced in the online survey. The 50-70 years old associated these types with the characteristics of "male", "fast" and "modern" as well as "joy", "youth" and "try new things". They are least characterized by "slow", "humility and modesty" as well as "free" and "traditional".

Finally, the attributes associated with *extreme athletes* are "adventure and exciting life", "trying new things" and being "men" who are "modern" and "young". In the case of extreme athletes, the percentage of mentions of "young" was also higher than that of professional athletes. They are not characterized by "slowness", "traditional" thinking and "humility, modesty".

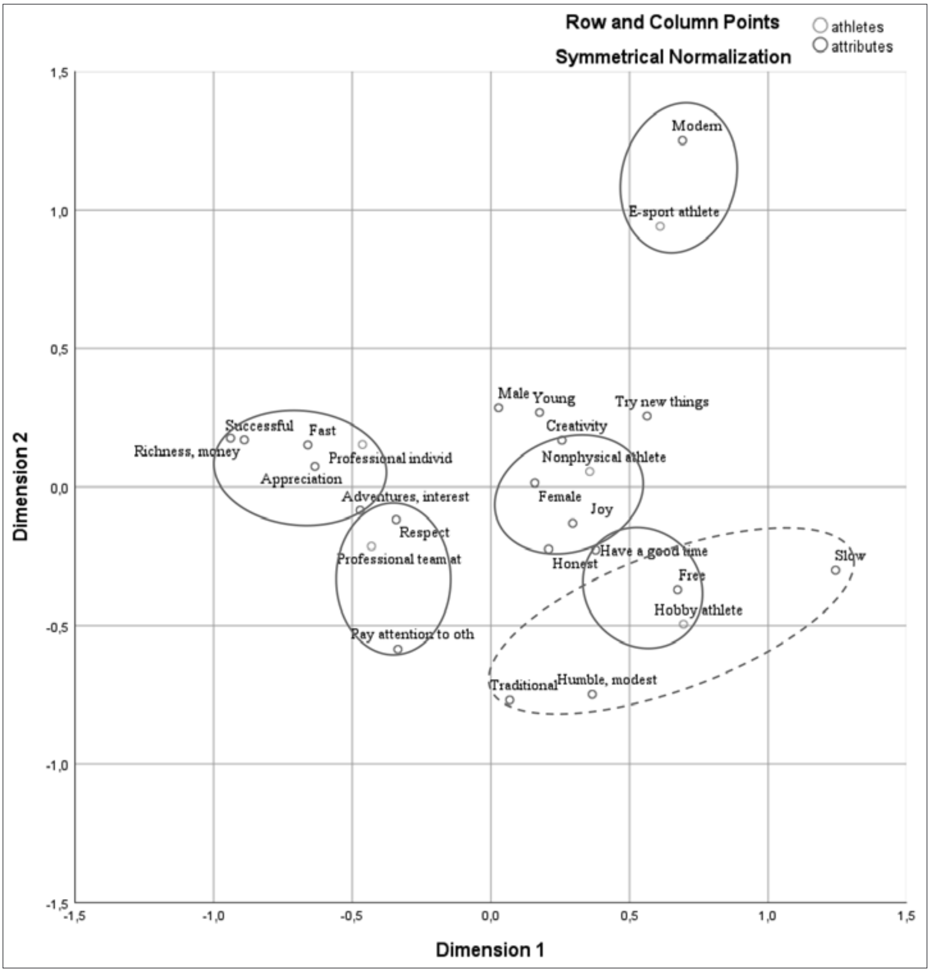
The tables show that the most common attributes associated with athletes appear to be about the same for both personal and online respondents, except for the group of intellectual athletes, where the ratings are more varied. However, in addition to the descriptions, we were also curious as to which attributes the respondents could associate at least to athlete types. In the first place is "slowness", followed by "humility, modesty" and "traditional" characteristics. It is also interesting that in a small extent, some could not associate "success", "joy", "trying new things" and "feel good" with athlete types.

To determine which attribute is most relevant to which athlete types, we performed a correspondence analysis in which perceptual map is shown in the first (personal survey, n = 680) and second (online survey, n = 1352) figures. The figures show the aggregated answers of the 50-70 years old groups. Besides, we examined both survey results by the following divided parts: years 65 as a turning-point, groups of 50+ and 60+ years old and based on economic activity (active worker or pensioner).

The obtained results are not significantly different from each other, but they can provide clarification and supplement to the overall experience. The validity of the correspondence analysis was tested by the Chi-square test where the significance level was 0.00, which is within the limit of 0.05, thus it can be concluded that the value of inertia differs significantly from 0, and the two examined criteria are related. The groups we select are shown on the perception map with grey circles.

Based on the perceptual map, different types of athletes and their associated characteristics can be grouped, but the characteristic of "slow" is so separate from all athlete types that it is difficult to connect to any of them. The same can be said in the case of the "traditional" and the "humble, modest" characteristics. However, if we want to associate them with athletes, these characteristics are the closest to *hobby athletes*. In contrast, the corresponding figure from the online survey shows the "slow" characteristic is far separated from the others, but the "humble, modest", "traditional" and "female" attributes to connect with the intellectual athletic type. This is even more prominent in the 10-year age groups. The personal respondents also associated with the *nonphysical athletes* the attributes "female", "creativity" and "joy". *Hobby athletes* are mainly associated with freedom and entertainment, but there is also joy and creativity in the answers. Most pensioners have been paired with the hobby athletes the "free" word.

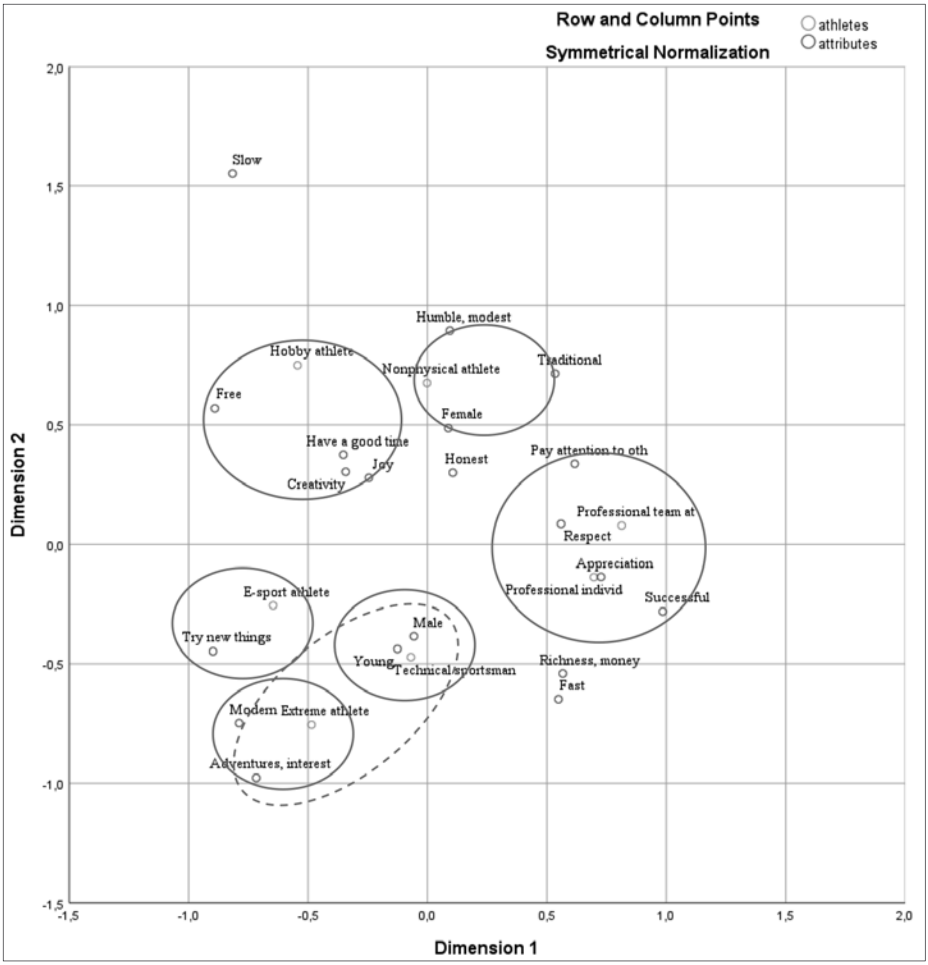
Figure 1. Correspondence map – Relationship between attributes and athlete types *„What do you think, which type of athlete has these characteristics?"*



Source: Authors, personal research, n=680

The e-athlete, as an athlete type on the perceptual map, is clearly distinguished from the other types and is associated with the "modern" characteristic for respondents, while not with any other type mentioned. We can observe uncertainty with the knowledge about the type because the 60-year-olds less mention modern for these athletes as the younger seniors, and the online respondents rather say to the e-sports "try new things" characteristic than "modern". This indicator connects more to *extreme athletes* with the trait "adventures and interesting life". The 65. year does not indicate significant change, but with special attention to the fifties and sixties respondents, the extreme athlete is about accreting with the technical sportsmen. They considered the latter one mainly "young" and "male". We got a confirmation that after the personal interview it became necessary to incorporate into the survey the two new athlete types (technical and extreme), seeing the "young", "male" and "try new things" adjectives during the personal interview are not classified clearly by the respondents.

Figure 2. Correspondence map – Relationship between attributes and athlete types *„What do you think, which type of athlete has these characteristics?"*



Source: Authors, online research, n=1352

Regarding the professional athletes – especially in the online research – the answers about the individual and team sportsmen contiguous to each other, when we look at the 10-years age groups and the economical activity. In total, the respondents think about *professional individual athlete* as successful and appreciated, while the *team sportsmen* are respectful and they "pay attention to others". In the personal research the respondents connected with the individual athletes the "fast", "richness, money" and "adventures, interesting life" features. On the other hand, the online respondents separated more the "richness, money" and "fast" from the athletic types.

3. CONCLUSION

In the XXI. century the biggest challenge is the aging society. The growing percentage of older people place a heavy burden on the budget of the countries, and also serious challenges are presented to the individuals because it changes the personality, the attitudes and the thinking way about the world. For this reason, it is important to know the elderly's opinion and perspective – also in sport and sport consumption –to improve our life quality in the long run.

In our study, we examined the characteristics associated with athlete types among the older generation - with particular regard to the 50-70 years old people. We provided 7 types of sportsmen and 20 different characteristics and asked the respondents to indicate which characteristics they would associate with each type of sportsmen. For examining the answers we used correspondence analysis with the following divided parts: the result of the general, full-sample; using years 65 as a turning-point, using groups of 50+ and 60+ years olds and analyze the answers based on economic activity (active worker or pensioner). In the results, we showed the differences between the characterizations about athletes of the respondents from personal and online researches. The result of our general, full-sample analysis was found to be very stable and there was no significant difference in the structure of athlete type detection according to any of the previously mentioned criteria we examined. Only a few age differences are noticeable that could clarify the interpretation.

This study is based on data from a representative sample in Hungary, which would make it useful to carry out international research on this topic to deepen the results. For a deeper understanding of the characteristics of athlete types perceived by the population, a more specific, mainly qualitative research is needed. The results of our research, in addition to guiding practical sports marketing professionals in the development of accurate positioning in their daily work, can also be a good base for attracting interest to this topic and inspiring further research.

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THE ROLE OF INTERNET MARKETING – A CASE STUDY ON THE EXAMPLE OF CROATIAN WOOD INDUSTRY

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Abstract

Internet marketing is an essential part of marketing theory. It is defined as the use of the Internet and other digital technologies to achieve marketing goals and to support a modern marketing concept. It also represents marketing in the new electronic environment, that is, the process of building and maintaining customer relationships through online activities. Internet marketing techniques and tools are an effective means of promoting products and businesses in the business segment of the wood industry market. Corporate profiles on social networks are used in the segment of business customers in the wood industry markets, primarily as a means of obtaining information about current business activities. The presence and visibility of businesses on the Internet, and through the use of Internet marketing, is significant in attracting new customers and retaining existing ones. The paper analyzes the frequency and necessity of Internet marketing in the wood industry. The survey was conducted in 2018 on wood industry business experts in the Republic of Croatia. The research *hypotheses analyze what are results of promoting products and businesses in the business customer segment in the wood industry markets, and access points that are the primary starting point for the availability of product information and business entities. The results showed that the respondents – experts in a wood industry most often access the Internet via mobile devices and desktops, use e-mail in their communication, and are present on social networks. The paper aims to understand the communication process in a specific industry, ie the extent to which measure experts in the wood industry have accepted and recognized the importance of such technologies.*

Keywords: *Marketing, Wood Industry, Internet Marketing, Website, Email*

JEL Classification: M31

1. INTRODUCTION

In its narrowest definition, the Internet encompasses the concept of "world-wide web," and in marketing terms, the fastest, cheapest and broadest form of communication between providers of products and services and their customers or markets (Vukman, Drpić, 2014: 141).

The Internet has been present in the business world for over twenty years. The same technology has influenced the understanding of communication, business, entertainment, and almost every aspect of modern, computer-literate people live, and social networks have become the most visited, used, and explored parts of the Internet itself (Uroda et al., 2017). Internet marketing is a way of promoting, that is, marketing efforts that are primarily conducted using email and World Wide Web technologies, and the ultimate goal of these efforts is to sell a product or service. Internet marketing and online promotion are most commonly used in combination with traditional promotional media. Internet marketing can be divided into several narrow, specialized areas (Brakus, 2015):

- Web marketing - which includes e-sales sites, affiliate marketing sites, promotion and information sites, search engine advertising (e.g., Google), SEO methods and techniques;
- Email marketing - which includes all promotional efforts made using email as the primary medium of communication with current and potential clients;

- Marketing on social networks - includes all marketing efforts that are based on some of the social networks: Facebook, Twitter, YouTube, Instagram, etc..

From the above mentioned can be concluded that Internet marketing is an essential part of every business, not only because of the advertising of products and services, but also because of several other advantages that it offers (lower costs compared to traditional advertising methods, access to a larger target group, global reach of publications, enabled advertising for the desired period, 24 hours a day, marketing campaign results can be tracked, and easily measurable return on investment). Also, Internet marketing facilitates pricing, creating new services, and establishing new sales channels (webshop). Internet marketing has not bypassed the wood industry either. Today, the impact of forestry and the wood industry on the economy of the Republic of Croatia and the European Union is significant, given that in the Republic of Croatia the wood industry accounts for 6.14% of total industrial production and accounts for 3.6% of gross domestic product (GDP). The aforementioned sector employs more than 35 000 people (Drvo-trgovina d.o.o., 2017).

Considering the importance of the wood industry in the economy, the paper emphasizes the necessity of using Internet marketing techniques and tools as a useful promotional tool. Specifically, there is a significant presence of businesses in the wood industry domain on web portals, websites, and social networks. Email is emerging as an essential means of communication, along with popular social platforms such as Facebook, Facebook Messenger, YouTube, WhatsApp, and Instagram. Also, more and more businesses are opting to create a website to promote and distribute products, services, or information online. Website marketing provides a unique opportunity to continuously collect information about visitor behavior through the website (Ružić et al., 2009: 77).

Based on the above, four research hypotheses have been put in the paper:

H1. Internet marketing techniques and tools are an effective means of promoting products and businesses in the business segment in the wood industry markets.

H2. The Web site is the primary starting point for the availability of product and business information in the business segment in the wood industry markets.

H3. Email is the primary means of communication for businesses in the business segment in the wood industry markets.

H4. Corporate profiles on social networks are used in the segment of business customers in the wood industry markets primarily as a means of obtaining information about current business activities.

The paper aims to research what is the primary communication tool of business entities in the segment of business customers in the wood industry markets, and above all, as a means of obtaining information on their current business activities. The focus of this paper is on the presence of wood-based businesses on the Internet.

2. THE ROLE OF INTERNET MARKETING IN THE WOOD INDUSTRY

The wood industry in the European Union involves various activities in the application of wood and wood materials. It includes woodworking in the wood industry, pulp, and paper production, and the printing industry. There are approximately 432,000 wood industry businesses in the EU, representing 20.8% of manufacturing businesses across the European Union. Pulp and paper production is the most represented, and many businesses are characterized as small or medium-sized enterprises, but they are relatively more numerous than other wood processing industries. The economic value of the wood industry in the European Union is measured by the gross value added of € 129 billion, or 7.9% of total production in 2013. The distribution of values is based on four manufacturing activities, with the largest share being recorded for pulp, paper and paper products (32% or € 41 billion), while the other three sectors have almost equal values. The printing and service sector related to the processing and production of wood accounts for 23% of the gross value added of the wood industry, while the production of furniture is 22% (Eurostat, 2017). In Europe, forests and forest land cover about 42% of the land territory and the European Union has about 5% of the world's forest potential. Finland and Sweden have the highest forest cover in the European Union (Rubić, Cota, 2017).

The Republic of Croatia is rich in forest land, and forest and forest land occupy about 48% of the total area. Their management is on a long-term basis for sustainable management, with annual logging accounting for about 80% of total growth. The forestry and wood processing industry have a long history and tradition in the Republic of Croatia. The first furniture factories were founded in 1884, and after the Second World War, large industrial factories were established, employing thousands of workers. At the end of the twentieth century, there were changes in the organizational and production process, strengthening of competitiveness and consolidation of production capacities. The industrial sector is experiencing strong growth and, in developed economies, has direct and multiplying indirect effects in development, especially in rural areas. The sector has great opportunities and growth potential in Europe, precisely because of the available forest potential. With appropriate forest management policies, they are an integral part of the government's economic and regional development policies. The indicator of the degree of exploitation is of particular importance and is a basic premise for achieving economic impact and multiplication on the creation of new value in the national economy and employment (Rubić et al., 2017). The Government of the Republic of Croatia has, for the past several years, been working on the development of the wood industry. In April 2017, the Government of the Republic of Croatia adopted the Decision on adopting a strategy for the development of wood processing and furniture production of the Republic of Croatia 2017-2020 with an action plan for the implementation of 2017-2020. Funds have been provided for the implementation of the Strategy in the State Budget of the Republic of Croatia within the limits of the financial plan of the Ministry of Agriculture for 2020. Forestry, wood processing, and furniture production are activities linked to the value chain and are a real example of the circular economy as a strategic determinant of EU policies. The aim is to ensure economic, social and spatial cohesion of the Republic of Croatia and the European Union through rural development, and to develop economic growth, investment and employment in the country, and to retain, or remain, the population in rural areas. (NN 44/2017). Comparative advantages are a long tradition, high potential of domestic raw materials, location, relatively low investment in individual business processes, and the spatial distribution of businesses, which should be transformed into competitive ones.

Croatian Forests (*Hrvatske* šume) have been holders of the FSC Forest Management Certificate since 2002. The certificate acknowledges that forests are managed according to strict environmental, social, and economic standards and gives international recognition to the management of forests, which are an essential national resource. For the wood industry, this certification is of great importance because wood/timber products can be known in the world and represented as FSC certified products. Wood processors in Croatia have recognized this opportunity, and there are over 250 FSC COC certified businesses in the country, thus gaining a corporate and comparative advantage. FSC certification gives higher added value to products and promotes export orientation (Hrvatske šume, 2018). The benefits of this certification are numerous, as shown by a survey conducted in 2004 on 50 Finnish businesses. The results show that half of the respondents are certified in forest management in Finland, and generally, the same businesses are better profiled as primary producers of timber and wood products. They are also focused on exports to Germany and the United Kingdom. However, that was not enough. Introducing new channels and investing in existing channels has further enhanced the image of certified businesses (Owari et al., 2006). The above just shows the necessity of Internet marketing, because, without additional investment in new channels and ways of advertising and contact with partners, customers, and suppliers, one cannot succeed, no matter how good the product is in itself.

Internet marketing is an Internet activity aimed at advertising products and services. Marketing strategies are search engine optimization (SEO), content marketing, social media marketing such as Facebook, Twitter, YouTube, and others, search engine advertising (PPC) such as Google AdWords, email marketing, and others. Internet marketing is a popular form of marketing today because of its advantages over traditional media. Business to business (B2B) Internet marketing offers various forms of marketing aimed at other business entities and is exceptional support in communication with international markets (Chaffey et al., 2006:9). Potential buyers search the potential supplier's website easy to find information and choose a product, that is, a supplier company. A business entity needs to have other entities on the Internet through its web site and other forms of communication with consumers. Marketing activities of business entities on the Internet are not possible without online presence through the web site, regardless of the business model that is being implemented, since initial contact made through the web site is necessary. Also, website marketing provides the unique ability to continuously collect visitor behavior data through the site (Ružić et al., 2009:77). According to authors, electronic marketing is the use of marketing information technology in the process of creating, communicating and delivering value to customers, as well as in customer relationship management to the benefit of both the organization and its stakeholders. This is the application of marketing information systems in traditional marketing practices (Strauss, 2016:21). Marketers often focus solely on creating quality content, while neglecting the essential sphere of bringing websites to users using different devices, such as mobile devices and tablets. Custom web pages to customer's device, or screen size, are called responsive pages and provide a good user experience and automatically adjust to the resolution. Some of the facts that say that without implementing responsiveness on the site, all other online marketing efforts will not fully reflect, and they are (Hines, 2014):

- 60% of Internet traffic in 2014 was generated through mobile devices, and that number has increased today,
- more than 50% of email is opened via mobile devices or tablets,
- most shopping searches take place using mobile devices,
- 70% of searches that end with a visit to a particular site are from mobile devices,
- the percentage of users accessing social networks via mobile is increasing, and mobile devices have taken the lead in delivering marketing content to end-users.

In the opinion of Andrlić (2012: 29), quality in content and functionality is the key to the success of any site. Also, Andrlić states that the authors Ziethaml, Parasuraman, and Malhort have studied these issues and introduced the concept of Electronic service quality (e-SQ) and the role it contributes to the relationship with consumers. Also, they were the first to define the term as a measure by which a site satisfies the valid promotion, purchase, and distribution of products and services.

Email is used as a means of communication with current and potential customers who are mostly sent offers and notifications. According to Biloš (2011: 97), when thinking about email marketing communication, marketers need to plan external email marketing activities, where emails are used as a form of direct marketing to encourage desired buying behavior and as part of the CRM dialogue with consumers, and internal email marketing, where emails are used as a customer support tool. To attract new visitors to their websites, marketers can lease an email list from providers of such services for an email campaign, form a partnership with an organization with which users are familiar, and whose emails they have agreed to receive, advertise in another company's e-newsletter. In addition to email, applications are used as a means of communication that offers the ability to simultaneously send messages, chat, exchange links and files, play sounds, make Internet calls and send messages to mobile phones (such as Viber, WhatsApp, Skype, Facebook Messenger, etc.).

A survey conducted in the western US shows that 61% of respondents had a Web site as early as 2000. Larger businesses started using Internet marketing before smaller businesses, although only 18% of respondents used the Internet to sell products, as there was still a greater focus on traditional advertising methods (Vlosky et al., 2002).

The challenge of Internet marketing is that there is a need for different partnerships, alliances, and other forms, and associations with public and private businesses (Moodley, 2002). The same source states that the E-Commerce Association of South Africa has put an urgent need for networking to develop collaborative relationships, improve human capacity and raise awareness of the opportunities, challenges, and risks of international business in the wood industry.

2.1. Research Methodology

To understand the importance of Internet communication and Internet presence in the field of wood industry in the Republic of Croatia, primary research is conducted (Štefanović, 2018). Primary research was conducted through the Google Forms online tool. The questionnaire, which contained 15 questions, was accessed by 42 respondents – experts operating in the wood industry (intentional sample). Respondents accessed the questionnaire via email or social networks.

The following table shows the description of the sample obtained after the survey:

Table 1. Sample description

		%
Gender	Female	26,2%
	Male	73,8%
Age	18-24	0
	25-29	4,8%
	30-39	16,7%
	40-44	23,8%
	45-49	35,7%
	50 and more	19%
Years of experience in the industry	0-12 months	0
	1-3 years	9,6%
	3-5 years	7,1%
	5-10 years	26,2%
	11-20 years	38,1%
	20 years and more	19%

Source: created by authors based on Štefanović, 2018.

The research aims to determine the quality of the impact and application of Internet marketing in the wood industry and to determine the effectiveness of combining all marketing elements to meet the business goals. Furthermore, the aim is also to investigate the necessity of promotion on Internet platforms, the use of social networks, the application and frequency of the use of email in personal and business communication of users, and the application and use of the website. The results of the research are presented below.

2.2. Research Results

Survey results showed that 90.5% of respondents use the Internet in their business activities via their mobile devices (61.9%) or desktops (61.9%). To a lesser extent, they access the tablet (21.4%). Furthermore, 95.2% of respondents have open corporate (official) emails, and 90.5% of them frequently use emails in communication. Also, 57.1% of respondents use official email for private purposes, while 42.9% do not. On the other hand, 73.8% of respondents use their private email for official purposes, while 26.2% of respondents do not use their private email.

The respondents are mostly subscribed to the newsletter of the business entities with which they cooperate. 81% of respondents are subscribed to the newsletter of the business entities with which they cooperate, and 19% of the respondents are not subscribed to the newsletter of the business entities with which they cooperate.

Respondents are informed online about the products and services of business entities with which they collaborate or will cooperate in the following percentages:

- ✦ 76.2% of respondents - via content posted on a business website,
- ✦ 50% of respondents - through a business entity newsletter,
- ✦ 47.6% of respondents - via social networks - corporate profiles,
- ✦ 19% of respondents - through specialized web sites (e.g., Lider),
- ✦ 16.7% of respondents - through specialized platforms (e.g., Business Croatia),
- ✦ 11.9% of respondents - through mobile applications.

Respondents consider the content published on the web site of the business entity (66.7%) as an essential tool for informing on the products and services of business entities with which they will cooperate or currently cooperate. 16.7% of respondents consider corporate profile on social networks as the most essential tool for informing on the products and services of business entities, followed by the newsletter tool of a business entity (11.9%); and 2.4% of respondents consider specialized platform as essential tools, while the same percentage consider specialized web sites as essential tools for informing on the products and services of business entities.

Furthermore, respondents most commonly use e-mail messages to communicate with businesses (88.1%), followed by Viber (4.8%), WhatsApp (4.8%), and Skype (2.4%). Services like Facebook Messenger, Twitter, and Instagram are not used in their business. Most respondents are users of social networks (76.2%), and 23.8% are not social network users. Respondents most commonly use the Facebook social network (62.5%), followed by the LinkedIn business network (18.8%), Instagram (12.5%), and Twitter (6.3%). Social networks like Pinterest and Snapchat are not used.

The survey results show that the respondents most often access the Internet via mobile devices and desktops; most have created corporate emails that they frequently use. Respondents are mostly users of emails, social networks and subscribe to the newsletter of the business entities with which they cooperate, and through newsletters are informed about the products and services of the business entities with which they cooperate or will cooperate, which confirms the first hypothesis "Internet marketing techniques and tools are an effective means of promoting products and businesses in the business segment in the wood industry markets." Also, the results show that the majority of respondents are informed online (online) of the products and services of business entities that they cooperate with or will cooperate with through the web site, which confirms the second hypothesis "The Web site is the primary starting point for the availability of product and business information in the business segment in the wood industry markets."

Furthermore, the results show that the majority of respondents use email as a way of communication, which confirms the third hypothesis "Email is the primary means of communication for businesses in the business segment in the wood industry markets." The survey results also show that the respondents are the majority of users of social networks, and most often use the Facebook social network. They are informed online about the products and services of businesses they are collaborating with or will cooperate with through corporate social networking networks, which confirms the fourth hypothesis "Corporate profiles on social networks are used in the segment of business customers in the wood industry markets primarily as a means of obtaining information about current business activities."

As can be seen from the results of the research, all four hypotheses were confirmed.

3. CONCLUSION

Today, Internet marketing is playing an increasing role in the markets, providing more opportunities for businesses than traditional marketing. Wood industry Internet marketing users make the most of their advertising and contact with potential and current partners and clients. The reasons for communication are most often branding, advertising, PR, corporate identity, social media, sales management, and special offers and exhibitions. Also, it is essential to advertise and target the audience by exploring new channels and social media trends.

The application of Internet marketing in the wood industry is essential in achieving the goals of businesses. The research results show that Internet marketing techniques and tools are an effective means of promoting products and businesses in the business customer segment in the wood industry markets. Respondents use the Internet in business activities, most often accessing the Internet on mobile devices and desktops. The business website is the primary starting point for the availability of product and business information in the business segment in the wood industry markets. The survey results show that the respondents are informed online about the products and services of business entities through the content published on the website of business entities, then through newsletters and social networks of corporate profiles. They also consider content posted on a business entity's web site as an essential tool for informing businesses about the products and services they will collaborate with, and then their corporate profile on social networks. Email is the primary means of communication for businesses in the business segment in the wood industry markets. Survey results showed that most respondents have created official (corporate) e-mail, and frequently use it in their business activities. They also use official email for private purposes and use private email for official purposes. Respondents are subscribed to the newsletter of the business entities with which they cooperate. The service most commonly used to communicate with businesses is an e-mail message. Corporate profiles on social networks are used in the segment of business customers in the wood industry markets primarily as a means of obtaining information about current business activities. Survey results show that respondents are users of social networks, most often using the social network Facebook, then the LinkedIn business network. The presence and visibility of businesses on the Internet, and the application of Internet marketing, are significant in attracting new customers and retaining existing ones. The limitations of the paper are that there is no clearly defined methodology for how to collect and utilize data for marketing communication in the wood industry. The open question is in what measure are satisfied users and followers of social networks who are customers of wood industry businesses, as well as their partners, customers, suppliers, and others with whom they communicate, with the quality of their Internet marketing application. Also, the question is whether there is a correlation between those who use Internet marketing and those who do not use it sufficiently with their performance in the wood industry market. The paper research only one party (wood industry market business entities), while in some future research, the authors will observe and analyze the other party (such as users, partners, clients) to see the expected and obtained quality of the information provided through Internet marketing.

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SMARKETING - INTEGRATION OF SALES AND MARKETING

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Abstract

There are numerous papers and researches on organizational structure and culture showing how cooperation between departments plays a vital role in improving business performance. Also, anyone who worked in a company that has marketing and sales departments or at least has experienced contact with marketers and sellers knows that such a relationship is contentious. The authors wanted to present the Smarketing - integration of sales and marketing as potentially best model of putting the client in the center of company's attention in the age of digital market where the speed of the reaction has become the key, reaching revenue goals in the era of experiential economy and make teams' collaboration work smoothly. A company has an integrated marketing and sales program when the sales and marketing teams work together to take a prospective customer from initial awareness all the way to becoming a loyal customer. This paper emphasizes importance of technology as information sharing tool that can help revenue growth and offers a guideline how to make integration of sales and marketing well, through activities, processes, and systems, organizational culture, and structure in order to make lead process more efficient, com-

pany more customer-oriented with easier monitoring of performance metrics and having satisfied teams talking the same language.

Keywords: *sales, marketing, integration, leads, organizational culture*

JEL classification: L81, M31

1. INTRODUCTION

The consumer should be the center both of sales and marketing. Sales include operations and activities involved in promoting and selling goods or services (Anthony, Taylor, 2008, 195). Researching, analyzing, and understanding his behavior are critical to marketing planning. It is important to find out who the consumer is, what he is buying, how much he is buying, where he is buying, why he is buying and whether he is satisfied with all the elements of the buying process.

The internal battle between sales and marketing is everlasting. Who is more important and whose approach is more correct? What types of sales and marketing relationship is the most productive? Sales will tell for the marketing department that they have been opulently wasteful, that they reside too much time in the office and thus have no contact with the real world – the clients. At the same time, the sales sector would like to say for them that they are those who directly bring income, or "food to the table", i.e. that they make contributions to the whole company. The marketing department will respond to their sales colleagues' with an objection that marketing means looking from a strategic perspective, and its market analysis will be justified by better recognition and fulfillment of wishes and needs of their consumers. The sales sector is viewed as overwhelming and imprudent megalomaniacs. The problem is that kind of conversation is not leading to a bigger profit or better results. One time sales are not enough as well as creating an interest doesn't mean you're going to close the deal. After both sales and creating an interest can come to a big disappointment. On the one hand, we can say that both are right and wrong at the same time, but what has been already well-known truth in the development of their relationships is neglected by the fact that both of these sectors are ultimately pursuing the same goal - better results of the whole company.

There is general agreement that improvements in the relationship between sales and marketing would be beneficial to the organization in terms of improved business performance (e.g. Cespedes, 1993; Dewsnap and Jobber, 2000; Rouzies et al., 2005; Kotler et al., 2006). For example, Tjosvold (1988) found that collaboration between these departments led to improved productivity and competitiveness. Improvements in collaboration, interdepartmental relations, and communication quality may enhance the formulation of the strategy, as well as reduce conflict (Menon et al., 1996). Pierce (2006) emphasizes the marketing interface as the most important area of integration for sales.

After a fierce battle of sales and marketing against each other and with prejudices for decades, we can talk about smarketing - integration of sales and marketing as a solution that belongs to the 21st century. Even if we agree that smarketing is the best model company can build to multiple their success it is necessary to agree on steps and timeframe for integration as well as to be aware of challenge of embarking the right technology and having the right platforms to connect customers and the company and coordinate the company's departments internally in order to align them with company's goals.

Customer experience starts with their first interaction with your company, whether that's PR article, website, social media, visit your store or a phone call and then is moves (or not) to the actual sale. Developing integration between sales and marketing can significantly improve the customer experience of the company. This paper will explain what smarketing is, why the authors think the integration of sales and marketing is the best model in the ages of experience economy in the digital era and what are the steps of integration.

2. AGES OF EXPERIENCE ECONOMY IN DIGITAL ERA

Experiences play an important and valuable role in people's lives and well-being. In particular, experiences shape people's identities and contribute to their life satisfaction (Singer, Salovey, 1993; Van Boven, Gilovich, 2003). The buyer became more demanding, the competition fierce, and the marketing strategy changed from sales to customer satisfaction and retention. As technology evolves day by day and competition is increasing, advertisers are demanding much more accountability in their campaigns as well as a quick return on their investment. Advertisers today want to know how effective their ads are, which puts additional pressure on marketing departments and agencies. With all the banners, portals, pop-ups, pop-unders, email messages, display ads, streaming media, product placement, search engine marketing, blogs, blogs, podcasts, vodcasts, SMS, RSS, IM, retail kiosks, networks, mobile, wireless, events, guerrilla, iTV, IPTV, content sponsorship, microsite, advergaming, gamevertising, femvertising and many more new channels, consumers were forced to build let's called it mental filter in order to survive in that marketing world.

In addition, in recent years, cognitive scientists have been saying that cognition is embodied, that is, we think with our body, not just the brain (Eerland et al., 2011). Kahnemann in his book Thinking, Fast and Slow (2011) said that only a few activated ideas have been registered in consciousness and that most of the associative thinking happens quietly, hidden from our conscious self. So if they hear, think or even feel that something sounds like advertising cliche they will automatically be excluded from their folder of relevant and interesting information. The focus is on content that becomes part of our daily communication. Each consumer has its own content, sharing information and emotions. The big challenge remains of sending personalized content to a well-segmented audience designed to stimulate their emotions and inspire action. People like to read, comment and share info and their opinions and enjoy others' support and approval through likes and comments. With all the knowledge they have today companies are still failing to attract the attention of modern-day individuals in today's hectic communication realities.

Although the experience economy has been around for two centuries, the implemented concept of the experience economy is theoretically still under-explored. An excellent example of economic development in today's experience economy was given by American authors, but also entrepreneurs Pine II and Gilmore (1998) who explained the four stages of economic development with one cake. "In the agrarian economy, mothers made cake by mixing agricultural products such as milk, eggs, and flour. With the development of the industrial economy, mothers began to buy and use a mix of ingredients for a cake that they paid a dollar to two. When the era of service economics began, parents ordered a finished cake from a patisserie and paid $ 10 to $ 15. Today, no cakes are made anymore, no 'home' birthdays are celebrated, parents pay $ 100 for a party organized by a company that will give their children an unforgettable experience, and the cake will be inserted into the whole story for free - and we have arrived our experience economy."

Millennials are the "it was not on social it didn't happen" generation, and studies have found that sharing photos increases their enjoyment of experiences (Diehl et al., 2016). "The act of self-disclosure as well as validating feedback in the form of likes both trigger the release of dopamine in the pleasure center of the brain. Dopamine is a chemical produced by our brains that plays a starring role in motivating behavior. It gets released when we take a bite of delicious food when we have sex after we exercise, and, importantly, when we have successful social interactions" (Spreckelmeyer et al., 2009). In an evolutionary context, it rewards us for beneficial behaviors and motivates us to repeat them. (Haynes, 2018). This chemical reaction is a big part of why social media can be so addictive. So, Millennials like double pleasure. First, to have experience in real life, offline, when disconnected but then share it and feel the pleasure again. This time from the feedback. But, we also know that excessive use of the internet and mobile devices affect mental health, such as increased rates of anxiety and depression as well as interpersonal conflict (Lee et al., 2014) and that the average American spends almost 6 hours a day on their phone. It is obvious that our current relationship with technology is not making us happy, so it was only about time that millennials started to turn to real-life experiences as a way to escape their social feeds and inboxes (Jain, 2019). A study by the Harris group showed that 72% of millennials prefer to spend money to engage in live events instead of on material possessions (Saiidi, 2016). So, we need to know how to appeal to customers' senses, not just wallets.

That's how we get to 4Es, the new paradigm of the marketing mix. Quickly to repeat - traditional marketing mix is made of 4Ps which importance lies in its ability to help a business determine the suitability of a product or service for a particular target consumer base. 4Ps are Product, Place, Price, and Promotion. In experiential marketing 4Es are Experience instead of Product, Everywhere instead of Place, Exchange instead of Price and Engagement or Envagelism instead of Promotion.

By switching from the old marketing mix (4P) to a new marketing mix paradigm (4E) companies could really focus on their customer needs and wants and create products and/or services to make the customer experience so great that will turn customers to loyal brand advocates. Done right, experiential marketing helps customers feel connected and become loyal brand advocates (Bay Bridge Digital, 2018).

3. SALES AND MARKETING

As it was said earlier, marketing and sales teams have a reputation for not getting along. It is because there are perceived from the two different points of view and they tend to work to a totally different set of metrics and goals, but they are working for the same goal - the company's revenue.

Firstly, it is important to understand the differences between sales and marketing approach. Sales turn the product into money, their works is to gain market share, profit and revenue, so they are focused on product or service and/or service, they want the flexible price in order to close more sales because they do not want to miss opportunities. Company results are the center of their work, not customers. On the other side, marketing has strategic, broader approach because they want to understand and meet the need of customers and offer innovations so marketing's activities like research, planning, pricing, distribution, and promotion are helping them to create customer, take care of him and stay with him in as long as possible relationship. Marketing is focused on share in consumer awareness primary, market secondary. Logically, marketing and sales have different personalities. Sales should be active, passionate, skillful connection makers, rejection does not depress them, they live to conclude sales and they are not interested in the future but on the present. Marketing people are more analytical, data-oriented and project-focused, with rational assessment, wanting to create a competitive advantage for the future and statistically have higher formal education (Kotler et al., 2006).

Marketing specializes in bringing in leads, but sales specialize in converting and up-selling/cross-selling those leads. That describes exactly why you need both to drive revenue for the company's business. At some point, a leader has to move from the marketing team to the sales team. The difficulty can be in knowing when to transfer it. At which point in the buying process should someone move from the marketing funnel to the sales funnel? It used to be that the marketing team would handle awareness and interest and then hand off consideration through purchase to the sales team. It was because once someone was actually interested in purchasing, he needed to make a phone call or interact with someone face to face. Nowadays, the situation is much different. In today's world, marketing can usually handle everything from awareness to a part of the evaluation. Of course, that doesn't mean sales in not needed. On the contrary, because marketing won't convince everyone so easily. The marketing team specializes in attracting the masses, but a salesperson specializes in one-on-one interaction. If someone wants more information than the marketing team can provide or wants to talk to a physical person before or while buying, has a unique situation that the marketing team can't handle, can't decide between two products/brands and in many more situation - sales team is what we need.

Sales is becoming a strategic activity (Kotler et al., 2006) in which the sale is made with the intention of building and maintaining a long-term relationship research highlighting the importance of aligning marketing strategy and sales objectives (Strahle et al., 1996); how collaboration between marketing and sales enhances business performance (Le Meurnier-Fitzhugh and Piercy, 2007; Guenzi and Troilo, 2007). These are often approaches led by marketing strategy, in which sales strategy is linked indirectly to business strategy.

Of course, that keeping marketing and sales separate might work for a while. It might even be capable of bringing business to the 6 or 7-figures on a year level. But at some point, your marketing and sales efforts are going to stagnate. As was said earlier, the key to further development is smarketing which stands for the integration of sales and marketing.

4. SMARKETING

Small businesses/companies initially do not have formally marketing but marketing ideas that come from sales staff, managers, or agencies (Kotler et al., 2006). When a small company starts to grow and has become successful, it usually launches its marketing person who chooses the best markets and channels, determines potential customer motives, coordinates advertising with agencies, promotes promotions, sends direct emails, and is engaged in trade events. At this stage, the link between marketing and sales is usually undefined; the two functions grow separately and are occupied by their own tasks. During further company development, the link between these two functions begins to be defined in the sense of knowing who is doing what, and they begin to build a common language and look after overlapping. But we still cannot talk about integrated connection related to these two functions as long as the boundaries have become completely blurred, the development and implementation have become a common matter, and the culture emphasized by common growth and decline factors.

Smarketing is an integrated sales and marketing model that makes the lead process more efficient, the company more customer-oriented with easier monitoring of performance metrics and having teams talking the same language. Integration should be made through a focus on the following tasks in activities, processes and systems, organizational culture and structure. In activities focus should be on planning products and setting sales goals, generating a proposal of package values, consumers' needs assessment, advertising approval material, and top opportunity analysis for each segment. In-process and systems focus on a system for monitoring and managing joint activities, using and regularly updating a shared database, reward system and periodic meetings to strengthen relationships. In culture, it is about creating a culture that emphasizes the joint responsibility of different company departments for results, emphasizes measuring results, reward results and applies departmental compliance to processes and organization. In an organization, structure marketing should either be divided into two teams - strategic and tactical and tactical part merged with sales into marketing team or sales and marketing should be one smarketing team.

In a very interesting podcast about sales and marketing alignment by Intercom's Jeff Serlin and Brian Kotlyar in which they talk about how focusing on revenue goals rather than sales or marketing goals is an effective way to navigate the chaos. Jeff Serlin, Intercom sales operations think there has to be a revenue plan, not a sales plan and a marketing plan because it has to start with a shared premise of what the objective is.

- Integration of sales and marketing into smarketing includes these five steps:
- Definition of company strategy and revenue goals
- Definition and implementation of service level agreement
- Integration of databases into joint CRM system
- Setting the reporting loop closed to ensure, maintain open language
- Measuring and evaluation in order to review and improve

Definition of company strategy and revenue goals - in order to be able to make the best results, the team should be aligned on the same page and should speak the same language. When we talk about smarketing, we talk about integration, one team spirit, with both marketing and sales having the shared goals as everyone is working together for the ultimate good of the company.

Definition and implementation of service level agreement - What is a sales-ready lead? Both marketing and sales think they know, and they probably do, but only if the company has its own definition written they can be sure they really have the same definition of a sales-ready lead. In general, a sales-ready lead is one that generates a high level of interest. If the lead has high interest and proves to be a great fit, it is one that must be followed up quickly. If the lead is a great fit but generates little interest, efforts must be made towards stimulating interest so as to increase it. A lead that has a low level of interest and a poor fit must be avoided at all costs since they will not make any money for the company. Smarketing culture is cohesive. Instead of beginning the conversation with "I/We need" this and that and/or "You didn't" provide or do this and that, each team member is committed to doing what he/she can support the other team member. If you really want to try this team-oriented approach, please start asking colleagues "what can I do to make your work easier? Or what can I do better to make your result even better?" It is surprising how this one small change can change the whole atmosphere and dynamic.

Integration of databases into a joint CRM system - traditionally, the marketing department is responsible for generating leads and handing them over to the sales department. Frequently very little information about lead is made available to the sales team - either because very little data has been captured or there is no system for marketing to share that data with sales. At the same time, the sales tracking system in many companies is not able to share information with the marketing department. It is not known, and it is quite hard to understand why colleagues and departments wouldn't exchange all their data, but it is still widespread. Authors believe it is obvious that's too much of limitation and the only reason companies still do it that way is "it is too complicated/it is too expensive/too something excuses for not going out of comfort zone. And everyone knows there is no development before exiting their comfort zone. Imagine that all the info from the marketing and sales is available in real-time. That means that sales can handle the lead easier, with all the background and that marketing can handle their campaigns with up to date (or better say up to minute data from the field). This is very difficult to accomplish with traditional sales force automation software and in practice, marketing and sales are working separately on their data (separately e-mail newsletter, campaign and lead management, sales force automation and so on). Driving all information from a single location where it can be viewed and interpreted in a context makes sense. It is necessary to really be able to say we know everything about our customers/buyers/clients. After all, it should be remembered it is for the benefit of all.

Setting the reporting loop closed to ensure and maintain open language - it provides a mutual feedback between marketing and sales so both teams benefit from it like, for example, updated contacts, information and process statuses, increasing marketing and sales ROI, learning of which marketing program works and which doesn't, helps with setting the lead priorities, make kinder calls and increase of completed sales. The sales team works directly with customers every day. They get to listen to what customers need, discuss their desires and discover what they really want out of their products. This means that the sales team ends up with a much more accurate picture of customer needs than the marketing team. But also, marketing can provide a wider picture of the market and trends through researches. When the two teams work together, the marketing team is able to utilize more effective strategies that reach customers more efficiently. In this part, if the company has customer support, that team's info should all be taken into consideration as a valuable one as those people know exactly what customers want and/or are the main issues they have.

Measuring and evaluation, in order to review and improve - "Where it goes wrong, is when there's a misalignment of expectations of what the supply chain is trying to make, misalignment of the plan that we should have co-developed to get there, and lastly, sometimes I think there's just a lack of understanding that both jobs are hard." said Brian Kotlyar (2018) from Intercom marketing. When things go wrong, we should rely on data, not emotions, because numbers never lie.

Some recent researches (MarketingProfs, SiriusDecisions) shows that organizations with tightly-aligned sales and marketing had higher customer retention rates and achieved higher sales win rates while B2B organizations with tightly aligned sales and marketing teams achieved faster revenue growth over a three-year period (Rosenberg, 2018). Which sounds logical! When the engine is running smoothly, you get more qualified traffic to your website, more high-quality leads into your sales funnel, and more new customers.

At last, but not least, knowing how to motivate your team is a very important part of the integration process. Equal and fair motivation for everyone. Commissions are the obvious way to do that for your sales team, but in many cases, management has an issue with bonuses for marketing which should not be that big of a challenge as everything can be put in KPIs. In the case of marketing, depending on the industry that the company works in, KPIs could be related to traffic, visibility, engagement or conversion, lead generation, etc. Sales and marketing should collaborate across teams to create mutually developed plans, goals, terminology, and KPIs but of course, with a clear definition of each responsibility in order to avoid overlapping of tasks or functions.

5. CONCLUSION

Mercedes Benz USA President and CEO Steve Cannon in his interview for Loyalty360 said that customer experience is the new marketing. You could hear a lot of people quoting him those days. It was over five years ago. At about the same time, Gartner Surveys confirmed: "customer experience is the new battlefield" (Sorofman, 2014). Not so long ago before these two mentioned, people were buying products or services based on quality and price, primarily. Nowadays everyone talks about the experience. On one hand, advertisers offer different kinds of experiences, from bringing together people you love (phone/internet providers), experience of being successful (luxury watches for example), through quality of family life (children amusement parks) or easiness of use and excitement of design (Apple) to getting anything you want on your doorstep in a few clicks (Amazon and similar online retailers).

As a customer, everyone experienced some very disappointed buying processes in which purchase didn't happen. Customer experience starts with their first interaction with the company, whether that's PR article, website, social media, visiting a store or a phone call and then it moves (or not) to an actual sale. That means the cycle of selling products or services begins much earlier than sales representatives are being included. Marketing is the voice of sales during that time. On the other hand, many purchases came from consumers buying the brand, not the product. To explain that, let's think of some products like water or juices, body and skin products or/and others. Why people buy exactly the one. Is it the quality or the taste or the price or the combination? If a consumer is not a big fan, he could flunk on blind tests much easier than we might think at the moment. So, consumers are buying the brand, which is built by marketing people. Also, what should be taken into consideration is that digital selling is already happening big time, although still not prevailing and social media will continue to be important as both a way to generate insights on customers and prospects and a channel for engaging with them. Developing integration between sales and marketing can significantly improve the customer experience of the company.

Sales and marketing might have some concept's differences as for decades the selling concept's starting point was factory/production and it was ending with profit through sales volumes while marketing starting point was market and ending point was profit through customer satisfaction, but no matter from which side company is approaching, the goal should be the same - company's revenue. In order to succeed, the company needs to figure out all about their segments and really get to know who their customers are, their needs and behavior as well as understand the buying decision process. There is no more logical and better approach than the integration of all forces companies might have - from marketing and sales through customer support and IT. Sales and customer support know where the gaps in marketing are and IT has or knows a tool that might help to overcome those.

A company has an integrated marketing and sales program when the sales and marketing teams work together to take a potential customer a long way from creating awareness to becoming a loyal customer. To go through integration as smoothly as possible it is necessary to create a friendly environment, merge marketing and sales data using a CRM, stimulate the sales and marketing team with commissions and bonuses, create a consistent handoff process from marketing to sales, and openly talk, inform, discuss. This requires that company's senior marketing and sales executives work together and make sure everyone talks the same company's message and understands how to deliver it, but crucial is to have a unified database about leads, prospects, customers, campaigns and other activities used by both marketing and sales team. Keeping business data in a single centralized location minimizes wasted time and effort.

Integration is the key. Having integrated revenue plan, not sales and marketing plan separated, all departments having fair KPIs as a motivation, keeping communication transparent and trackable as well as keeping data integrated in a centralized location will help teams working with more easiness, less stress, better people relationships and more motivation which leads to better results both for company and employees. It might take some time to build out the processes, but if done right, it will definitely pay off in the long run. As mentioned earlier, an organization with tightly aligned sales and marketing teams had higher customer retention rates and achieved higher sales win rates, while B2B organizations faster revenue growth over a three-year period. Which sounds logical! When the engine is running smoothly, you get more qualified traffic to your website, more high-quality leads into your sales funnel, and more new customers. Everyone is happy.

Knowing all of the mentioned in this paper it is a question why the vast majority of the companies still don't have sales and marketing fully integrated? As authors are management consultants with between 20 and 35 years of working experience, they are asking the same questions all of their clients and colleagues. It can be said that answers could be divided into three groups - a) traditional approach which very slowly adopts "new" paradigms, solutions, ideas, etc. b) understanding the idea and find it appealing but think they don't have enough resources (knowledge, people, finances) to make that transition c) working on it but think there is a lack of integrated, adaptable, easy to use and friendly by price IT solutions. It would be good to further research percentage of companies in each of here mentioned groups as well as why there is still no all-in-one software solutions in order to understand is there a lack of belief in smarketing concept, knowledge, skills, tools, resources or something else holding companies back from full integration of marketing and sales.

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ROLE OF DIGITAL MARKETING ON STUDENT ORGANIZATIONS' ONLINE PRESENCE AND ACTIVITIES

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Abstract

This paper examines the level of digital marketing application among student organizations as a specific form of non-profit activity. Although the main goal of a student organization is not to generate revenue but to motivate and engage students to be involved in the organization activities, it is pointed out that digital marketing plays a significant role when it comes to achieving all of the organization's goals. Surely, student organizations have a positive impact on the student society and the environment in which they operate, so it is important to systematically evaluate how these organizations performed relative to the topic covered in this paper. Besides the overview of student activities presented a thorough overview of the work of a student organization, this paper examines and analyses overall digital presence, websites, and social media, and *the impact it has on motivating their targeted audience into taking action. Student association activities and quality of those activities are examined using an online questionnaire, and a short interview with representatives of student associations. Research is being carried out to increase understanding of an influence student organizations have on the student population, their engagement in projects they implement, how student associations promote active participation and behavior that leads to increasing membership. Results obtained in this research show that student associations that actively use digital technology and implement some form of digital marketing have a better chance of achieving their organizational goals.*

Keywords: *student organizations, digital marketing, online presence, student activities*

JEL Classification: M31, M39

1. INTRODUCTION

Managing profit and non-profit organizations in today's environment is hard to imagine without clearly defined goals of the organization, professional leadership, and the use of Internet-aided technology. The latter suggests that organizations focused on reaching their goals achieve that more successfully and efficiently if they apply some of the modern business philosophies. This paper analyses the impact of a digital marketing concept application aimed primarily at its end-users, taking into account contemporary business trends. Profit organizations are focused on making a profit (the primary goal) and they make efforts towards that goal, while non-profit organizations are focused on the well-being of the community in which they belong, and making a profit comes as a reward (secondary goal) for positive action in the business environment. In the non-profit sector, the need and benefit of marketing activities are being raised to achieve the goals and impact on the well-being of the individual, the community and society as a whole. Non-profit organizations are focused on customer satisfaction and affirmation of their members. Also, they have to make decisions on how to retain an existing user, and how to attract potential users, i.e. in what ways will the potential new users be informed about their activities.

The research subject is student associations at the Faculty of Economics in Osijek at the Josip Juraj Strossmayer University of Osijek and their application of digital techniques to achieve and increase digital presence. To achieve the goals of student organizations, marketing activities need to be adapted to the times we live in, emphasizing the strong impact of digital technologies. Student associations operate within the academic community, at university and colleges, and affect the environment and society as a whole. The paper analyses their work, activities, and application of digital marketing.

2. STUDENT ASSOCIATIONS AS A FORM OF NON-PROFIT ACITIVITES

Non-profit organizations are all those organizations that serve the pursuit of a certain public interest, and the primary purpose of existence is not to make a profit (Pavičić, 2003:22). The grouping of people into non-profit organizations is carried out with the aim of acting that is socially acceptable and aimed at the common interest, with profit coming as a secondary result. According to Pavičić (2003:16), the emergence and development of the non-profit sector are related to the concept of social responsibility, but also to belonging to a community, i.e. to a group of people who are connected by social and other ties and depend on each other. According to the same author, it can be concluded that the need for members of the community is to preserve and develop the community, to protect and assist its members. Social responsibility is the concern for the functioning and prosperity of man and people, i.e. of the community. Non-profit sector marketing is focused on meeting the needs and desires of the individual in society, and it is often focused on contributing to the common good and satisfying the organization and self-actualization of individuals. As an example of student associations, the goal is to improve the education and activities of students in the environment to develop their skills, to volunteer, to put education into practice through the creation and implementation of projects at and outside the faculty.

The scientific interest of many authors about the impact of student involvement in some form of the student association and how it is reflected in an individual's personal and professional development has been extensively researched since the early 1980s. Among the first and also most prominent authors in the field is Alexandar Astin, who presented "The Theory of Involvement" which describes the importance of student involvement in non-teaching activities of the Faculty (Astin, 1984). This same theory later evolved into a kind of guide for higher education institutions about guidance when designing an effective learning environment. The author's further research in the field of analyzing the impact of student organizations on individuals has focused on defining key competencies that are acquired before entering the job market. Dunkel, Bray, and Wofford (1989) state that when entering the labor market, students who participated in student organizations were perceived as having developed a certain level of interpersonal skills, thereby increasing their value in the labor market (Huang, & Chang, 2004, p.404). Extracurricular organizations are beneficial to college students. They help bring students and faculty together, let students interact in a non-formal atmosphere, and allow students to strengthen their leadership and communication skills. Participating in extracurricular organizations shows future employers that students can handle school, work, and other activities, which in turn shows responsibility and organization (Hegedus, Knight, 2002.) From this point of view, it is concluded that student associations should be seen as a legitimate additional learning method, bringing together students of similar worldviews to join together in carrying out development-relevant activities within the profession they have chosen (Ebede, 2015, p.18).

Further inspection of literature identifies an intense scientific interest in deepening the aforementioned areas, primarily by analyzing the impact of student participation in student organizations and their impact on the development of their competencies, however, a larger number of relevant sources which deal with the influence of investing into activities to promote and increase the visibility of the activities of student associations has not been found in available sources. Non-profit organizations managers recognize the need for greater and more intensive marketing implementation to help the organization fulfill its mission more effectively. Effective implementation of marketing in non-profit organisations brings many benefits. According to (Vasić, 2017), these benefits are most reflected in: customer satisfaction through the direct satisfaction of stated or identified needs, then the increased involvement of the target segment by providing opportunities to be involved in various events, and consequently by better attracting market resources through recognition of the benefits of implementing the activities of the association they also bring about the overall effectiveness of the association. Digital marketing complements traditional marketing principles, using the Internet as a means of communication and a channel for delivering greater value to consumers through the web presence of profit and non-profit entities. The result is raising awareness of the company and of what it has to offer, and all of it is aimed at achieving value exchanges between suppliers and consumers (Ružić et al. 2014:295). The Internet expands and integrates all activities of the promotional spectrum, starting with advertising, sales promotion, personal selling, public relations, sponsorship, direct marketing, word of mouth promotion and all other techniques used to achieve promotional goals. By applying the digital marketing, student associations have the opportunity to inform themselves about what users are looking for on-line, first of all, what they visit the most on their web sites, then engagement on social network profiles, and measure all other useful parameters of implemented activities and campaigns. Using other online platforms like YouTube and personalized mobile applications, they meet user's needs, habits and trends to maintain an online presence and to create user's new attention.

3. OVERVIEW AND COMPARATIVE ANALYSIS OF STUDENT ORGANIZATIONS

Faculty of Economics in Osijek is carrying out 11 extracurricular activities through student associations: AIESEC, Bookmark Association, Duhos, EDiT, EWoB, Financijski impuls, Legal-Economic Clinic, Erudio Association, EFOS Student Sport Association, EFOS Student Council and Andizet. The term student association is an association of citizens established following the Law on Associations whose majority membership is made of students and whose activity is related to meeting student needs in the field of higher education, science, culture, sports, health, ecology and other areas of interest to students and which has been entered in the records of student organizations, following the Student Council and Other Student Organisations Act Official Gazette 71/2007. The analyzed student associations at the Faculty of Economics in Osijek are Bookmark, Student Association - EU Information, possibilities and Sustainability (ERUDIO), Financijski impuls (FIM), Entrepreneurs Without Borders (EWoB) and AIESEC Student Association.

For comparative analysis of student associations, elements such as on-line presence through their web site, registration and advertising on social networks Facebook, Instagram, YouTube, LinkedIn, and other paid on-line advertising are applied, as well as the number of members, the existence of membership fees, donations, sponsorship and external co-financing (Table 1).

Table 1: Comparative analysis of student associations

Student Association Name / Analysis Elements	AIESEC, Osijek	EWoB	Financijski impuls	Bookmark	ERUDIO
Own website	+	-	+	+	-
Facebook profile	+	+	+	+	+
Instagram profile	+	+	+	+	+
YouTube channel presence	+	-	+	+	+
LinkedIn presence	+	-	-	-	-
FB advertising	+	-	-	+	+
YouTube advertising	-	-	-	-	-
Other paid online advertising	-	-	-	-	-
Number of members	35	31	22	17	20
Membership fee	-	-	-	20 kn/year.	30 kn/6 months.
Donations	+	+	+	+	+
Sponsorship	+	+	+	+	+
External co-financing (competition and other)	+	+	+	+	+

Source: Authors' work

These student associations are also available on the website of the Faculty of Economics in Osijek. Financijski impuls and Bookmark have their website. AIESEC student organization does not have an active website available, but the organization's information is located on the AIESEC website. All of the above-mentioned student organizations have official Facebook and Instagram profile, which is nowadays an indispensable element of managing on-line presence, regarding the habits and trends among the observed group of users. All student organizations manage their own YouTube channel except EWoB student organizations. Only AIESEC student organization uses LinkedIn, while other student organizations do not use this business network. AIESEC, Bookmark, and Erudio use Facebook ads. None of the stated student organizations use YouTube advertisements, nor do they use other forms of online advertising. AIESEC local chapter has the highest number of members, 35 members. EWoB student organization has 31 members, FIM has 22 members, Erudio has 20 members, and Bookmark has 17 members.

4. RESEARCH METHODOLOGY

4.1 Qualitative research

The qualitative part of the research was conducted by the interview method. The interview contained three open-ended questions answered by representatives of AIESEC, Bookmark, ERUDIO, Financial Impulse and Entrepreneurs Without Borders student associations. Representatives of the associations answered the following questions: To what extent do you use digital technologies to present the activities of the association and its members? Rate the satisfaction of using the selected digital communication channels.; Do you plan to make changes to the selection and frequency of activity on Internet platforms based on your previous experience?

AIESEC student association is active on the social networks Facebook, Instagram, LinkedIn, and YouTube channel. Information and useful content for visitors are published with each project and activities of the association members.

Bookmark student association uses digital technologies to present the activities of the association and its members. They are present on-line through the official web site of the association, through the web site of the Faculty of Economics in Osijek, and on the social networks Facebook and Instagram. The official website of the association has a list of members with their pictures, information about the association, blog posts as well as all information about the two biggest projects of the Market & NG Conference and Smart Caffee. Projects and the latest news related to projects are published on the website of the Student Association Bookmark Web site of the Faculty of Economics in Osijek. Through online presence on websites, they publish official content and information, and they use social networks Facebook and Instagram to publish news from the world of marketing, interesting things and informing about events in the environment. In the period when they do not have organized events on their Facebook profile, associations publish up to two posts a week, and the reach is regularly between 1400 and 2000. Posts related to organized events, then the posts and sharing of the same are a lot more frequent. Instagram, on the other hand, is used to post photos or short videos while hosting an event organized by an association or affiliate, as well as participating in various activities that are posted and briefed about two to three times a week.

Erudio student association publishes a minimum of three posts per week via the Facebook social network during the active academic year. They publish information on the website of the association, which is part of the website of the Faculty of Economics in Osijek. They use Instagram for the duration of certain association projects. They use social media presence to present the activities of the association and its members. They are inactive in July and August, and there are no posts in that period.

Financijski impuls student association actively posts on the Facebook social network. The post all of the association's activities and other useful content. They are present on Instagram and YouTube since 2016, and they are satisfied with the number of visitors. Facebook is the social network that captures the highest number of visitors and reactions to posts and is used as the first promotional tool of the association. They use the association's website to write a blog, and it is also currently in the process of being upgraded visually. Blog content is shared via Facebook and that way the website has more visitors.

EWoB student association often uses digital technologies to bring the goals, mission, and vision closer to students and the environment in which they operate. They promote organized projects and other activities of members of the association and in that way, they encourage students to become involved in the work of the association and to attend events organized by the association. 90% of promotional activities is done via Facebook and Instagram social networks. AIESEC, Bookmark, Erudio, Financijski impuls and EWoB student associations are completely satisfied with the selected channels of the digital technology, and especially with the Facebook social network on which they record the highest interactivity and recognisability. EWoB student association emphasizes the reasons for satisfaction and intensive use of social networks for advertising: low costs, simple and fast advertising, simultaneously reaching a large number of social network users, but also the ability to precisely target the desired groups, facilitating connection with other users, creating a personalized profile, the ability to track statistics, and the like.

AIESEC association plans to improve, i.e. target paid ads to a group of 18 – 30-year-olds on Facebook. They plan to activate more on LinkedIn considering they only had 1 post in 2017. Since all digital channels serve primarily to promote student practices, and since they have merged all local board Facebook pages into one AIESEC Croatia page, there has been less reaching for Osijek-Baranja County posts.

Bookmark student association and Erudio student association do not plan to make changes to the selection and frequency of activity on on-line platforms based on previous experience. Bookmark student association states that the frequency of announcements depends on the schedule of events, and when events are currently the announcements of activities are more frequent. In the period when there are no events organized, activities on social networks are regular and with weekly posts, they retain the existing audience but attract new visitors with interesting content. In addition to their posts, they publish, i.e. share interesting announcements of the Student Council, the library of the Faculty of Economics in Osijek and others in support of their work. EWoB student association does not plan to change anything when it comes to their choice of internet platforms. They are actively working to increase the number of announcements, especially when the projects are being carried out, and to increase their reach. Under that, they are considering using paid ads, which they will do if their budget allows them when they need to be paid ads.

4.2 Quantitative research

The goal of the research was to identify and evaluate the influence of student organizations on students' population, their engagement in projects they implement, how student associations promote active participation and behavior that leads to increasing membership. According to that, the research was conducted on a sample of 577 students. The research included all the years of study, as well as all the courses at the examined faculty. The sample of 577 students is representative, and it represents 27% of the currently active students at the examined faculty in total. The description of the sample regarding the observed socio-demographic information of the study participants is shown in Table 2.

Table 2. Sample description

		N	%
Gender	Female	379	65,7
	Male	198	34,4
Place of residence	Osijek-Baranja County	323	56,0
	Vukovar-Srijem County	92	15,9
	Brod-Posavina County	47	8,1
	Požega-Slavonia County	49	8,5
	Virovitica-Podravina County	37	6,4
	Others counties	29	5,0
Year of study	1st	159	27,6
	2nd	118	20,5
	3rd	128	22,2
	4th	53	9,2
	5th	119	20,6
Course	General course	157	27,2
	Economic policy and regional development	8	1,4
	Financial Management	127	22,0
	Marketing	78	13,5
	Management	104	18,0
	Entrepreneurship	56	9,7
	Business Informatics	28	4,9
	Entrepreneurial Management and Entrepreneurship	11	1,9
	Trade and logistics	8	1,4

Source: Authors' work

The data was collected through an online survey method through a questionnaire in which the respondents were informed about the topic and purpose of the research. As previously stated, the research was conducted to identify the attitudes of the student population, as well as their assessment of the quality and application of digital technologies in the work of student associations.

The first part of the questionnaire addressed the socio-demographic characteristics of the respondents. The second part of the questionnaire was to find out how well students are familiar with student associations, how they evaluate the quality of their work and activities, and how they evaluate the quality of their presence on online platforms. In the last part of the questionnaire, the respondents graded in which way the student associations motivate them to participate in their activities. Each scale used in the questionnaire was created concerning the five-step Likert scale of the measurement scale, where respondents were able to express the grade and quality with the individual statement in the questionnaire.

The research results were obtained using the statistical package SPSS 18.0. Descriptive statistics, correlation analysis and analysis of variance (ANOVA) were used for data analysis.

5. RESEARCH RESULTS

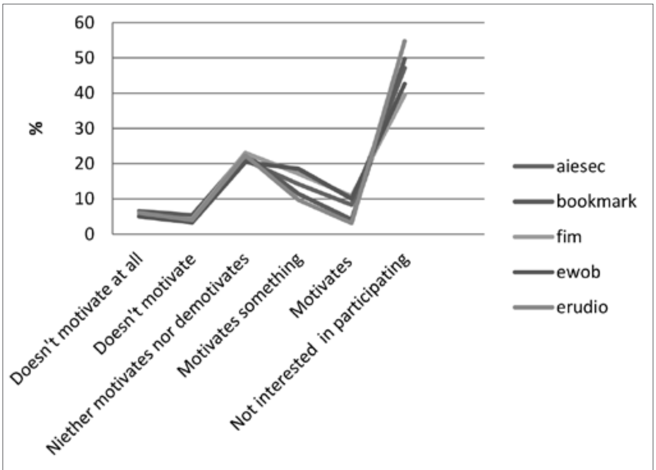
When asked if they are members of a particular student association, 86,3% of the respondents are not members of any student associations, while other respondents are divided into similar percentages (Financijski impuls 5,9%, EWOB 2,5%, Bookmark 1%, Erudio 0,9 %, etc.). Considering that this is a large percentage of respondents who are not members of any student association, a profile of respondents was created showing the characteristics of a person who is not interested in membership in student associations. It is a female person who comes from Osijek-Baranja County, is in her first study year, and is enrolled in a general course. On the other hand, if we look at 10,7% of the respondents who are members of a student association, it can be said that this is a profile of a female person from Osijek-Baranja County who is studying in the last study year and is in the field of financial management. The remaining 3% of respondents did not answer the question of whether or not they are a member of a student association. Can it be concluded that the largest number of respondents who are not members of any student association comes from the first study year since they have just entered the higher education system and are not familiar with all the activities at the faculty?

Using cross-tabulates in analysis, the results showed that 86,1% of the respondents were not members of any student associations unless they were taken into the first year of study. In this case, the profile of a person who is not a member of the student associations is a female person coming from Osijek-Baranja County, second and third study year, majoring in Financial Management or Management. Financijski impuls student association satisfies the student population the most with its work and activities (30,5%), followed by EWOB (30%) and AIESEC (28,9%). On the other hand, the respondents are least familiar with, or not even familiar with, the work of the student organizations ERUDIO (62%) and Bookmark (54,8%).

Almost 66,1% of the respondents stated that it is extremely important for them that student associations are present on online platforms, and 54,4% consider that it is important that the student association has its website. Given the previous results, it is expected that students are known, and are aware of the AIESEC student association website (33,8%) and Financijski impuls student association website (32,8%). It is very discouraging that most respondents do not know that student associations have their websites (from 64% at AIESEC student association to 84,7% at ERUDIO).

The question arises, are student associations active in advertising and promoting their activities and do they use the benefits of digital marketing sufficiently? Namely, the respondents emphasized that student associations most often motivate them through on-line calls to action (volunteering, become a member, donate, etc.) and through the publication of attractive content on online platforms and various benefits. But, if one looks at the motivation of individual student associations, one can see that respondents have a similar opinion for all student associations and are generally not interested in participating in student associations (Graph 1). The result is not surprising given previous results which showed that 86,3% of the respondents are not members of any student associations and that more than half of the respondents are not at all familiar with the work of student associations and do not know that they have/do not have their websites.

Graph 1. The motivation of student associations to participate in their activities



Source: Authors' work

More than half of the respondents do not follow the activities of student associations on on-line platforms (from 59.4% of respondents to the AIESEC student association to 80.2% at ERUDIO). The rest of the followers mostly join over Facebook, and follow student associations Financijski impuls (47%), EWOB (38,3%) and AIESEC (37,8%) the most, while Bookmark (25,6%) and ERUDIO (16,3%) have the least followers. Only 22.7% of respondents believe (which is the highest percentage among student organizations) that the Financijski impuls has very good or excellent useful content on on-line platforms, while most respondents do not follow student associations on on-line platforms at all and cannot rate the usefulness of the content. Does the question arise how much satisfaction with the overall work and activities of the student association influences students' motivation to participate in the work of a student association? The correlation analysis shows that for the majority of the respondents it is true that the more satisfied they are with the overall work and activities of the student associations that will further motivate them to participate in the activities of the student association. The stated can be seen in the following table.

Table 3. Analysis of the correlation between student work satisfaction and their motivation to participate in activities

	r	p
AIESEC	,552**	,000
Bookmark	,476**	,000
Financijski impuls	,519**	,000
EWOB	,501**	,000
ERUDIO	,459**	,000

**Correlation is significant at the 0.01 level (2-tailed)

On the other hand, the question arises to what extent the usefulness of the content of student associations on on-line platforms influences the motivation of student associations to participate in their activities? The correlation analysis shows that the higher the usefulness of the content of student associations on on-line platforms is, the more it influences the motivation of the student population to participate in the activities of student associations. The stated can be seen in the following table.

Table 4. Analysis of the correlation between the usefulness of the content and motivation to participate in student association activities

	r	p
AIESEC	,405**	,000
Bookmark	,477**	,000
Financijski impuls	,494**	,000
EWOB	,448**	,000
ERUDIO	,540**	,000

**Correlation is significant at the 0.01 level (2-tailed)

6. CONCLUSION

A review of the literature has revealed that there are no more prominent studies so far addressing the on-line presence of student associations and the effects it has on their work. The analysis showed that the selected student associations generally have established basic online channels of communication, but they use them with different intensity and place different emphasis on the importance of individual platforms. As expected, few opt for paid forms of promotion, but they try to make up for it with an increased number of posts and updated content. Most associations have plans to intensify the use of their online channels in the coming period. The research showed that out of a total of 577 respondents, only 13% (79) were members of student associations and the other 87% (498) were not members of student associations. Research on the knowledge of student associations shows an indifference to the efforts of associations to motivate them to participate in their activities. Student associations have been active for only a few years, and they focus their marketing efforts to promote, motivate and engage the student population in their activities. Respondents who showed interest were motivated by the EWoB and Financijski impuls student associations. Based on the results of the primary survey, satisfaction with the overall work and activities of student associations can be measured by an average grade from respondents who are familiar with the work of student associations. The average rating of the EWoB student association is 3.42 (highest grade), followed by Financijski impuls 3.4, AIESEC 3.3, Bookmark 3.0 and Erudio 3.0. The results also show the periodic use of digital technology that respondents rated as of good quality, but not motivating enough in some segments. It is important to the respondents that student associations are present on online platforms, and in terms of following, Facebook is the dominant social network. Publishing attractive content has proven to be the most effective animation strategy for the student population. The presence of student associations on on-line platforms, although highly rated, is dependent on their effective management and on-going management. The seasonal character of content posting and implementation of activities is proving to be a decisive factor in influencing poor response to participation in the work of associations. Recommendations for improving the work on these challenges should go in the direction of intensifying activities throughout the academic year, thus facilitating the student population to gain a better understanding of the work of the associations themselves and, consequently, to choose to participate actively in their activities.

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REBRANDING – A CRITERIA-BASED ANALYSIS AND COMPARISON OF THE REBRANDING STRATEGIES OF THE FASHION HERITAGE BRANDS BURBERRY AND J.CREW

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Abstract

Rebranding an established brand is a risky strategic move that companies consider with great thoughtfulness. Besides changing the name of the brand, it also includes a repositioning of the brand image. This article provides a comprehensive understanding of the rebranding process and its key components and activities. Various rebranding process frameworks are analyzed and a criteria-based framework to analyze the rebranding process is developed. The rebranding-criteria are applied to the case studies of Burberry and J.Crew in order to identify components for a positive rebranding outcome. The findings of this case-study analysis show a consistent and coherent execution of the 4

P's and 4 C's is essential. In addition, factors such as adequate target market research, strong rebranding leadership, the commitment of managers, and internal branding for employees impact the rebranding outcome as well.

Keywords: *rebranding, strategy, Burberry, J.Crew*

JEL Classification: M31, M39

1. INTRODUCTION

Although rebranding is fairly common in Marketing practice, it remains an under-researched topic in the academic field (Daly and Moloney, 2004).

Rebranding is usually a response to the business environment (Muzellec and Lambkin, 2006) triggered by changes in consumer tastes and habits or increased competition (Keller, 2003). On the one hand, rebranding is the modification of the brand name which serves as a key foundation of brand associations for its consumers (Farhana, 2012). Changing it has major consequences, for instance on the brand image or brand value (Muzellec and Lambkin, 2006). On the other hand, rebranding is more than just changing the brand name since it usually includes repositioning the brand image (Muzellec et al., 2003; Zahid and Raja, 2014). Although the rebranding process is supposed to create value and produce successful results, it is still a risky strategic move and must, therefore, be approached with great thoughtfulness (Muzellec and Lambkin, 2006; Tevi and Otubanjo, 2013).

The goal of this article is to provide a comprehensive understanding of a rebranding process with its key components. Two rebranding cases – J.Crew and Burberry – will be evaluated on the basis of a defined criteria catalog.

2. THEORETICAL PART

The following subchapters contain the definition of the term rebranding and the theory on the rebranding process. Furthermore, a closer look at the term positioning and its key components is taken as it is considered a key element of rebranding.

2.1. Rebranding

In the following subchapter, the term rebranding is defined, and rebranding processes are analyzed.

2.1.1. Definition of Rebranding

Rebranding refers to the process of formulating a new corporate brand, differing from the initial one. This may include aspects such as repositioning, reinvention or refreshment of a brand with the goal to improve the efficiency of the organization and to further build on the equity of a certain brand (Miller et al., 2014).

The authors Muzellec et al. (2003) argue that a corporate brand consists of two key dimensions which are the external and the internal perception of a brand. The external perception refers to the image of the brand, whereas the internal perception refers to how the company sees itself, meaning its brand identity. Hence, rebranding aims to alter the image or to signalize a change in their corporate identity. It can be defined as "the practice of building a new name representative of a differentiated position in the mind frame of stakeholders and a distinctive identity from competitors" (Muzellec et al., 2003, p. 32). Rebranding is usually caused by environmental changes. Hence, Tevi and Otubanjo see "corporate rebranding [as a] continuing process whereby an organization responds to the dynamics in its business environment by changing its self-identity in order to survive and thrive" (2013, p. 92). Drivers for rebranding can be external factors, such as competition or changes in the market, or internal factors, such as changes within the organization and strategy.

2.1.2. Rebranding Processes

Various frameworks for the rebranding process exist but the frameworks of Muzellec et al. (2003), Muzellec and Lambkin (2006), Daly and Moloney (2004), Tevi and Otubanjo (2013) and Miller et al. (2014) are the most widely discussed ones.

Firstly, the rebranding framework introduced by Muzellec et al. (2003) is seen as a major contribution to rebranding research (Tevi and Otubanjo, 2013).

The process is short and consists of four main steps, which are (1) Repositioning, (2) Renaming, (3) Redesign, and (4) Relaunch.

In the repositioning phase, the company decides to create a new positioning in the mind of different stakeholders such as customers or competitors. In the renaming stage, changes in the brand name are decided. Redesign refers to all the variations of brand elements such as name, logo, slogan, and others. The final phase, namely the relaunch phase, is where the company introduces the new brand to internal as well as external stakeholders (Muzellec et al., 2003). In 2006, Muzellec and Lambkin (2006) have updated this framework and have added to the process steps (1) rebranding factors, (2) rebranding goals and (3) rebranding process (employees/culture, internalization/externalization, stakeholder's images).

Secondly, Daly and Moloney's (2004) framework was developed shortly after the launch of the rebranding mix by Muzellec et al. (2003). This framework contains three steps:

1. Analysis (conduction of situation analysis such as market analysis and opportunity identification)
2. Planning (identification of target audience; creation of a rebranding marketing plan and a communication strategy for internal customers)
3. Evaluation (evaluation of all campaigns, during all stages until completion)

In comparison to Muzellec et al. (2003), the Daly and Moloney (2004) framework include a situation analysis with factors such as market size, market preferences, competitor strengths, and weaknesses. These should help in identifying the main triggers for rebranding. Furthermore, they have included the "identification of the target audience" as a part of the planning phase.

Thirdly, the framework of Tevi and Otubanjo (2013) plays a major role in the rebranding literature. It is based on the framework of Muzellec et al. (2003), i.e. the four steps named by Muzellec et al. (2003) are identical in the Tevi and Otubanjo (2013) work. However, similar to Daly and Moloney (2004), the authors see the need for analyzing the external environment by scanning, forecasting and predicting the impact of it for the company's survival.

Fourthly, the framework of Miller et al. (2014) contains three steps:

1. In a pre-phase of the rebranding process, the triggers of rebranding are to be analyzed. They are proactive and reactive or urgent and non-urgent triggers
2. In phase one, called brand re-vision, the company's goal is to develop a certain understanding of the current brand to be able to redefine it. During this phase, qualitative and quantitative research is conducted to understand the market environment and the perception of the brand by different stakeholders such as employees, managers or customers. This shows similarities to the rebranding approach of Daly and Moloney (2003), i.e. the situation analysis.
3. The second phase focuses on the stakeholder buy-in and on internal branding. For a positive rebranding outcome, stakeholders need to be involved and coordinated appropriately.
4. In the final phase three, Miller et al. (2014) suggest the implementation of the new strategy accompanied by an integrated marketing program and the controlling of the outcomes of the process. While Muzellec et al. (2003; 2006) and Tevi and Otubanjo (2013) have not included an implementation step in their framework, Daly and Moloney (2004) have.

Fifthly, the most recent and last rebranding framework by Frederiksen (2019) includes a total of seven steps. All the seven steps appear in the before discussed frameworks in a similar way. One important aspect not mentioned in none of the first four frameworks is the importance of a proper and online presence.

2.2. Positioning

The following subchapter focuses on positioning, its definition and the four Cs to successful positioning.

2.2.1. Definition of Positioning

Repositioning is seen as "a key element in the rebranding exercise" (Muzellec et al., 2003, p. 805). Janiszewska and Insch (2012) describe positioning as a method that is used by companies to influence what customers envision, i.e., consumers' emotions and thoughts about the brand in contrast to the competition. Kotler and Keller (2009) explain brand positioning as an "act of designing the company's offering and image to occupy a distinctive place in the minds of the target markets" (p. 308). Positioning is usually embedded into a three-step process, the STP process which consists of segmentation, targeting and positioning (Jobber and Ellis- Chadwick, 2013). In the first step of the segmentation process, namely segmentation, a company puts customers with similar needs and buying behavior into distinguished groups. In the following step, targeting, companies decide which of the identified segments they want to address. The final step is positioning. It describes where a company wants to compete, meaning, how they aim to compete, and with what kind of differential advantage (Jobber and Ellis- Chadwick, 2013).

2.2.2. The 4 Cs to successful positioning

Positive positioning is achieved when consumers have favorable associations in their mind when thinking about a certain product or service. For example, the mobile phone company Samsung has created positive associations since consumers refer to their mobile phones as high-technology, fashionable and reliable. (Jobber and Ellis-Chadwick, 2013). As a result, successful positioning leads to a distinguished brand image (Blankson, 2016). According to Jobber and Ellis-Chadwick (2013), there are four key factors that help create a distinguished brand image and therefore a strong positioning (Jobber and Ellis-Chadwick, 2013):

1. **Clarity**
   A clear and authentic message that promotes transparency is meant with clarity (Verde-Nieto, 2009). The positioning ideas that are chosen must be clear regarding the target market as well as the differential advantage in comparison to the competitors in the market. Consumers are more likely to remember simple positioning statements rather than complicated ones.
2. **Consistency**
   As consumers are faced with an overload of information every day, consistency in the message a company delivers is crucial. Using the same message strategy in all the marketing communication activities such as web sites, brochures, etc. is key (Abinanti, 2013).
3. **Credibility**
   Credibility is the third equally important factor for successful position-

ing. When a company aims to achieve a certain differential advantage over its competitors, it needs to reassure that this advantage is credible in the mind of the consumer. Hence, the brand needs to be authentic and keep its promises (Bahr-Thompson, 2003).

4. **Competitiveness**
   Competitiveness as the final criterion, emphasizes that the differential advantage a company owns should deliver a certain and distinctive value which the competition does not provide.

When repositioning is considered, all the pre-existing attitudes that are present in consumers' minds need to be considered (Zhang et al., 2016). However, when repositioning is executed, it is key, to keep it simple, obvious and not complicated nor confusing (Trout and Rivkin, 2009).

3. PRACTICAL PART

The upcoming chapters deal with the practical part of the bachelor thesis, in which the chosen methodology is explained and the case studies will be described, analyzed and evaluated.

3.1. Methodology

This article has chosen a qualitative research method, i.e. case study analysis. Case studies have been widely used in different research fields such as law, business, and policy (Crowe et al., 2011). As an explorative research method, case study analysis helps to find out why and how certain actions occur (Gomm et al., 2000). This was exactly the goal in this study, i.e. to identify the steps of the rebranding process and how they are being designed.

In order to find suitable case studies, an intensive literature review was conducted. As a result of this, two case studies were finally selected, Burberry and J.Crew. The two case studies were selected due to three reasons: Firstly, the chosen companies required to obtain a certain heritage, as the initial goal was to compare two heritage companies. Secondly, in order to achieve a significant distinction between the two executed rebranding processes, the case studies needed to have different outcomes, i.e., a rather positive and a rather negative one. Thirdly, there needed to be enough publicly available data on the rebranding processes of the respective companies.

3.2. Case Studies

In the following chapter, the two chosen companies namely Burberry and J.Crew are introduced. Furthermore, the case studies will be analyzed in detail based on the criteria catalog. In the end, a comparison of the two rebranding processes will be concluded.

3.2.1. Company introduction

The following chapter will give a brief description of the two analyzed companies and their current situation.

3.2.1.1. *Burberry*

In 1856, Burberry Group Plc., from now on referred to as Burberry, was founded by the then 21-year old Thomas Burberry. He invented a fabric called gabardine that is both breathable and weatherproof. The signature of Burberry is still today the trench coat out of gabardine fabric which was also used as the official coat for the British Army in World War I. With over 163 years of distinctive British heritage, Burberry is one of the largest luxury fashion houses. The company has it's headquartered in London, England, and employs more than 10.000 employees around the world (Burberry Group Plc., 2019).

Today Burberry is a successful luxury fashion house with revenues of £2,720 million in 2019 (Burberry Group Plc, 2019). However, the company faced severe issues in the past. The brand image of Burberry was fading due to an inconsistent global brand strategy executed at that time. The store experiences of Burberry were not unified due to the various licensing concepts (Jarosinski and Cotte, 2014). Furthermore, the quality was deteriorating (Moon et al., 2004). In the year 2006, Angela Ahrendts stepped in as CEO, replacing Rose Marie Bravo who had executed a rebranding process before. Ahrendts' goal was to focus on a younger target segment and to reposition and rejuvenate the faded brand.

3.2.1.2. *J.Crew*

In 1947, the company Popular Merchandise, Inc. was founded by Mitchel Cinder and Saul Charles. The brand focused on selling affordable apparel to women through in-home demonstration. In the 80s, it started as a catalog business focusing on leisurewear targeted towards upper-middle-class customers with an affordable Ralph Lauren look. The brand renamed in 1983 to J.Crew and the first store was opened in downtown Manhattan (Grant, 1996).

Nowadays, J.Crew Group Inc., from now on referred to as J.Crew, operates as an apparel (women, men, and children) and accessories retailer. J.Crew employs approximately 13.200 employees and has its headquarters in New York, USA (America's Largest Private Companies List, 2019). It achieved revenues of 1,780 million US dollars in 2018, decreasing constantly from 2,213 million US dollars in 2014 (O'Connell, 2019).

Once J.Crew used to influence the way how Americans dressed, but today J.Crew is struggling (Rothman, 2017). Due to a number of changes in ownership in the past, the company faced a high burden of debt (Guy, 2019). In addition, the brand lacked a clear strategic focus and changes in technology on E-Commerce were underestimated (Safdar, 2017), As a result, a rebranding process was executed to win back the trust of their core target customer group and achieve a positive outcome in brand image.

3.3. Criteria Catalogue

For the evaluation of the case studies of Burberry and J.Crew, a distinctive criteria catalog was created. The main three dimensions of the catalog are Brand, Positioning, and Rebranding.

3.3.1. Criteria Catalogue description

For the analysis of the two case studies of Burberry and J.Crew, a criteria catalog was developed. It contains the following dimensions with the respective underlying criteria:

1. **Brand** (based on Urde et al., 2007; Išoraitė, 2016)
    a. Corporate heritage
    b. Four Ps (Product, Price, Placement, and Promotion)

    c. The digital presence of the company

2. **Positioning** (based on Jobber and Ellis-Chadwick, 2013; Verde-Nieto, 2009)
    a. Clarity
    b. Competitiveness
    c. Credibility and consistency
3. **Rebranding** (based on Miller et al., 2014)
    a. Strong rebranding leadership
    b. Adequate target market consideration
    c. Adequate research
    d. Internal rebranding activities

Brand

Under the dimension brand, the corporate heritage is evaluated, i.e. how the heritage of the company is reflected in its brand image. A so-called "heritage brand" has a positioning strategy and a value proposition that is grounded on its heritage. In this respect, it is important to distinguish heritage and history. History reflects the past of a company, whereas heritage focuses on using the past and making it a relevant component for the current and future purposes of a brand (Urde et al., 2007).

The next criteria in the brand dimension are the four Ps of the marketing mix namely product, price, promotion, and placement (Išoraitė, 2016).

- The product that is sold by an organization can either be a good or service. Consumers are searching for a product that fulfills their needs and delivers a certain benefit at a certain price. Therefore, a consumer never pays for the product itself but for the benefit, it will deliver.
- Price is defined as the amount of money a company charges for the product or service it offers. While setting the price strategy, different aspects such as cost, consumers' willingness to pay and the prices charged by competitors need to be taken into consideration
- The third P stands for Place, where a company needs to make the products available for the consumer. Therefore, decisions on how and through which channels of distribution, the company will make the products available need to be made. Possibilities are inter alia own stores, retailers, outlets and, e-commerce

- Finally, promotion fulfills the function of informing and influencing the customer to consider a certain product as its preferred one. Key goals of communications are to increase the awareness level for a brand, strengthen its brand image and increase sales.

In addition, the digital presence of a fashion company plays a major role in its brand image. Social media marketing, E-mail marketing or Web search marketing are just some examples to name. This criterion will evaluate to which extend the organization is present online and how much its online strategy was part of the executed rebranding strategy. A strong focus is placed on the social media activity on platforms such as Facebook, Instagram or Twitter. Moreover, the corporate website and online reviews will be analyzed as well.

Positioning

The second-dimension positioning consists of four main criteria that are used to build a successful positioning: Clarity, credibility, consistency, and competitiveness. These four criteria have been already described before in chapter 2.2.2.

Rebranding

Rebranding is the last dimension in the criteria catalog. The first criterion strong rebranding leadership evaluates the level of experience as well as the commitment of leaders in the rebranding process. Success in a rebranding process is dependent on the number of years leaders have practiced in corporate branding and their level of commitment (Miller et al., 2014).

High importance is placed on the criterion adequate target market consideration in the rebranding process. Customers' needs and preferences are essential for the survival of a brand. The level of consideration of their preferences influences the rebranding outcome and will be evaluated in this step (Miller et al., 2014).

The criterion adequate research evaluates the level of marketing research conducted by the company to properly execute the rebranding process. Insufficient marketing research can lead to strategically wrong decision making and therefore results in inferior profitability and failure of the rebranding strategy (Miller et al., 2014).

The last criterion is the dimension of rebranding evaluates the number of internal rebranding activities that were carried out to introduce the new rebranding concept and to gain the support of internal stakeholders. The more knowledge and identification with the newly defined brand within the company is achieved, the better the rebranding outcome (Miller et al., 2014).

In the following, the previous findings are addressed by operationalizing the criteria as shown in Figure 1.

Figure 1: Operationalisation of the criteria catalog

Dimension	Criteria	1 Star	2 Stars	3 Stars
Brand	Company's heritage	The company does not use its heritage as part of its brand	The company does use its heritage only to some degree as part of its brand	The company heritage is a significant part of its brand
Brand	Product and Price	Products don't match customers' needs and are not target adequate	Products somewhat match customers' needs and are not target adequate	Products fully fulfill customers' needs and are target adequate
Brand	Place	Only one channel	One to two channels	More than three channels
Brand	Promotion	Promotion strategy is not in line with the overall strategy executed	Promotion strategy is somewhat in line with the overall strategy executed	Promotion strategy is a significant part of the overall strategy executed
Brand	Digital Presence of the Company	Digital presence was not a main part of the rebranding strategy	Digital presence was somewhat a part of the rebranding strategy	Digital presence (through multiple channels) represented a significant part of rebranding strategy
Positioning	Clarity	The positioning statement is not clear	The positioning statement is not clear	The positioning statement is clear
Positioning	Credibility and Consistency	No consistency and credibility is given	Some degree of consistency and credibility is given	High level of consistency and credibility is given
Positioning	Competitiveness	The competitive advantage is not clear/ not distinctive enough	The competitive advantage is clear but not consistently communicated	The competitive advantage is distinctive and communicated clear and on a consistent level
Rebranding	Strong Rebranding	Low level of experience (10 years)	Medium level of experience (10-15 years	High level of experience (> 20 years in
Rebranding	Adequate Target Market Consideration	No target market consideration	Only current target market consideration or Only future target market consideration	Proper target market consideration (future and core-target customer)
Rebranding	Adequate Research	No marketing research was conducted at all	Marketing research was executed and contributed to the strategy	Marketing research was executed properly and contributed significantly to the strategy
Rebranding	Internal Rebranding activities	No activities at all	1-2 activities	More than two activities

3.3.2. Case Study evaluation Burberry

Corporate Heritage

Although Burberry owned a very significant historical core, the company had lost its focus throughout the process of global expansion. Burberry was rich in history and its iconic trench coat was well known. Hence, the company made it the main focus of its new strategy. This reinforced the heritage and Britishness while at the same time emphasizing and reinventing its core luxury products (Ahrendts, 2013). Therefore, it can be concluded that Burberry's heritage is a significant part of their brand and receives three stars for this criterion.

Product and Price

"Great global brands do not have people all over the world designing and producing all kinds of stuff" (Ahrendts, 2013). Burberry had a licensing model which was consisting of 23 independently operating licensees. As every licensee created and produced their own designs, inconsistencies in design and brand were present. Therefore, in order to emphasize and support the new positioning of Burberry – which strongly related to its core, it's British heritage – production and design were centralized in the United Kingdom with one head of design (Elberse, 2015; Ahrendts, 2013). Furthermore, the organization was structured into women, men, and children apparel, accessories and the beauty category (Elberse, 2015). As the goal was to turn Burberry into a luxury brand, adjustments in price were necessary to symbolize the value of the brand. Therefore, prices were raised (Elberse, 2015; Moon et al., 2004) and were consistent with the new positioning of Burberry as a "functional luxury brand" (Aaker, 2014). It can be concluded that the products of Burberry fulfill the consumers' needs and are offered to a price they are willing to pay. Hence, this criterion receives three stars.

Place

The retail presence was strengthened by opening a store in every city where Burberry's key competitors were located. In total, over 132 new stores were opened at that time in order to reach the target group and be able to compete (Ahrendts, 2013). The stores largely contributed to the new brand image due to their iconic design. Hence, the company receives three stars for the criterion.

Promotion

Burberry's Britishness is also reflected in its communication strategy. Ahrendts noted: "The models we use, the music we play, all the design and marketing should reinforce our British heritage" (Elberse, 2015, p. 4). Back in 1998, the British Model Stella Tenant who happened to be a British aristocrat appeared in an advertising campaign shot by Mario Testino (Moon et al., 2004). Ahrendts went on with this tradition and made cool and trendy British models as the main part of their advertising campaigns. For example, the autumn/winter campaign in 2014 was starring British models Cara Delevingne and Suki Waterhouse (Griggs, 2014). It can be concluded that the communication strategy represents a significant part of the overall strategy. Another three stars are awarded to Burberry.

Digital Presence of the Company

At the beginning of the rebranding process, multiple Burberry websites from different regions were online. These platforms were replaced by one consistent webpage presenting the Burberry brand image (Ahrendts, 2013). By focusing on the digital world, Burberry differentiated itself from competitors, and furthermore, were reaching their target group of millennials more appropriately (Elberse, 2015). To attract and inspire the millennial target group emotive content such as music, heritage or storytelling was used on their website and on social media. Burberry was spending more than 60% of its marketing budget on digital channels (Baker, 2011). This enabled them to become one of the most followed fashion companies on social media. Hence, it can be concluded that the Burberry brand has a strong digital presence which represents a major part of their rebranding strategy. This results in a three-star evaluation for this criterion.

Clarity

Burberry's positioning statement is authentic, clear and unambiguous. The positioning as a British company with a strong heritage communicated through the usage of the iconic trench coat shows a flawless focus (Burberry Group Plc., 2019). Three stars are given for the clarity of the positioning statement of Burberry.

Credibility and Consistency

To reinstall consistency for the brand and to reinforce a credible luxury brand image, refocusing the design department on a consistent appearance and the relocation of the production to the UK to underline the "Britishness" of the brand was essential. Furthermore, the products were sold for higher prices to symbolize the value of the brand (Ahrendts, 2013). Hence, the criterion receives three stars.

Competitiveness

Burberry owns valuable heritage, but other fashion companies do so as well such as Barbour and Stuarts London (Fried, 2018). However, Burberry has had one major advantage over the competition: it recognized the importance of the digital world and, most significantly, integrated it into its repositioning concept. The brand, the company's culture, and its values had to be reflected in the digital world (Elberse, 2015). To achieve that, Burberry, decided to have its own media production instead of out-sourcing it. Photography, creation of videography and music for events and commercials were all created internally. At that time, this was a huge advantage over the competition as most of its competitors in the fashion industry were working with agencies to create their advertisement content. Competitors still value traditional marketing, such as print marketing in Magazines while Burberry had already gained a strong digital mind-set (Elberse, 2015; Burberry Group Plc., 2016). Therefore, it can be concluded, that the company has a distinctive competitive advantage and receives three stars.

Strong Rebranding Leadership

When Angela Ahrendts joined the company in 2006, the Burberry strategy was redefined under her leadership. She was known for her life experience of over 20 years in the fashion industry working for companies such as Donna Karan. Furthermore, the creative director of Burberry, Christopher Bailey had worked previously with Ahrendts which helped them to create a very strong partnership throughout the rebranding process (Elberse, 2015). It can be concluded that strong rebranding leadership existed in the Burberry case. Hence, three stars are given for this criterion.

Adequate Target Market Consideration

Burberry's marketing efforts were directed towards the luxury customer of the future in the millennials group aged between 18 and 30 years (Ahrendts, 2013). Millennials are considered to be very brand loyal, they value traditional shopping and enjoy personal contact with sales assistants and they are known to be modern, but at the same time rooted with an appreciation for traditional brands (Deloitte, 2017). Burberry adopted its concept in many respects to the new target group. The website and their general digital media presentation were designed to attract the young millennials. For example, the website "Art of the trench" was created where users can share their personal pictures wearing a Burberry trench coat – the goal was to make their customers part of their advertising (Elberse, 2015). Furthermore, the company was rich in young talents as most of the employees of Burberry were under 30 and represented their target group (Elberse, 2015; Ahrendts, 2013). Therefore, three stars are awarded.

Adequate Research

Once Ahrendts and her team had an idea of the strategy they wanted to apply for Burberry, they hired a consulting firm to conduct a competitor benchmarking process. Various insights were generated. One essential was that many of their competitors had stores across the world, but Burberry was far behind. (Ahrendts, 2013; Elberse, 2015). Therefore, it can be concluded, that marketing research contributed significantly to the strategy formulation and execution of the rebranding process. Hence, this criterion receives three stars.

Internal Rebranding

Ahrendts placed high importance on the company's employees. The majority of them were under 30 years old, which means they represented exactly the target group of people Burberry wanted to reach with their new strategy (Ahrendts, 2013; Elberse, 2015). In order to show support for their employees and emphasize how much their contribution was valued, Ahrendts and Christopher Bailey introduced a program called "strategic innovation council". This program invited employees to share their ideas and visions. Another measure introduced by Ahrendts for employees to participate in the new strategy execution of Burberry was the so-called "Icon Award". An individual employee or a team of people, who delivered remarkable and distinctive work, were rewarded (Jarosinski and Cotte, 2014).

Furthermore, sales assistants were given proper sales training where they learned how to shift their focus on selling trench coats as a valuable investment for the customer (Ahrendts, 2013). Additionally, they were provided with an iPad that was connected to a system that gave the sales assistant enough information about the customers, e.g., what they like, what they have purchased before and what they potentially intend to buy (Elberse, 2015). To summarize, high importance was placed on Internal branding, therefore, this criterion receives three stars as multiple actions have been executed.

3.3.3. Case Study evaluation of J. Crew

Back in 2003 when J.Crew was struggling, Mickey Drexler joined the company and became the new CEO (Holson, 2015). Through his leadership, the company enjoyed major successes in the following years. However, the company was hit by the financial crisis in 2008 and additionally, Mickey Drexler made some major strategic mistakes, such as building J.Crew into a high prestige brand. In 2017 Jim (James) Brett replaced Mickey Drexler as the new CEO (Howland, 2017). His job was to create a recovery strategy for J.Crew as they were loaded with high debt. Throughout this evaluation, both CEOs' strategic decisions throughout the rebranding process will be discussed.

Corporate Heritage

J.Crew is known to be an iconic American brand. Traditionally, J.Crew was recognized as a brand that delivered a certain Ralph Lauren look at a more affordable price point (Grant, 1996; Roberto, 2013). However, with Drexler becoming CEO, his goal was to transform J.Crew into a more upgraded brand (Louvar, 2015; Ewen, 2017) moving away from the traditional "preppy" target segment. His successor, Brett again repositioned the brand and tried to transform J.Crew in a more modern brand compared to the classical American look they used to present (Guy, 2019). These alterations show that the heritage of the brand did not play a significant role in the branding process. Hence, only one star is given.

Product and Price

J.Crew's products used to stand for good quality. At the beginning of Drexler's employment at J.Crew, he and Jenna Lyons, Chief creative designer (CCO), had the goal to create a cult brand founded on the products' high quality. This strategy was visible in the product launched but also in their prices (Sacks, 2013; Colman, 2013). In 2008 Lyons created a very exclusive collection presenting skirts and sweaters worth between $800 to $1.900. Even though this collection represented only a small part of the merchandise distributed by J.Crew, it increased the perception of J.Crew being a high-priced quality fashion company. What J.Crew did not realize were the changes in consumers' behavior that were happening at that time. Due to the post effects of the financial crisis, consumers became more price-conscious and were looking for affordable deals. By promoting an $800 skirt, J.Crew was not meeting the needs of its core customer.

Besides that, the pricing strategy had another fundamental issue: inconsistency. On one hand, J.Crew tried to become upscale and launched products with high prices and quality. On the other hand, they were offering unreasonable discounts and promotions with up to -50% price reduction (Banjo, 2017). This was causing confusion for the consumer and resulting in lower brand value (Ewen, 2017; J.Crew Group Inc., 2019). Then CEO Jim Brett tried to dampen the differences in the pricing strategy by promoting the Mercantile brand as a more affordable option towards the J.Crew core brand (Brett, 2018). However, as he left the company shortly after entering, he was not able to continue with his planned strategy.

It can be summarized, that the products and prices offered by J.Crew did not fully match the needs of their customers; therefore, this criterion will receive only one star.

Placement

J.Crew focuses mainly on physical stores and on E-commerce as their key channels. Cooperations with department stores and specialty retailers are also a part of their distribution strategy (J.Crew Group Inc., 2019). Due to the high number of distribution channels and the high availability, J.Crew earns three stars for this criterion.

Promotion

During the leadership of Drexler, J.Crew collaborated with different endorses inter alia Michelle Obama to promote their vision as a high fashion brand (Caramanica, 2017). Their digital marketing strategy includes different social media channels such as Instagram, Facebook, Twitter, YouTube and Pinterest for their campaigns. For instance, the "Meetmycrew" campaign – which supports the aspect that each individual is unique and contributes to something bigger when working together – was launched on YouTube (J.Crew, 2018).

Referring to its in-store and online promotion, the company offers a number of discounts in their stores but also online. Even though these promotions result in a lower gross profit and net income for the company (J. Crew Group Inc., 2019), they were necessary to first reduce inventory and second to increase in-store traffic (Smith, 2014). Since the company is low on liquidity, they are not able to invest as much as the competition in a distinctive promotion strategy. Therefore, it can be concluded that there is still room for improvement and that the promotion strategy is only somehow in line with the overall strategy of J. Crew. Consequently, two stars are given to criterion Promotion.

Digital Presence

As already introduced in the above section "Promotion", J. Crew has a basic presence in the digital world. They use multiple social media channels to promote their products and their brand, but also to support different causes. For instance, they are supporting the LGBT Community with their pride-themed shirts saying, "Love First" (Ilchi, 2019; J.Crew Official Instagram Page, 2019).

Today J.Crew has over 2 million followers on Instagram (J.Crew Official Instagram Page, 2019), but back then, social media channels were not a focus of the company's strategy. Former CEO Mickey Drexler underestimated the changes in technology and how they would impact the retail industry. In comparison to Burberry Inc., which started focusing on its Digital Presence in 2009 (Moore, 2015), or Inditex is one of J.Crew's major competitors which launched their E-commerce presence in 2010 (Dishman, 2013), J.Crew was far behind the competition. Only in 2012, the company had launched its E-commerce webpage. Since J. Crew has had an inferior financial situation, the company was not able to invest in technology as its competition (J. Crew Group Inc., 2019). Consequently, their digital presence is in some ways improvable and is only to some degree a part of the strategy. Hence, it is rated with two stars.

Clarity

J. Crew claims to have a differentiation effect, as they offer high-quality products for a high price and casual items at lower prices. (J. Crew Group Inc., 2019). Consequently, they are targeting two different segments, customers with higher disposable income and low disposable income. Furthermore, they insist that their products last forever. (J. Crew About Us, 2019). In regard to J.Crew's claimed differentiation, competitors of J.Crew such as H&M have the same offering. The fashion house is known for its affordable fast-fashion product lines (Idacavage, 2018) and it has gained popularity due to its collaborations with fashion designers such as Karl Lagerfeld (H&M's best designer collaborations, 2018). Hence, the differentiation effect claimed by J. Crew is not unique and owned by the competition as well. Due to this, this criterion receives only one star.

Credibility and Consistency

When J. Crew positioned itself as an upmarket brand with the help of the creative director Jenny Lyons starting in 2008 (Sacks, 2013), they were claiming to use high-quality materials and the items were sold for high prices. The company promoted itself as a high valued company which in reality they were not (Safdar, 2017). For example, their value proposition was not consistent with their product presentation in the stores. High valued items, for instance, an overcoat worth $483, were found behind a door hung on a hook. Furthermore, the store atmosphere with bad lightening and small store sizes was not in line with their value proposition as a premium brand (Caramanica, 2017).

Because of a leveraged buyout in 2011, J.Crew had piled up a significant amount of debt. Furthermore, in 2014, the company made a loss of $ 607,8 million in less than a year (Bird, 2015; J.Crew Group Inc., 2015) – circumstances that forced the company to offer constant discounts to increase sales. Consumers became used to the ever on lasting promotion and this was reflected in J.Crew's inconsistent brand image (Ewen, 2017; Holmes 2015). Then CEO Brett noticed these issues but was not able to execute his strategy as he left the company shortly after a year (Howland, 2018). Hence, it can be concluded that level of consistency and credibility is not given, consequently, this criterion receives only one star.

Competitiveness

The fashion industry evolves constantly with the number of fast fashion retailers increasing (Garcia, 2018). For a company to differentiate themselves they need to deliver something unique that the competition does not offer. In their annual report, J.Crew argued that they are a company that "differentiates itself through high standards of quality, style, design, and fabrics" (2018, p. 3). However, the competition of J.Crew such as Abercrombie & Fitch owns this competitive advantage as well (LeSavage, 2018). Therefore, it can be concluded that J.Crew does not have a distinctive competitive advantage towards its competition and receives only one star for this criterion.

Strong Rebranding Leadership

Mickey Drexler who joined the company in 2006, had gained experience in fashion while working for over 20 years for the brand "The Gap". He was called "the merchant prince" (as cited in Ewan (2017)) for increasing The Gaps sales from $480 million to 13,6 billion (Aquino and Groth, 2011). Also his successor Jim Brett had valuable experience in retail, as he had been practicing it for more than 19 years working for companies such as Urban Outfitters, West Elm's and Cole Haan to whom he contributed successfully (Sherman, L. 2016). It can be concluded that strong rebranding leadership existed in the J.Crew case. Hence, three stars are given to this criterion.

Adequate target market consideration

J.Crew used to have a very loyal customer base. Many of its core customers shopped at the company since their college times (Louvar, 2015; Holmes, 2015). Their core customer could traditionally be described as men and women that are fully employed professionals, medium age of 32 and belong to the upper-/middle class, as Jenna Lyons, the creative designer herself (Grant, 1996; Roberto, 2013; Schlossberg and Johnson, 2015). By trying to become an upscale brand and offering a premium positioning, J.Crew ignored the effects of the recession, and therefore, did not understand that their customers had become price-conscious (Ewen, 2017). The collection by Jenna Lyons, as mentioned before in section product, was simply not affordable anymore for their core customer. When Brett joined the company, he had a new target customer in mind; namely Millennials. J.Crew was always known for their preppy basic products, but Brett's strategy implied that they had to become more modern in order to reach the new target group (Ewen, 2017). The company did only consider their future target customer and completely ignored their core target customer. Hence, two stars are given to adequate target market consideration

Adequate research

It is to assume that J.Crew did not conduct appropriate market research. The company missed out on two points: on the needs and wants of its core customer and the changes in the market. Firstly, it is assumed that the company did not conduct proper research to investigate what their core customer was expecting from them (Ewen, 2017). In addition, J.Crew missed analyzing arising trends that were booming on the fashion market. One of the biggest changes was that consumers use new technologies to compare prices and to copy styles (Holmes, 2015; Safdar, 2017). This meant that companies with a more data-driven supply chain where gaining a competitive advantage towards J.Crew (Safdar, 2017). Hence, this criterion will receive only one star.

Internal rebranding activities

The rebranding process of J.Crew happened to be unsuccessful (Mau, 2019). To what extend employees and managers within the company were involved in the rebranding process cannot be addressed as not sufficient information is given. Nevertheless, according to CEO Brett, the team, as well as the designers at J.Crew, were excellent to work with and dedicated to improving the situation of the company (Brett, 2018). Therefore, it can be assumed that the team was enthusiastic to serve the J.Crew customer better and supported the relaunch strategy of CEO Brett – but they were not provided with specific internal rebranding activities. Consequently, one star is given to this criterion.

3.3.4 Overall comparison of the two case studies

Significant differences between the two rebranding cases of Burberry and J.Crew exist (see Figure 2). The main difference between Burberry and J.Crew lies in their positioning. Burberry's positioning statement, as a luxury brand, is clear, authentic and was consistently present throughout all the 4 P's of the marketing mix. J.Crew, on the other side, failed to provide a consistent and authentic positioning in their rebranding process. This was visible in many ways, in their inconsistent product offerings and pricing strategy but also in their promotion strategy.

Figure 2: Overall comparison of the two case studies

Dimension	Criteria	Burberry	J.Crew
Brand	Company's heritage	3 stars	1 star
Brand	Product and Price	3 stars	1 star
Brand	Place	3 stars	3 stars
Brand	Promotion	3 stars	2 stars
Brand	Digital Presence of the Company	3 stars	2 stars
Positioning	Clarity	3 stars	1 star
Positioning	Credibility and Consistency	3 stars	1 star
Positioning	Competitiveness	3 stars	1 star
Rebranding	Strong Rebranding Leadership	3 stars	2 stars
Rebranding	Adequate Target Market Consideration	3 stars	2 stars
Rebranding	Adequate Research	3 stars	1 star
Rebranding	Internal Rebranding activities	3 stars	1 star

Burberry took advantage of its heritage and made it the main part of its repositioning strategy. The company's heritage was not a focus of J.Crew and hence was not included in their rebranding strategy. As for the core target group, J.Crew missed out to include their needs and only focused on the future target group of Millennials. Burberry, on the other hand, included their core and future target group in their rebranding process. However, both companies have one aspect in common, since both rebranding processes were executed by strong and experienced leaders who had many years of experience.

Overall it can be concluded, that Burberry's rebranding strategy was more successful in comparison to J.Crew. Today J.Crew is still struggling, and the strategies implemented did not deliver any successful outcomes (Mau, 2019). Burberry, on the other hand, is enjoying major successes and continue to grow in the luxury business (Burberry Group Plc., 2019).

4. CONCLUSION AND LIMITATIONS

The intention of this study was to explore the rebranding process with the ultimate goal to define rebranding components and activities that must be executed in order to achieve a positive outcome. Through in-depth research of several rebranding process frameworks and the analysis of certain chosen criteria applied to the case studies of Burberry and J.Crew, components for a positive rebranding outcome were identified.

From the evaluation and comparison of the two case studies, it can be concluded that a positive rebranding outcome depends on multiple factors. The findings show that general branding aspects, such as the execution of the 4 P's, represent a significant influence on the result. Inconsistency in the overall performance of the 4 P's leads to a confusing and negative brand image which results in the loss of loyal customers.

Furthermore, the right positioning is essential, as it contributes to a differentiation effect in consumers' minds. For a positive rebranding outcome, there needs to be certain coherence in the execution of the 4 C's which are essential for a successful positioning.

Factors that are specifically assigned to the rebranding process, such as adequate target market research, strong rebranding leadership, the commitment of managers, and internal branding for employees impact the rebranding outcome as well.

So far, rebranding has received little academic attention. This article contributes to the research field of rebranding with the development of a criteria-based rebranding process framework and its application. However, some limitations should be noted. First of all, not all the mentioned criteria in the rebranding framework created by the authors were applied to the case studies. For instance, the aspect of changing the name or logo, which is considered to be a crucial part of the rebranding, was not analyzed in this paper since no changes in logo or brand name of J.Crew or Burberry were given to that time.

Secondly, for the evaluation of the two case studies, different sources were used. However, not all sources gave detailed enough information for a proper evaluation of certain criteria. Future research should close these gaps.

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CROATIAN HOTEL WEBSITES AS PROMOTIONAL AND DISTRIBUTION CHANNELS: IDENTIFICATION OF WEBSITE DIMENSIONS AND DIFFERENCES BETWEEN DIFFERENT GROUPS OF HOTELS

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Abstract

The objectives of this study are (1) to review the characteristics and identify dimensions of the hotel websites in Croatia to evaluate the extent to which they effectively execute their marketing communication and distribution function, and (2) to determine if there are significant differences in the rating of their characteristics depending on the categorization of the hotel, size of the hotel and hotel type. The characteristics of 629 hotel websites in Croatia were analyzed by a combined method of content analysis: counting and automated software analysis. Out of the 27 observed variables, 5 dimensions of the hotel website were identified through the principal component analysis: corporate communication layer, marketing communication layer, multimedia presentation, social media integration, and interface personalization. Significant differences were found between the hotel groups in specific website dimensions. Theoretical and practical implications of the study were presented, and suggestions are made for future research.

Keywords: *digital marketing, tourism, hotel, website, Croatia*

JEL Classification: M31, Z32

1. INTRODUCTION

1.1. Tourism and hotel industry

Tourism is helping build better lives for millions of individuals and transforming whole communities. Growth in international tourist arrivals and receipts continues to outpace the world economy and both emerging and advanced economies are benefiting from rising tourism income. For the seventh year in a row, tourism exports grew faster than merchandise exports, reducing trade deficits in many countries. Global hotel value sales reached € 525bn at a fixed exchange rate in 2018. Over the period 2018 – 2023, hotel value sales are expected to register a CAGR of 4% at constant 2018 prices. In 2019, the total market for overnight accommodation amounted to more than € 700bn (Tui Group, 2019). With 710 million international tourist arrivals in 2018 and USD 570 billion in international tourism receipts, Europe remained the largest and most mature tourism market in the world, accounting for 51% of international tourist arrivals and 39 % of tourism receipts in 2018 (UNWTO, 2019).

According to the Croatian National Bank (2019), tourism revenue in the Republic of Croatia amounted to EUR 10.1 billion in 2018, representing a 19.6% share of GDP. In the same year, the number of employees in the provision of food, lodging and preparation services amounted to 101,000, of which 71,000 were in legal entities, which is 5.4% of the total number of employees in legal entities of all forms of ownership (Croatian Bureau of Statistics, 2019). According to a report by the Croatian National Tourist Board (2019), there were 731 hotels in Croatia in 2018, of which the most were 3-star (44%) and 4-star (43%) hotels and the least were 5-star (6%) and 2-star (8%). In the same year, 20,436,000 overnight stays (22.8%) were spent in hotels and aparthotels, while in private rooms 43,382,000 overnight stays or 48.4% of the total nights spent. Overnight stays of foreign tourists prevailed in hotel accommodation (89%) compared to overnight stays of domestic tourists (11%).

Digitalization, innovation, greater accessibility, and societal changes are expected to continue shaping this sector. Artificial Intelligence is transforming tourism, from virtual assistants to companies being able to offer hyper-personalized customer experiences and improve business performance. An increasing number of destinations are measuring tourism in real-time for better management of visitor flows. Both destinations and companies will need to adapt to remain competitive (UNWTO, 2019).

1.2. Changes in the distribution and importance of the web site as a direct channel

HOTREC (2018) study shows some changes in the distribution market. Between 2013 and 2017 the dependency of hotels on Online Travel Agencies (OTA) was rising and the share of direct bookings was declining. The share of direct bookings has decreased across Europe by over 4 percentage points from 57.6% in 2013 to 52% in 2017 (weighted results including data from hotel chains). Direct bookings include use of offline (phone, mail, fax, walk-in reservations) **23.1%,** and online web site contact forms (contact form on web site without of availability check, direct e-mail, real-time booking over web site) **28.9%.** The share of OTAs in hotel room bookings increased by over 6% points, i.e. from 19.7% in 2013 to 26% in 2017, while the share of global distribution systems (GDS) and social media channels in 2017 was 2.5% and 0.5% respectively. This study shows that especially the small hotel segments (with less than 20 rooms) are significantly more dependent on OTAs (29.3%) than the average hotel, and hotel cooperation is significantly less dependent on OTAs (22.5%) than the average of all hotels. However, dependency increased between 2013 and 2017 both in the case of smaller hotels and bigger hotels, as well as in the case of individual and branded hotels.

Hotel industry, characterized as customer-oriented and information-intensive, is in an ideal position to take advantage of the potential the Internet can provide (Baloglu and Pekcan, 2006; Schmidt et al., 2008; Shuai and Wu, 2011; Wu et al., 2013). Internet erases boundaries created by time and distance and makes it dramatically convenient for guests to search for and purchase products and services. On the other hand, the Internet can help hotels identify guests' needs, improve operational efficiency, enhance service quality and thus create a great impact on hotel performance (Díaz and Koutra, 2013; Hashim et al., 2010; Schmidt et al., 2008).

Website, as a main digital marketing channel, and many-to-many communication tool, enables direct contact between organizations and consumers. Its function is to support any marketing activity related to elements of the marketing mix (7Ps) and building customer relationships. Considering that HORECA survey from 2018 it becomes clear that evaluation and continuous improvement of the hotel website are becoming a strategic issue. Companies in the hotel industry need to empower and use this direct channel for better communication and distribution of their products and services.

The emergence of new technologies, as well as new patterns of consumer behavior, must also be taken into account. The hot fast-growing channel is mobile (tablets and smartphones), which is displacing desktops for searching and booking hotels. Almost 4.54 billion people were active internet users as of January 2020, encompassing 59% of the global population. At the same time, 4.18 billion users are mobile Internet users (Statista, 2018). The rise of mobile has prompted Google to change its search algorithm, making mobile compatibility a priority for hotels and chains (HOTREC, 2018). According to eMarketer estimates for 2019, of the total number of online bookings in the US, 69.8% of bookings were made via smartphones or tablets, and 86.4% of the total number of mobile users made at least one reservation of accommodation during the year (HOTREC, 2018). These facts indicate the importance of adapting web sites to mobile devices, that is, the need to apply modern responsive design techniques and optimize web sites in terms of improving usability (ease of use, quality of content and technical optimization).

Digital analytics is very important for every digital marketing strategy. Measuring effectiveness aims at minimizing the cost of digital marketing and maximizing return on investment in various areas, such as attracting visitors to a website, converting visitors to buyers, or encouraging customers to make repeated purchases. Analysis of website visitor activity can be done through the server logs analyze or through the use of specialized web analytics tools, such as Google Analytics. The advanced capabilities of Google Analytics are revealed by linking companies' CRM databases to a Google Analytics database, which enables custom dimensions and metrics analysis. It helps hotels better understand their customers, makes it easier for them to segment the market and makes positioning decisions, as well as to better tailor their offer and make better decisions about promotional budget allocation. In short, the application of digital analytics is necessary for the effective and efficient use of the hotel website in achieving marketing goals. Therefore, we can conclude that this characteristic is very important in evaluating hotel websites.

The objectives of this study are (1) to review the characteristics and identify dimensions of the hotel websites in Croatia to evaluate the extent to which they effectively execute their marketing communication and distribution function,

(2) to determine if there are significant differences in the rating of their characteristics depending on the categorization of the hotel, size of the hotel and hotel type.

2. LITERATURE REVIEW

During recent years academics have introduced different website evaluation approaches. To evaluate websites, they have measured different outcomes like website usability, content quality, user acceptance, and user satisfaction.

Morrison et al. (2004) proposed a modified Balanced Scorecard (BSC) method for tourism and hospitality website evaluation. This approach combines user perceptions with website performance to help owners identify the strengths and weaknesses of their websites and in comparison with those of their competitors and the best practice examples in the industry.

Schmidt et al. (2008) constructed and validated an instrument for the measurement of website characteristics and relating those characteristics to website performance, using structural equation modeling. The results indicate that small and medium-size hotels are using their websites as mass media tools; ignoring the potential for interactivity and one-to-one communication. It is suggested that hoteliers should adopt a more strategic approach to the Internet, preparing the ground for direct contact with customers. They have concluded that prior website evaluation studies can be classified into three categories based on their research methods: (1) evaluation by phases, (2) evaluation by characteristics, and (3) evaluation by characteristics and effectiveness. Evaluation by phases presumes that the richness of a website's characteristics is proportional to the company's experience in electronic commerce. Evaluation by characteristics bases its analysis on the presence of website characteristics or functionalities. Evaluation by characteristics and effectiveness has been undertaken in a limited number of studies. Authors that have adopted this approach have understood the construct "website effectiveness" in different ways: financial results, customer satisfaction, consumer intentions, etc.

Hashim et al. (2007) reviewed articles about website design frameworks published from the 1990s to 2006 and extracted five dimensions of website quality based on the most researched online features of tourism and hospitality websites: information and process, value-added, relationships, trust, and design and usability. They found that the most popular attributes of hotel websites were reservations, contact information, promotions, and products and services.

Chiou et al. (2010) have developed a strategic framework for website evaluation based on a review of the literature from 1995-2006. Through the literature review they classified articles into tree sets: IS, marketing and combination of the two. IS-approach articles included mostly technology-oriented factors like usability, accessibility, navigability and information quality, while marketing approach articles included mostly marketing related factors such as promotion, online transaction, order confirmation, and customer service. The combined frameworks were a mixture of using IS and marketing factors. After classification, authors have condensed each study's dimensional factors into the 12 unified factors suggested by Park and Gretzel (2006): ease of use, information quality, responsiveness, visual appearance, security/privacy, interactivity, trust, fulfillment, personalization, advertising/persuasion, playfulness, and technology integration.

Law et al. (2010) reviewed 75 tourism studies published from 1996 to 2009 that directly pertained to the issue of website evaluation in the tourism and hospitality field. They divided prior research into five evaluation approaches: counting, automated, numerical computation, user judgment, and combined methods. A counting method is used to evaluate a website's performance or to determine its content richness. Studies adopting user judgment methods evaluated user satisfaction or perceptions. Automated methods involve the evaluation of websites using software systems.

Xu Li and Youcheng Wang (2011) adopted the ICTRT model to assess the effectiveness of US official state tourism websites through content analysis by expert evaluators. The proposed model suggests that an effective DMO's website should be composed of five dimensions (i.e. information, communication, transaction, relationship, and technical merit) and each of them contains multiple items. The importance of each item/application on the website was also taken into consideration in measuring the effectiveness of the website in this study. The effectiveness score of each item was calculated by using the product of the rated value of performance and importance (i.e. effectiveness = performance x importance).

Ting et al. (2013) evaluated the top 100 independent hotel websites on four continents using advanced content analysis end eMICA model. The study assesses the presence of fifty-nine website features on the hotels' websites grouped according to the three eMICA stages of promotion, provision, and processing and also grouped in seven dimensions determined by the content analysis, namely, functionality, innovation, interactivity, marketing, navigation, online processing, and service. Authors suggested that the European hotels need to improve their websites by adding the following features: newsletter, RSS (Rich Site Summary), video, itineraries information, travel tips, awards, virtual tours, travel schedules, and plans, and Web 2.0 tools.

Liu and Zhang (2014) were investigating how product-related factors and channel related factors will affect online hotel bookers and compare the perceptions of online hotel bookers toward two types of channels: hotel websites and online travel agent websites. Results show that there is a positive effect of different factors toward information search intention and purchase intention, and the positive effect of search intention on purchase intention. Comparing hotel websites and OTA websites, website quality which includes information quality, service quality, and privacy protection, is discovered to be a competitive advantage of hotel websites over OTA websites, but OTA websites perform better in other aspects from customers' perspective.

Bilgihan and Bujisic (2014) develop a theory-based model of utilitarian (e.g. comparing the prices, looking at the location of the property) and hedonic (e.g. taking the virtual tour of the hotel room, looking at the pictures of the amenities offered by the hotel) website features, customer commitment, trust, and e-loyalty in an online hotel booking context. Findings highlight the importance of creating loyalty by focusing on both hedonic and utilitarian features, as well that that web design features are important for online relationship marketing. Both commitment dimensions (affective and calculative) were found to be precursors of trust whereas affective commitment is the precursor of e-loyalty.

Liang et al. (2015) were investigating the impact of hotel website quality on online booking intentions. This study proposed that a trusting relationship with customers could be developed by investing in hotel website development. Results demonstrated that hotel website quality is a strong predictor of eTrust, which then also mediates the relationship between website quality and consumers' online booking intentions. Statistical results suggested that hotel website quality has three underlying dimensions, namely usability, functionality, as well as security and privacy.

Ladhari and Michaud (2015) have investigated the effect of comments generated on Facebook (eWOM) on hotel booking intentions, attitudes, trust, and website perceptions. They have confirmed that the comments generated on the Facebook network influence hotel-booking intentions, the attitude toward a hotel, the trust in a hotel, and the perceived quality of the hotel website.

Faizan Ali (2016) investigated the relationships between hotel website quality, perceived flow, customer satisfaction, and purchase intentions. Empirical findings of this study validate that hotel website quality is a second-order complex construct with three primary dimensions including hotel website usability, hotel website functionality and hotel website security and privacy. Also, findings confirm that hotel website quality influences customers' perceived flow, which in turn, influences their satisfaction and purchase intention. Moreover, perceived flow also mediates the relationships between hotel website quality, customer satisfaction, and purchase intentions. As consumers become more technologically savvy, they partake more in an online purchase and have higher requirements for hotels' online presence. Therefore, to capture the lucrative online business, hotel managers should allocate more resources to develop websites into multifunctional platforms that would meet consumer needs for information, design, and relationships (Hsu et al., 2012).

Kim et al. (2017) were interested in the effects of perceived value, website trust and hotel trust on online hotel booking intention. They developed a research model which consist of perceived value, trust toward a third party online booking site, and trust toward hotels, and tested it by using partial least square techniques on a sample of 307 individuals in South Korea who have prior experiences on making a reservation using third-party online booking sites. The research model of this study addresses that perceived value, trust toward third-party online booking sites and trust toward hotels all have a direct influence on customers' intention to book a hotel. In addition to the direct relationships, while both price and quality influences directly the perceived value, online reviews have direct effects on trust toward hotels.

3. METHODOLOGY

3.1. Content analysis

Content analysis is a research technique that quantitatively describes the content of an aspect of communication (Milas, G., 2005). In the present study, we use a combined method of content analysis of hotel websites in Croatia that includes: counting and automated software analysis.

The unit of analysis (code unit) represents the smallest segment of content that is observed and evaluated in content analysis (McMillan, 2000). Specific characteristics of hotel websites were observed as code units in this study. By analyzing the content of the hotel website, based on the code table, the presence or absence of relevant content (characteristics) on the hotel website was evaluated. The code table is used as a measuring instrument and it is made up of several code units. The code table was created based on the literature review in this field. Each code unit (item) is identified in the form of a research question. Items are presented in Table 4.

The list of hotels in Croatia was created by collecting data about categorized hotels from the website of the Ministry of tourism. As there were no hotel website addresses in addition to company name and categorization, the web addresses of each hotel were first identified through a google search engine, and the final list served as a basis for further content analysis.

According to the report of company W3Techs (2020), 35% of the websites use none of the traffic analysis tools and Google Analytics is used by 55.2% of all the websites, which is a traffic analysis tool market share of 84.9%. This is the reason why we decided to use content analysis to determine the presence of the Google Analytics code on the hotel web sites, which indirectly indicates whether or not the hotel uses digital analytics. To determine the existence of Google Analytics code on the hotel website we have used the web scraping method. Web scraping, or data scraping, is the process of importing information from a website into a spreadsheet or local file saved on your computer. It's one of the most efficient ways to get data from the web, and in some cases to channel that data to another website. For web scraping, we have developed a script for Scrapy[1] - an open-source and collaborative framework for extracting the data from websites. The scraper uses a list of URLs of hotel websites as input, it vis-

[1] https://scrapy.org/

its the home page of every website, check source code of that page and check if google analytics code exists on a web page or not. Finally, a .csv format report is produced as an output of the program, which lists all URLs and indicates does Google Analytics exists or not on the page.

Technical optimization of the website, which determines website load speed, as well as the adaptation of the website to mobile devices is essential functional characteristics that affect website usability. The online tool "Pingdom Website Speed Test"[2] from company SolarWinds Worldwide LLC, was used to analyze website optimization and loading speed. For each analysis, the testing server in Frankfurt was used. To test whether the website has a responsive design, we used an online tool https://responsivetesttool.com. To test how easily a visitor can use a website on a mobile device (whether the website is mobile-friendly), we have used the Google Mobile-Friendly online test available at https://search.google.com/test/mobile-friendly. As a result, performance grade, load time, page size, number of requests (number of web page elements), design responsiveness, and mobile-friendly status were recorded for every hotel website.

3.2. Sample Profile

The total number of 629 hotel websites have been found using the hotel name as a search keyword on the google search engine. Content analysis has been performed on all 629 cases, and descriptive statistics have been calculated using IBM SPSS 26 statistical package. The profile of the analyzed hotels is presented in Table 2 and Table 3. From the total number of 629 hotels, 432 are independent hotels, and 197 are part of hotel groups.

Table 1. Hotels by categorization

Category	Frequency	Percent	Cumulative percent
2-stars	42	6.7	6.7
3-stars	260	41.3	48
4-stars	291	46.3	94.3
5-stars	36	5.7	100
Total	629	100	

2 https://tools.pingdom.com

Table 2. Hotels by size (number of rooms)

No. of rooms	Frequency	Percent	Cumulative percent
0-24	245	39	39
25-99	204	32.4	71.4
100-299	146	23.2	94.6
300-	34	5.4	100
Total	629	100	

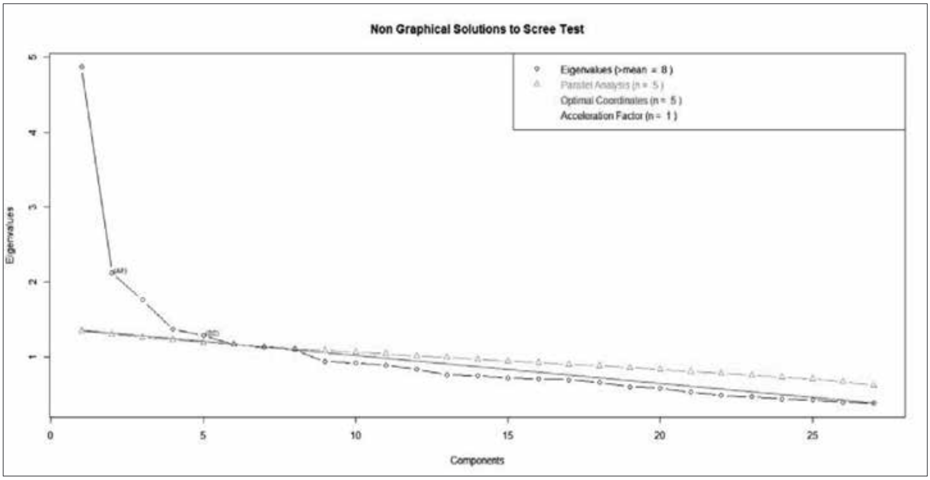
For further analysis, we decided to perform principal component analysis (PCA) to identify dimensions of hotel websites based on website characteristics.

3.3. Principal component analysis (PCA)

PCA appears to be one of the most frequently used multivariate data analysis methods in exploratory data analysis and data mining. The PCA method aims to extract the main orthogonal contributors (principal components) which explain most of the variance of the data matrix analyzed (Cozzolino et al., 2019). According to Guttman (1954) and Kaiser (1960), when a correlation matrix is factorized, it makes no sense to retain components that explain less variance than the original standardized variables. So, principal components eigenvalues equal or less than 1.00 are excluded from the analysis and the number of factors to retain are determined accordingly.

We have used the R statistical program and nFactors package for R for non-graphical solutions to the Cattell's scree test to determine the number of components to retain. The value has to be superior or equal to 1.00, by the Kaiser-Guttman rule, or to location statistics criterion, by a parallel analysis (Raîche et. al., 2013). The result presented in Image 1 suggested retaining 5 components. Because the result of our content analysis is a numeric binary dataset, as suggested by Starkweather (2014) we have used a function called 'hetcor' from 'polycor' package for "R" to calculate the correct matrix of association (for the factor analysis) using the appropriate polychoric correlation (for when both variables being correlated are binary) statistic for each pair of variables in our data. First, numeric data have been recoded as a factor, and then we computed the appropriate correlation matrix for further PCA.

Image 1. Non Graphical Solutions to Scree Test



3.4. Testing differences in characteristics between different groups of hotels

To tests whether the frequencies of website characteristics differ across different groups of hotels, we performed multiple Chi-Square tests. Groups are defined by hotel categorization, hotel size (number of rooms) and ownership type (individual or hotel group), and independence of every website characteristics (categorical data) has been tested against mentioned groups. The null hypothesis for the test is that there is no significant association between specific website characteristics and the type of group ($p < .05$). We use Phi Coefficient as a measure for the strength of an association between two categorical variables in a 2×2 contingency table, and Cramer's V for tables bigger than 2×2 tabulations. In Table 3 interpretation of Phi and Cramer's V coefficients are presented, and in Table 7 results of Chi-square tests are presented.

Table 3. Interpretation of Phi and Cramer's V.

Phi and Cramer's V.	Interpretation
> 0.25	Very strong
> 0.15	Strong
> 0.10	Moderate
> 0.05	Weak
> 0	No or very weak

4. RESULTS

In Table 5 the results of PCA are presented with additional descriptive information (percentages) about website characteristics.

Table 4: PCA results

			Principal Component Analysis (PCA) results							
Dimension	**Item**	**%**	**RC1**	**RC2**	**RC5**	**RC3**	**RC4**	**h2**	**u2**	**com**
Corporate Communication Layer	PR - press releases	**27.0**	**0.86**					0.67	0.328	1.1
	Special offers and discounts	**58.2**	**0.68**					0.5	0.499	1.5
	Employment information	**17.8**	**0.64**					0.6	0.396	1.3
	News section	**41.7**	**0.64**					0.36	0.641	1.2
	Info about services	**79.3**	**0.61**					0.5	0.5	1.1
	Events info	**57.7**	**0.61**					0.54	0.463	1.8
	Answers to FAQ	**26.6**	**0.58**					0.6	0.4	1.6
	About hotel info	**86.2**	**0.56**					0.41	0.592	1.3
	Guest reviews	**31.8**	**0.51**			**0.41**		0.52	0.476	2.2
	Newsletter subscription form	**37.2**	**0.37**					0.33	0.668	2.4
	Destination info	**72.2**	**0.43**		**0.36**	**-0.44**		0.57	0.435	3.3
Marketing Communication Layer	Online payment option	**57.2**				**0.68**		0.57	0.425	1.2
	Website search engine	**27.8**	**0.38**			**0.66**		0.63	0.374	2.1
	Online contact forms	**63.9**				**0.55**		0.41	0.588	1.3
	Online booking	**83.6**				**0.53**		0.77	0.228	3
	Links for sharing with social. m.	**44.5**				**0.5**		0.49	0.513	2.4
Multimedia presentation	Virtual tours of rooms	**15.6**			**0.84**			0.73	0.269	1.4
	Photos presentation of rooms	**90.3**			**0.74**			0.95	0.055	1.8
	Video presentation of rooms	**29.7**			**0.67**			0.58	0.416	1.5
	Live webcam streaming	**24.8**			**0.64**			0.54	0.464	1.8
Social Media Integration	Link to Instagram page	**40.4**		**0.9**				0.76	0.241	1.1
	Link to twitter channel	**26.6**		**0.88**				0.74	0.258	1.1
	Link to YouTube channel	**29.4**		**0.87**				0.77	0.231	1.1
	Link to Facebook page	**75.4**		**0.81**				0.76	0.24	1.3
Interface Personalization	Responsive design	**84.1**					**0.92**	0.83	0.167	1.1
	Google mobile-friendly	**82.2**					**0.88**	0.81	0.186	1
	Multilingual website	**88.1**					**0.32**	0.32	0.682	2.6

The root mean square of the residuals (RMSR) is 0.07. Fit based upon off-diagonal values = 0.95.

Table 5. CPA statistics

		RC1	RC2	RC5	RC3	RC4
SS	loadings	4.57	3.68	2.84	2.98	2.19
Proportion	Var.	0.17	0.14	0.11	0.11	0.08
Cumulative	Var.	0.17	0.31	0.41	0.52	0.6
Proportion	Explained	0.28	0.23	0.17	0.18	0.13
Cumulative	Proportion	0.28	0.51	0.68	0.87	1

Table 6. Component correlations

	RC1	RC2	RC5	RC3	RC4
RC1	**1**	0.35	0.43	0.26	0.03
RC2	0.35	**1**	0.41	0.25	0.33
RC5	0.43	0.41	**1**	0.28	0.19
RC3	0.26	0.25	0.28	**1**	0.14
RC4	0.03	0.33	0.19	0.14	**1**

A chi-square test of independence was performed to examine the relation between every website characteristic and hotel group defined by hotel categorization, hotel size, and hotel type. The results are presented in Table 8.

Table 7. Chi-Square statistics – the test of independencies between characteristics and groups

		Hotel categorization (4x2)			Hotel size (4x2)			Hotel type (2x2)		
Dimension	Item	Pearson Chi-Square	p	Cramer's V	Pearson Chi-Square	p	Cramer's V	Pearson Chi-Square	p	Phi
Corporate Communication Layer	PR - press releases	7.406	0.060		**15.641**	**0.001**	0.158	**17.469**	**0.000**	0.167
	Special offers and discounts	**29.256**	**0.000**	0.216	**36.162**	**0.000**	0.240	**33.330**	**0.000**	0.230
	Employment information	4.632	0.201		**8.675**	**0.034**	0.117	**21.532**	**0.000**	0.185
	News section	1.127	0.771		**12.016**	**0.007**	0.138	0.110	0.740	
	Info about services	3.219	0.359		**15.245**	**0.002**	0.156	**4.299**	**0.038**	0.083
	Events info	**9.810**	**0.020**	0.125	**16.341**	**0.001**	0.161	**11.754**	**0.001**	0.137
	Answers to FAQ	**25.806**	**0.000**	0.203	**16.853**	**0.001**	0.164	**41.907**	**0.000**	0.258
	About hotel info	7.791	0.051		3.977	0.264		**7.682**	**0.006**	0.111
	Guest reviews	**14.644**	**0.002**	0.153	3.264	0.353		0.389	0.533	
	Newsletter subscription form	**13.129**	**0.004**	0.144	**48.961**	**0.000**	0.279	**54.906**	**0.000**	0.295
	Destination info	2.893	0.408		7.545	0.056		3.730	0.053	
Marketing Communication Layer	Online payment option	6.521	0.089		**10.254**	**0.017**	0.128	3.103	0.078	
	Website search engine	6.246	0.100		0.496	0.920		**9.402**	**0.002**	0.122
	Online contact forms	21.841	**0.000**	0.186	0.457	0.928		1.177	0.278	
	Online booking	**18.274**	**0.000**	0.170	**8.013**	**0.046**	0.113	**13.406**	**0.000**	0.146
	Share to social media links	**11.714**	**0.008**	0.136	**17.328**	**0.001**	0.166	**7.588**	**0.006**	0.110
Multimedia presentation	Virtual tours of rooms	**7.866**	**0.049**	0.112	4.659	0.199		1.048	0.036	
	Photos presentation of rooms	**16.386**	**0.003**	0.161	5.542	0.136		11.523	0.001	0.135
	Video presentation of rooms	**10.933**	**0.012**	0.132	4.106	0.250		3.437	0.064	
	Live web cam streaming	**13.884**	**0.003**	0.004	**9.020**	**0.029**	0.120	**6.676**	**0.010**	0.103

Social Media Integration	Link to Instagram page	**20.242**	**0.000**	0.179	**71.142**	**0.000**	0.336	**55.148**	**0.000**	0.296
	Link to twitter channel	**26.007**	**0.000**	0.203	**71.282**	**0.000**	0.337	**49.520**	**0.000**	0.281
	Link to YouTube channel	6.519	0.089		**114.829**	**0.000**	0.427	**79.372**	**0.000**	0.355
	Link to Facebook page	**16.747**	**0.001**	0.163	**12.791**	**0.005**	0.143	**6.440**	**0.011**	0.101
Interface Personalization	Responsive design	**22.423**	**0.000**	0.189	3.634	0.304		**6.510**	**0.011**	0.102
	Google mobile friendly	**18.931**	**0.000**	0.173	7.278	0.064		**19.944**	**0.000**	0.178
	Multilingual website	5.130	0.163		**20.869**	**0.000**	0.182	**17.163**	**0.000**	0.165

4.1. Differences between the hotel groups based on categorization

A chi-square test of independence $\chi 2$ (3, N = 629, $p < .05$) showed that there is a significant association between hotel categorization and 17 (63%) websites characteristics.

A significant association exists between hotel categorization and all variables within the "Multimedia presentation" dimension. There are 45% of variables within "Corporate Communication Layer" dimension, 60% of variables within "Marketing communication Layer" dimension, 75% of variables within "Social integration" dimension, and 67% of variables within "Interface Personalization" dimension that has a significant association with hotel categorization. Based on the interpretation of Phi and Cramer's V. coefficients, we can conclude that associations are moderate to strong.

4.2. Differences between the hotel groups based on the hotel size

A chi-square test of independence $\chi 2$ (3, N = 629, $p < .05$) showed that there is a significant association between the hotel size and 17 (63%) websites characteristics.

A significant association exists between the hotel size and all variables within the "Social Media Integration" dimension and based on Cramer's V. coefficients, we can conclude that those associations are strong to very strong.

There are 73% of variables within the "Corporate Communication Layer" dimension with moderate to strong, and 60% of variables within the "Marketing communication Layer" dimension with a moderate significant association with the hotel size.

Only one variable (live webcam streaming) within the "Multimedia Presentation" dimension and one variable (multilingual website) within the "Interface Personalization" dimension have a significant association with the hotel size, and these associations are moderate to strong.

4.3. Differences between the hotel groups based on the hotel type

A chi-square test of independence $\chi 2$ (1, N = 629, $p < .05$) showed that there is a significant association between the hotel type and 19 (70%) websites characteristics.

The significant association exists between the hotel type and all variables within "Social Media Integration" (very strong association) and "Interface Personalization" (moderate to strong association) dimensions.

There are 73% of variables within the "Corporate Communication Layer" dimension with moderate to very strong, and 60% of variables within the "Marketing communication Layer" dimension with a moderate significant association with hotel type.

Only one variable (live webcam streaming) from the "Multimedia Presentation" dimension has a significant moderate association with hotel type.

4.4. Google Analytics as an estimate of the application of digital analytics

Through the web scraping process, we have collected information about the integration of Google Analytics on the websites of Croatian hotels. A total number of 541 hotels (86%) use Google Analytics on their website. Detailed information per different group of hotels is presented in Table 8.

Table 8. Use of Google Analytics tool on the hotel website

Row N %		Do not use	Use
		Row N %	
Hotel size	small	13.00	87.00
	average	19.00	81.00
	above average	10.00	90.00
	large	6.00	94.00
Type of hotel	independent	16.00	84.00
	hotel group	10.00	90.00
Categorization	2-stars	26.00	74.00
	3-stars	12.00	88.00
	4-stars	15.00	85.00
	5-stars	6.00	94.00

A chi-square test of independence χ2 (3, N = 629, p < .05) showed that there is a significant and moderate association between the hotel categorization and use of Google Analytics on the hotel website, and the hotel size and use of Google Analytics. Same test χ2 (1, N = 629, p < .05) showed a significant and small association between type of the hotel and the use of Google Analytics on the hotel website.

4.5. Technical optimization of web sites as an estimate of user experience and SEO optimization

In Table 9 results of testing website optimization are presented. Four scores from an online testing tool were collected.

Table 9. Website optimization test results for all hotels

	N	Minimum	Maximum	Mean	Std. Deviation
Performance grade	629	47.00	100.00	**71.05**	7.22
Load time (ms)	629	121.00	28270.00	**2375.10**	2625.44
Page size (kb)	629	111.70	43008.00	**4538.04**	4940.43
Requests	629	10.00	477.00	**92.58**	49.04

Table 10. Performance grade and load time for different groups of hotels

		Performance grade		Load time	
		Mean	Standard Deviation	Mean	Standard Deviation
Stars	2-stars	74	8	2331	2370
	3-stars	71	8	2504	2835
	4-stars	71	6	2286	2586
	5-stars	67	6	2219	1409
Class. by rooms	small	72	8	2195	2226
	average	71	7	2707	3600
	above average	70	6	2138	1604
	large	67	3	2702	1492
Type of hotel	independent	72	8	2326	2707
	hotel group	70	6	2461	2479

We decided to test the significance of reported differences in means for "performance grade" and "load time". Shapiro-Wilk test for normality showed significant departure from normality for "Performance grade", W(629)=0.961, p

< 0.001, and for "Load time", W(629)=0.531, p < 0.001, so non-parametric Kruskal Wallis test has been selected to test if there is a significant difference in means among the groups. The results of the test are presented in Table 11.

Table 11. Kruskal Wallis test for differences in means among the groups of hotels

	Categorization by number of stars		Categorization by hotel size		Categorization by type of hotel	
	Performance grade	Load time	Performance grade	Load time	Performance grade	Load time
Kruskal-Wallis H	20.826	3.400	19.251	8.390	11.965	1.801
df	3	3	3	3	1	1
Asymp. Sig.	**0.000**	0.334	**0.000**	**0.039**	**0.001**	0.18

Kruskal Wallis test shows significant differences in means for "performance grade" for all three types of categorizations, and significant differences in mean for "load time" for categorization by hotel size.

5. DISCUSSION AND CONCLUSIONS

5.1. Theoretical and managerial implications

The first objective of this study was to review the characteristics and identify dimensions of the hotel web sites in Croatia. Principal component analysis returned five components. All observed variables (website characteristic) are loading only one component, except "guest reviews" and "website search engine" that are loading two components, and "destination info" that is loading three components.

The first principal component (RC1) explains 17% of the variance. It includes the following website characteristics: press releases, special offers, and discounts, employment information, news, info about services, events info, FAQ, info about hotel and newsletter subscription. Variables "guest reviews" and "website search engine" load this component, but they also load one more component, while variable "destination info" load this component, and two more components. All factor loadings on this component are mostly moderate (0.50-0.75), with exception of variables "newsletter subscription form" that has weak (0.30-0.49), and variable "press releases" that have strong (>0.75) factor loading. We note that a common feature of all variables within the first component is communication with different stakeholders in terms of providing basic information about a hotel and its services. Mujić and Mahmutović (2008) point out that websites differ in content and purpose and divides them into corporate and marketing websites. The corporate website is intended to respond to communication initiated by consumers and other stakeholders, to answer their most common questions and to provide information support to consumers. The purpose of the marketing website is to bring the consumer closer to the decision to buy the product and service, and this type of communication is initiated by the company. In that sense, we named the first component (dimension) "**corporate communication layer**" given that all of the website characteristics within the first component fit the definition of a corporate website.

The second principal component (RC2) explains 14% of the variance. This component describes the connection of a website to social media channels and includes the following variables: link to the Instagram page, link to the Twitter channel, link to the Facebook page, and link to the YouTube channel. We named this dimension "**social media integration**". All factor loadings on this component are strong (>0.75).

The third principal component (RC3) explains 11% of the variance. We named this dimension "**marketing communication layer**" as it includes website characteristics that help and encourage consumers to buy hotel services. Those characteristics are online payment options, website search engine, online contact forms, online booking, and links to share content to social media. All factor loadings on this component are moderate (0.50-0.75). Variable "guest reviews" that loads the first component, also load this component but weakly (0.41), which makes sense, because reviews are an instrument for sales promotion, so it makes sense that they are included in the marketing communications layer as well.

The fourth principal component (RC5) explains 11% of the variance. This dimension explains the extent to which a hotel uses multimedia on its website to present the hotel and the tourist destination, and we named it "**multimedia presentation**". It includes the following website characteristics: virtual tours of rooms, photos presentation of rooms, video presentation of rooms, and live webcam streaming. "Virtual tours" and "photos" load this component strong

(>0.75), while "video presentations" and "webcam streaming" load this component moderate (0.50-0.75).

The fifth principle component (RC4) explains 8% of the variance and includes three variables: responsive design, google mobile-friendly, and multilingual website. The first two variables load this component strongly (>0.75), while the third one loads it weakly (0.32). Common to all three variables is that they allow personalization of the user interface and content according to the device being used and the language that visitor understands, so we named this dimension "**interface personalization**".

Our second objective was to evaluate the extent to which hotels in Croatia effectively execute their marketing communication and distribution function using the website, and to determine if there are significant differences in the rating of their characteristics depending on the categorization of the hotel, size of the hotel and hotel type

To analyze the frequency of particular characteristics of hotel websites in Croatia, we will classify all characteristics into four categories: rarely used (0-25%), the medium used (25-50%), frequently used (50-75%) and very frequently used (75-100%).

Within the *corporate communication layer* information about the hotel (86%), and hotel services (79%) are very frequently used characteristics of Croatian hotel websites, while info about special offers and discounts and events info (58%) are frequently used. News section (42%), newsletter subscription form (37%), guest reviews (32%), press releases (27%), FAQ section (27%) are medium used characteristics, while employment information (18%) is rarely used. Using cross-tables and results of test for differences in means, we find that hotels with more stars are using special offers, events info, guest reviews, and newsletter subscription forms more than hotels with lower rating, while FAQ sections are mostly used on 4-star and 2-star hotel websites, and less on 3-star and 5-star hotel websites. Similar comparisons between hotel groups of different sizes showed that larger hotels more frequently publish special offers, employment opportunities, FAQ and event information, and use the newsletter subscription form than the hotels with a lower rating. Website of hotel groups (corporations) more frequently use press releases, special offers, employment information, newsletter subscription forms, FAQ, events info, and info about services, than the independent hotels.

Within the *marketing communication layer,* online booking (84%) is a very frequently used characteristic, while online contact forms (64%) and online payment options (57%) are frequently used. Links for sharing content to social media (44%) and website search engine (28%) are medium used characteristics on the hotel websites in Croatia. Using cross-tables and results of the test for differences in means, we find that hotels with more stars are using online contact forms and links for sharing content to social networks more frequently than hotels with a lower rating. The frequency of using online booking increases from 2-star hotels (78%) to 4-star hotels (90%), but it is lowest in the 5-star segment (75%). Similarly, larger hotels more frequently use online booking, online payment, and links for sharing content to social networks, compared to smaller hotels. Website of hotel groups (corporations) more frequently use the website search engine, online booking, and links for sharing content to social networks, than independent hotels.

When it comes to *multimedia presentation*, it is evident that photos are very frequently used (90%), while video (30%) and webcam streaming (25%) are medium used characteristics. The use of virtual tours is present in only 16% of hotel websites. Using cross-tables and results of the test for differences in means, we find that hotels with more stars are using more advanced forms of multimedia (virtual tours and webcam streaming) more frequently than hotels with a lower rating. Photos and videos are most commonly used on the websites of 3-star and 4-star hotels and less frequently on the websites of 2-star and 5-star hotels. The larger hotels more frequently use webcam streaming on their websites, than smaller hotels. The same finding applies to hotel group websites compared to those of independent hotels.

Within the *social media integration* dimension, linking to the hotel Facebook page (75%) is very frequently used characteristic, while linking to an Instagram channel (40%), YouTube channel (29%), and Twitter channel (27%) are medium used features on the hotel websites. This is partly in line with Eurostat (2020) statistics, which reported that in 2019 in the accommodation sector in Croatia, 98% of enterprises employing 10 or more persons used social networks to build their corporate image or market products, while 74% of them used social networks to obtain or respond to customer opinions, reviews and questions. Using cross-tables and results of the test for differences in means, we find that hotels with more stars are linking to their Facebook, Instagram and Twitter channels more frequently than hotels with a lower rating. Similarly, larger hotels and hotel groups are more frequently linking to their social media channels than smaller hotels and independent hotels.

A significant number of hotels in Croatia have realized the importance of optimizing websites for mobile devices as well as the need to secure multilingualism. Within the *interface personalization* dimension, all three observed characteristics: multilingual website (88%) responsive design (84%), and mobile-friendly optimization (82%) are very frequently used characteristics. In 2018, commercial accommodations generated 18.7 million arrivals and 89.7 million overnight stays in Croatia, of which foreign tourists generated 16.6 million arrivals and 93% of total overnight stays (DZS RH, 2019), so, understandably, multilingualism is one of the most common features for hotel websites in Croatia. Using cross-tables and results of the test for differences in means, we find that there is a larger percent of websites of hotel groups that are mobile friendly and multilingual, compared to independent hotels. Also, hotels categorized with more stars, and larger hotels, are more frequently multilingual than websites of hotels with a lower rating, and smaller hotels.

Google deep neural network, a computer system modeled on the human brain and nervous system, found that as page load time goes from one second to three and five seconds, the probability of a mobile site visitor bouncing increases to 32%, and 90% respectively. Similarly, as the number of elements—text, titles, images—on a page goes from 400 to 6,000, the probability of conversion drops 95%.[3] The average performance grade of hotel websites in Croatia measured with online tool https://tools.pingdom.com was 71, with a standard deviation of 7.22. The average load time was 2.4 seconds with a standard deviation of 2.6 seconds. Although there are no strict rules for technical optimization, the golden rule says "faster is better and less is more". In Table 11 is visible that hotels with more stars and larger hotels have slightly better performance grades. Also, the websites of hotel groups outperform independent hotel websites in loading speed. Test for differences in means has shown that the mentioned differences are significant.

As we explained in the methodological section, we used an innovative technique for checking the application of google analytics measurement tools on hotel websites, as an indirect indicator of the application of digital analytics in

[3] https://www.thinkwithgoogle.com/marketing-resources/data-measurement/mobile-page-speed-new-industry-benchmarks/

hotels. The result showed that 86% of the analyzed hotels use google analytics on their websites. This result is in line with W3tech's[4] research which states that "Google Analytics is used by 84.9% of all the websites whose traffic analysis tool we know". Also, there is a significant and moderate difference in the use of Google Analytics between higher and lower-rated hotels in favor of higher-rated hotels. The same conclusion applies to larger hotels versus smaller hotels.

Finally, we can conclude that both objectives of the study were achieved. Out of the 27 observed variables, 5 dimensions of the hotel websites were identified through the principal component analysis: corporate communication layer, marketing communication layer, multimedia presentation, social media integration, and interface personalization. The identified dimensions should assist researchers as well as practitioners in evaluating the effectiveness of hotel websites using more advanced models and analytical techniques like SEM.

The corporate communications layer is most commonly used to provide visitors with information about the hotel and its services. It is noteworthy that only 37% of hotels have newsletter sign-up forms, which potentially indicates that this is the percent of hotels that use the newsletter as a form of direct marketing. Similarly, only 27% of websites are having FAQ section, so we can conclude that there is plenty of room for improving customer relations, by enhancing the quality of website content and improving communication with guests. The use of FAQ sections increases visitor confidence, and direct email marketing enables personalized communication with guests, all of which contribute to improving e-trust, which in turn affects online booking intentions.

The most common role of the marketing communication layer is to provide transactional support to guests and enable them to find the service they want and quickly book and pay for it online. It should be noted that only 64% of hotels offer guests the possibility of contact through online contact forms, and only 28% of hotels have a search engine on their website. Besides only 57% of hotels have an online payment option on their websites. Several of the studies we have presented in the literature review have shown that usability and functionality are two essential characteristics of hotel website quality that affect booking intent, which suggests that hotels should improve this segment.

[4] https://w3techs.com/technologies/details/ta-googleanalytics

When it comes to multimedia presentation, the findings indicate that a large number of hotels in Croatia do not follow technological trends and that they are still at the level of using photographs as the primary medium. More intensive application of video, webcam streaming, and virtual tours can help hotels to reduce the customer fear of intangibility, which is a common occurrence in the service sector. As Bilgihan and Bujisic (2014) stated in their research, the use of multimedia (hedonic website features) will positively affect visitor trust and loyalty.

The analysis showed that 75% of hotel websites have a link to their Facebook page, while Instagram (40%), YouTube (29%) and Twitter (27%) are less represented. As the website is supposed to support all marketing activities, hotels must develop integrated digital marketing strategies that will integrate all available channels and send consistent messages. Less frequent use of other social networks may indicate a lack of ideas and knowledge about how the same channels can be used in business.

The differences identified between different hotel groups should be further explored. It is noticeable that generally larger hotels and multi-star hotels have more features on their websites. One explanation could be that the same hotels have more resources and more digital marketing knowledge. Digital marketing is a fairly new area for many managers who completed their college education years ago. Therefore, the Croatian Ministry of Tourism and the agencies responsible for tourism promotion in Croatia should invest more in the education of hotel marketing staff to better understand the possibilities of new innovative digital marketing approaches, to increase the number of tourists and achieve better financial results.

5.2. Study limitations and future research directions

There are a few limitations regarding this study that need to be highlighted so that it can be considered for future research. First, we should indicate that our content analysis has been performed on the sample frame (hotels whose websites we were able to find using Google search engine), and not the total population of hotels in Croatia. We have observed 629 of 731 hotels in Croatia, however, even if this is a large sample (86% of the population), it was not randomly selected. Second, not all features of hotel websites are included in the analysis. For example, features like best price guarantees, refund guarantee, and safe purchase guarantee are initially designed to be part of the model. However, due to the inability to easily record the presence or absence of these features on websites, due to the different ways of promoting these guarantees on websites, to ensure the validity of the measuring instrument, it has been decided to exclude them from the analysis. Third, the use of the Google Analytics service, recorded through the presence of appropriate code on the website, tells us nothing about the extent to which this service is used for analysis. Also, Google Analytics is not the only statistical service for website traffic, so these findings should be checked with additional research. However, we think this method is a good basis for getting a picture of the use of digital analytics because it avoids the possibility of making mistakes by intentionally or unintentionally giving the wrong answers in surveys. Finally, we should note that our analysis did not take into account the importance of a particular feature of the website, either from a user perspective or from a managerial perspective. Therefore, we suggest that in future research the model should be tested by using a survey method in addition to content analysis, which will give a better picture of the importance of all five identified website dimensions, as well as the ability to test their impact on hotel business performance.

Despite these limitations, we believe that this paper helps to fill some important gaps in the understanding underlying components of hotel websites from a marketing perspective, providing additional empirical support to the relevant literature and suggesting useful directions for future research.

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IMPACT OF TOURISTS' SOCIO-DEMOGRAPHIC FACTORS AND NUMBER OF PREVIOUS VISITS ON ATTITUDINAL LOYALTY: SIMULTANEOUS TESTING OF THREE LOYALTY TYPES

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Abstract

Previous research has identified two main expressions of tourist loyalty. The first one is referred to as the number of visits (behavioral loyalty) and the second one is measured by future intentions, thus being seen as an attitudinal expression of loyalty. Although behavioral loyalty is the most precise loyalty measure, to reveal tourists' motivational background (intention to revisit or intention to recommend), it needs to be accompanied by attitudinal loyalty. Since tourists may express loyalty intention towards a destination, their style of holiday or to their accommodation service provider, this study includes all three loyalty types simultaneously to reveal the differences among them.

Moreover, this study aims to explore whether tourists' socio-demographic characteristics and their number of visits influence attitudinal loyalty. To collect the tourists' attitudes, an on-site-survey was carried out during four months – from July to October 2019. The questionnaire was divided into four parts, measuring tourists' loyalty intentions towards a destination, style of holiday, accommodation provider, and their sociodemographic characteristics respec-

tively. Data analysis included descriptive statistics, exploratory factor analysis (EFA), and OLS regression to test relationships among variables.

The results reveal that age and distance of country of origin are significant predictors of loyalty to the style of holiday, while education level and repeat visits are important antecedents of destination loyalty and accommodation loyalty

Keywords: *attitudinal loyalty, destination loyalty, loyalty to the style of holiday, accommodation loyalty*

JEL Classification: Z31, Z39

1. INTRODUCTION

In tourism, loyalty has been confirmed to play a critical role in the survival of business entities on the tourist market, but also destinations. Loyalty goes beyond repeat behavior; nowadays tourists consider themselves loyal regardless of their number of visits to the same brand or destination. Their recommendation through social networks or to their friends and relatives is also considered as loyal behavior. Therefore, loyalty in tourism research is often perceived as a dependent variable expressed in two basic ways: attitudinal and behavioral (McKercher & Denizci Guillet, 2011). Within the attitudinal approach, loyalty was measured by using scales connected to tourists' interest of revisit or recommend, including some or all loyalty expressions in a cognitive, conative or affective way (Oliver, 1999). On the other hand, behavioral loyalty, as the earliest loyalty measurement, is based on actual purchasing behavior (Kim, 2018).

Previous research confirmed the important role of certain socio-demographic characteristics of tourists, such as age, distance, and education, in predicting a specific type of loyalty, e.g. destination or brand loyalty (Correia, Zins, & Silva, 2015). This suggests that tourist loyalty is influenced by socio-demographic characteristics, which may be directed in a positive, negative or neutral way. While tourism loyalty represents a relatively well-examined topic, from the perspective of innovation in research there is still enough space for advancement. In contrast to the emerging number of studies on tourist loyalty, there are very few studies (Albaity & Melhem, 2017), that include both approaches to reveal whether and how does repeat behavior influences loyalty intentions. Furthermore, previous research on loyalty was assessed as homogeneous, and all the different ways in which tourists can show their loyalty were often neglected (Almeida-Santana & Moreno-Gil, 2017).

Research on tourist loyalty should be observed at different levels since loyalty is a behavior that could be expressed at both the vertical and the horizontal level (Almeida-Santana & Moreno-Gil, 2018). For example, tourists may be loyal to a specific brand or destination while feeling loyal to their preferred style of spending time, e.g. sailing, camping, climbing, etc. Changes in tourist habits such as more frequent travel and shorter holidays during the year are just some parts of visible changes in today's lifestyle of tourists. It is also important to understand that in today's competitive environment tourists are even more focused on themselves and their inner needs. Therefore, to avoid unidimensionality and to offer a new, multilevel dimension of loyalty, including the inner way of expressing loyalty, this study includes simultaneous testing of three types of loyalty.

To address the identified research gap, this study aims to (1) examine whether a disproportion of different types of loyalty exists, and (2) explore whether socio-demographic characteristics and the number of visits of tourists influence attitudinal loyalty.

The paper is divided as follows: first, the theoretical framework of the loyalty expression of tourists is presented. This is followed by the research methodology and findings. Finally, the results are discussed and some concluding remarks are offered.

2. LITERATURE REVIEW

2.1. Socio-demographic effects on loyalty

Previous research has reported two possible effects (positive and negative) of socio-demographic variables on loyalty intention (attitudinal loyalty). When it comes to the positive effect, Correia, Zins, & Silva (2015) found a significant effect of age, monthly income, and the number of repeat visits on behavioral intention to revisit a destination. According to their results, the relationship with selected socio-demographic variables could be described as proportional, whereby an increase in observed variables positively influences future intentions to come. Among significant socio-demographic variables, Neuts, Romão, Van

Leeuwen, & Nijkamp (2013) point out the education level as a significant predictor of destination loyalty.

Regarding differences between younger and older tourists, previous research generally agrees that older tourists are more likely to have a repeat visit compared to younger tourists, arguing that younger tourists are more interested in searching for something new than visiting the same destination (Almeida-Santana & Moreno-Gil, 2018; Petrick, 2002). On the other hand, some authors reported a negative effect of age on loyalty, implying that older customers are less likely to use the loyalty program of their hotel in the future (Xie, Xiong, Chen, & Hu, 2015).

Socio-demographic characteristics are often used as a moderating variable in studies that have applied structural equation modeling to test a relationship to future loyalty intentions. In a widely tested relationship, such as the one between satisfaction and loyalty intentions, demographic characteristics show a significant moderating role (Rajaratnam, et al., 2015, Homburg & Giering, 2001).

Following previous studies on tourist loyalty, this study includes age, a distance of country of origin and education level as the three socio-demographic variables that are predicted to have the biggest influence on loyalty.

Furthermore, many studies on destination loyalty examined the moderating role of previous visits. Their results show a significant and positive influence of previous visits on the link between satisfaction and destination loyalty (Chi & Qu, 2008; Rajaratnam, et al. 2015). Although previous research revealed an important role of previous visits on one loyalty type, there is still a scarcity of resources when it comes to simultaneous testing of different types of loyalty.

2.2. Loyalty types in tourism research

Destination loyalty and hotel (brand) loyalty are among the most commonly used topics in tourism loyalty research. Loyalty towards a destination is mostly measured by the intention to make repeat visits by tourists and the likelihood of a travel destination to be recommended to friends and relatives (Neuts, et al., 2013). However, some researchers (Lee, Graefe, & Burns, 2007) argued that place attachment also plays important role in explaining loyalty, whereby loyalty is expressed as a psychological commitment "an enduring desire to continue attachment" (Pritchard, 1993, p. 334). A similar examination of loyalty through the attitudinal approach is visible in loyalty towards a brand or accommodation provider, whereby tourists assess their commitment towards a hotel or another type of accommodation in an affective, conative, or cognitive manner.

The composite approach of testing loyalty to the destination, brand or style of the holiday was previously suggested among most appropriate approaches to measure loyalty (Jacoby, 1971; Fung, et al. 2013). Thus, to gain a holistic perspective of research, this study incorporates both attitudinal and behavioral aspects of loyalty.

Contrary to traditional views of tourist loyalty, there is an emerging number of studies that show the presence of new aspects of loyalty on the tourist market. For instance, Almeida-Santana & Moreno-Gil (2018) have recently identified two types of loyalty, destination and horizontal loyalty (to multiple destinations), by showing differences and common determinants of each type of loyalty. More specifically, the common socio-demographic determinants for both types of loyalty were age, income, and experience. Also, McKercher et al. (2012) are among a few authors who studied experiential loyalty as a new aspect of loyalty to a destination. According to their research, three experiential loyalty patterns are evident: (1) a dominant, preferred destination, with substantial variety-seeking shown in one-off visits to other destinations, (2) one-off or infrequent repeat visits (less than once every five years), and (3) loyalty to several holiday styles (two or three preferred holiday styles, different destinations to satisfy these styles).

To sum up, in previous research loyalty to a particular style of the holiday was tested under the label of experiential loyalty. This type of loyalty represents a self-oriented type of loyalty, which is neither destination nor enterprise specific (McKercher, Denizci-Guillet, & Ng, 2012). Therefore, it should be tested with other specific types of loyalty to specify determinants for each type. Since, to our knowledge, no author in tourism research has yet examined this approach, that is, testing three loyalty types simultaneously, this study will bring new insights, but also innovative ideas in relatively traditional tourism literature.

3. METHOD

To meet the objectives of the study, an on-site survey was administered to randomly selected tourists who were staying in Opatija Rivera (a non-probability convenience sampling method). Only tourists who were over 18 years old and with an accommodation service provider at Opatija Riviera were considered appropriate for participation in the study. Out of 350 distributed questionnaires, 246 were completed and used in the analysis (70% response rate).

The questionnaire was based on items from previous studies (Petrick, 2002; Almeida-Santana & Moreno-Gil, 2018). It was divided into four parts, measuring tourists' loyalty intentions toward a destination, style of holiday, accommodation provider, and their sociodemographic characteristics respectively. Questions regarding loyalty intention were rated on a 7-point Likert-type scale where 1 = strongly disagree, and 7 = strongly agree.

The same items were used to measure all three types of loyalty, incorporating attitudinal aspects of loyalty expressed through the willingness to recommend (WOM), conative, and cognitive dimension.

To measure loyalty to the style of holiday, the questionnaire included a scenario. More specifically, tourists were asked to think about their preferred style of holiday and to indicate their level of agreement with subsequent statements.

Gathered data were analyzed by applying descriptive statistics, exploratory factor analysis, and regression analysis with the statistical package SPSS 25.0.

4. RESULTS AND DISCUSSION

Concerning the respondents' profile, approximately 60% were male, and 40% were female. 58% held a university degree, while 35% had completed their secondary and 2% only elementary education. Concerning distance of country of origin, 38% of respondents were from European countries within 500 km, 35% were from European countries farther than 500 km, 16% were from countries from another continent, and 11% were domestic tourists. Their age ranged from 18 to 90, with the highest number of participants belonging to the Baby Boomer generation (53–72 years old) – 37%, followed by Generation Y (23–36 years old) – 23%, Generation X (37 – 52 years old) – 20%, Traditionalists (73–90 years old) – 11%, and Generation Z (18–22 years old) – 9%.

Since this study includes a new dataset, the first step was to analyze the structure of the interrelationships among groups of variables (factors) through exploratory factor analysis (EFA). Results of principal component analysis with varimax rotation showed a reduced set of representative variables for each factor (Table 1). The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was 0.840, which is considered acceptable. Additionally, Bartlett's test of sphericity was 2161.507 (df=66), $p<0.001$, showing that the variables relate to one another. Through EFA, only variables with factor loadings of more than 0.60 were kept, which is considered to be a significant factor loading concerning sample size (Hair, Black, Babin, & Anderson, 2014). All extracted factors had eigenvalues greater than one, explaining 77% of the total variance. Most of the variance was explained by Loyalty to the style of the holiday (30.87%), followed by Destination loyalty (25.11 %), and Accommodation loyalty (21.88 %).

Table 1. Exploratory Factor Analysis results – (EFA)

	Extracted factors			Mean	Std. Dev	Cronbach's alpha
	1	2	3			
Loyalty to the style of the holiday (LSH)				5.818	1.275	0.911
If I decide to come back to Croatia I will choose the same style	0.884					
This style of the holiday will be my first choice among others	0.875					
Spending time in this way is worth repeating	0.824					
I will recommend this style of holiday for my friends and relatives	0.815					
I will talk positively about this style of holiday in Croatia	0.780					
Destination loyalty (DL)				4.506	1.775	0.885
This destination will be my first choice if I decide to come back		0.891				
If I come back, I will stay in the same destination		0.851				
I will likely revisit this destination within the next three years		0.837				
I intend to visit this destination again during low season		0.778				
Accommodation loyalty (ACCL)				5.497	1.564	0.911
I will talk positively about my current accommodation			0.891			
I will recommend the service accommodation provider			0.884			
My current accommodation is worth revisiting			0.855			

Source: Research results

To check the reliability of the factors (consistency of the item-level errors), Cronbach's alpha was used. Coefficient alpha estimates ranged from 0.885 to 0.911, which is considered acceptable for multivariate analysis (Hair, Black, Babin, & Anderson, 2014). Furthermore, to examine the effects of socio-demographic variables on determined loyalty factors, an OLS regression analysis was performed (table 2, table 3 and table 4).

Table 2. Effect of socio-demographic factors and number of repeated visits on *loyalty to the style of the holiday* (N=249)

Variables	Coefficients B	Std. error	Sig.	Collinearity statistics	
				Tolerance	VIF
(Constant)	5.684	0.523	0.000		
Distance of country of origin	-0.209	0.096	0.031	0.880	1.136
Age	0.147	0.069	0.034	0.980	1.020
Education	0.004	0.107	0.968	0.992	1.008
Repeat visits	0.088	0.081	0.279	0.883	1.133

Source: Research results

Note: R^2=0.031; F (2.845, df=4); $p<0.05$; dependent variable: loyalty to the style of holiday

The OLS results show that two out of four variables are significantly connected to loyalty to the style of holiday. Namely, the results imply that as the distance of tourists' country of origin increases, loyalty to the style of holiday decreases. Additionally, older tourists show greater loyalty to their style of holiday. On the other hand, education and previous visits were found not to be a significant predictor of loyalty to the style of holiday.

Concerning the distance of country of origin, long-haul tourists have previously been confirmed to be less loyal to the destination than short-haul tourists (McKercher & Denizci Guillet, 2011). Also, long-haul tourists were considered to enjoy an exponentially larger array of destinations to satisfy their needs. Although there is no previous research that tested the influence of distance on loyalty to the style of holiday, the results may be explained through the nature of visits of tourists who are coming from long-haul destinations and their need for variety-seeking during the visit. While variety-seeking may also be seen as a preferred style of holiday in Croatia for long-distance tourists, Croatia is not a destination where they can enjoy in their preferred style of holiday.

Table 3. The effect of socio-demographic factors and the number of repeated visits on *Destination loyalty* (N=249)

Variables	Coefficients B	Std. error	Sig.	Collinearity statistics	
				Tolerance	VIF
(Constant)	2.377	0.716	0.001		
Distance of country of origin	-0.103	0.132	0.433	0.880	1.136
Age	0.092	0.094	0.331	0.980	1.020
Education	0.381	0.146	0.010	0.992	1.008
Repeat visits	0.433	0.111	0.000	0.883	1.133

Source: Research results

Note: R^2=0.085; F (6.343, df=4); p<0.01; dependent variable: Destination loyalty

As shown in table 3, education and the number of previous visits were significant predictors of destination loyalty. The higher the education of the tourists, the more likely they are to come again and to recommend their current destination (Opatija Riviera). In the same way, the higher the number of previous visits, the greater the destination loyalty of tourists. The other two variables, the distance of country of origin and age, were not found to be important predictors of destination loyalty.

Some of these findings contradict previous findings. According to Chi (2011), tourists with a lower level of education perceived a destination more favorably than those with a higher level of education. Results from data collected at Opatija Riviera show the opposite, which may be explained by a different type of destination. When it comes to the number of repeat visits of tourists, our findings are in line with previous research. For example, Chi (2012) found that repeat tourists reported higher levels of destination revisit and referral intentions.

Table 4. The effect of socio-demographic factors and the number of repeated visits on *Accommodation loyalty* (N=249)

Variables	Coefficients B	Std. error	Sig.	Collinearity statistics	
				Tolerance	VIF
(Constant)	5.676	0.649	0.000		
Distance of country of origin	-0.296	0.119	0.014	0.880	1.136
Age	0.119	0.085	0.164	0.980	1.020
Education	0.047	0.133	0.726	0.992	1.008
Repeat visits	0.037	0.101	0.712	0.883	1.133

Source: Research results

Note: R2=0.021 F (2.223, df=4); p<0.05; dependent variable: Accommodation loyalty

According to results presented in table 4, only one variable (a distance of county of origin) was found to be an important antecedent of accommodation loyalty. Namely, the results indicate that tourists with a longer distance of country of origin show less interest in a future relationship with their current accommodation service provider (accommodation loyalty). This result was also identified by previous findings, suggesting that tourists from long-haul destinations are less likely to be interested in revisiting familiar places (McKercher & Denizci Guillet, 2011). However, the other three variables, which some earlier research considers as significant antecedents of a specific type of accommodation such as a hotel (Xie, Xiong, Chen, & Hu, 2015), do not have a significant impact on accommodation loyalty.

5. CONCLUSION AND FUTURE RECOMMENDATIONS

Previous research that utilized a multidimensional approach towards loyalty served as the basis for the theoretical model employed in the present study. The aim was to understand how the same set of socio-demographic characteristics influences different loyalty types. Our results show that some common variables are affecting different loyalty types. In particular, the distance of the country of origin is an important predictor of both accommodation loyalty and loyalty to the style of holiday. Namely, the results imply the existence of an inversely proportional relationship, whereby tourists from long haul destinations show significantly less interest in revisiting Croatia to have the same style of the holiday (loyalty to the style of the holiday) and to revisit and recommend current accommodation service provider (accommodation loyalty).

On the other hand, the results show that there are also variables which predict only one loyalty type, while not being important for other types, e.g. age was found to be important only in predicting loyalty to the style of holiday, while education level and several previous visits significantly influence only destination loyalty. These results imply, that older tourists are more familiar with their preferred style of a holiday than younger tourists, and that they can better imagine themselves having a well-known style of holiday again compared to younger tourists. Besides, when it comes to education and repeat visitation, results imply a proportional relationship with future interest to revisit the destination, whereby more frequent tourists and more educated tourists are more destinations loyal.

Traditionally, at the national or destination level, loyalty has been analyzed selectively by focusing on only one loyalty type, without taking into consideration all the other possibilities of loyalty. This approach does not fit into today's trends. Therefore, it could be concluded that loyalty is not as unidimensional as suggested by Almeida-Santana & Moreno-Gil, (2018). Considering the complex behavior patterns of tourists, it can be assumed that loyalty is not an exception when it comes to measuring it.

By taking into consideration the multidimensionality of loyalty, this study gave a new perspective of loyalty research in tourism. Namely, this study not only investigated differences among socio-demographic characteristics affecting one loyalty type, but it also focused on differences among three loyalty types. Therefore, this study offers a change in research design, where the focus is primarily on tourists' needs and wants.

In terms of the limitations of this study, several things need to be acknowledged. First, the research is conducted in a relatively small area, Riviera Opatija, which is popular among older tourists. Therefore, future research should include several different destinations. Results from such studies, by comparing differences or similarities among destinations, will bring a more complete picture. Also, since this study includes only socio-demographic factors and the number of previous visits to determine what affects loyalty intentions, future studies should consider testing an even more complex model. For instance, by including factors such as satisfaction or motivation, and testing their relationship through structural equation modeling. Finally, future researchers should also consider testing the moderating effects of other variables, such as type of accommodation, number of days at destinations, income, etc.

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THE IMPACT OF DIGITAL MARKETING ON DEVELOPMENT OF TOURISM IN THE URBAN AREAS

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Abstract

The whole world is being digitized and the economic development of urban areas continues to accelerate. The same goes for tourism and its employment of digital tools, namely digital marketing. Digital marketing is significantly changing the way destinations communicate with potential consumers. New digital technologies and social media can make it much easier to find potential consumers and target them to make an impact on their minds and decision making about their next travel destination. Thanks to the new technologies, communication with end-users and consumers of services are now two-way, which provides numerous opportunities for advertising and improving the tourist offer based on consumer feedback. Digital marketing is the leading way of advertising in the world to date and it is hard to imagine that shortly some new form of marketing could take it down, especially since this way of advertising gives everyone a chance to get involved in the market race. Therefore, during this period of intense economic, social and cultural changes in the urban areas, it is necessary to identify and integrate new technologies in the implementation of their planned marketing strategy. With a clear focus on consumer experience, the use of digital marketing tools in the development of tourism in urban areas has given rise to new opportunities. A good example of an urban area that has used digital marketing as a tool for tourist development is the city of Zagreb. Although still in its infancy and currently underutilized, the potential *for further promotion of Zagreb through digital marketing is significant and should be harnessed. It will contribute to the valorization of its tourist offer on the international tourism market and ultimately it will contribute to the more significant promotion and strengthening of Zagreb as an unavoidable tourist destination in the region.*

Keywords: *digital marketing, promotion, tourism, social networks, urban areas*

JEL Classification: M31, Z32

1. INTRODUCTION

The rapid development of information and communication technologies in the last ten years has resulted in changes in almost all areas of business. Disruptive changes that are affecting the entire economy have forced many stakeholders in the tourism market to adapt to the digital age. That requires the introduction of transformational processes whereby the business continuation depends on addressing these challenges.

The Internet was originally just a communication medium, but in recent years it has gained exponential use in e-commerce and digital transformation of business in general. Today, we are witnessing that the Internet is becoming a platform for managing consumer relationships, virtual networks, and communities for many tourist destinations. Tracking interactions with end-users has opened several benefits for business improvement, such as market research, analyzing consumer behavior, managing marketing campaigns and measuring their effectiveness. This way digital marketing becomes a kind of strategy for tourist destinations and businesses that can significantly contribute to the success of the entire tourism business.

In traditional marketing, the product is looking for the customer, while in digital marketing the customer is looking for the product. Digital marketing creates the potential for two-way communication with end-users, so the importance of choosing a good strategy is crucial because the Internet is a dynamic environment in which competition can endanger business at any time. Accordingly, the application of digital marketing can be an advantage or disadvantage to the business of a tourist destination, depending on how it is organized and implemented.

If we take a quick look at the world economy, we can see that tourism has become an increasingly important branch of every economy. Throughout history, tourism as an industry has evolved, changed and gradually acquired some of its dominant characteristics. The development of tourism involves adapting to global social trends and the social and economic situation in the market. Therefore today, more than ever before, digital marketing in tourism has significantly increased the role of social networks such as *Facebook, Twitter, Instagram,* but also *YouTube* channels. Every day we witness the impact of various influencers and bloggers on the opinion of their followers about a product, service and even a tourist destination. They quickly became opinion makers. For example, new generations access the information online and trust the recommendations of strangers who have had a similar experience more than sales agents in some tourist agencies. More than 60% of tourist bookings (accommodation, transport and location experiences) are made via the Internet and 35% of all trips are fully organized and booked on mobile phones (Jakopović, 2019). Therefore, stakeholders in the tourism industry need to take a serious approach to this topic, which in its basics is to adapt and embrace new trends.

This also applies to tourism in urban areas, whose tourist boards should be making great efforts to portray those areas as an attractive tourist destination. To continue developing tourism in urban areas, it is necessary to adapt to new trends to reach as many end-users as possible. This usually means launching numerous initiatives through digital marketing channels and tools to make an impact on the development of tourism in the urban areas more significant than it has been the case to date.

Adapt or die, is the famous mantra among digital transformation enthusiasts. And it is the biggest truth everyone in the business world should be aware of. Neglecting the need to change can bring tourist destinations and their business to easily lose the market race and the race for their consumers to more agile competition adapted to the digital world and user experience of new generations. In addition to getting information and buying differently, a new generation of tourists is looking for a different type of content. They are primarily oriented to the location experience. A survey of 34,000 (mostly young people) from 137 countries found that tourists are no longer looking for just the traditional offer of sun, sand, and sea (Jakopović, 2019). This is exactly why urban areas should adapt to new trends and use digital marketing channels and tools to develop and promote their tourist offer and thus attract these new generations of tourists.

2. DEVELOPMENT AND APPLICATION OF DIGITAL TOOLS AND DIGITAL MARKETING IN TOURISM

The whole world is being digitized and the economic development of urban areas continues to accelerate. The same goes for tourism and its employment of digital tools, namely digital marketing, to promote and develop tourist offerings in numerous destinations. Digital marketing is significantly changing the way destinations communicate with potential consumers. New digital technologies and social media can make it much easier to find potential consumers and target them to make an impact on their minds and decision making about their next travel destination. Thanks to the new technologies, communication with end-users and consumers of services are now two-way, which provides numerous opportunities for advertising and improving the tourist offer based on consumer feedback. Although the impact of digital marketing in tourism is not new, we are entering the new age that presents unprecedented challenges but also opportunities for urban areas. Digital marketing tools such as social media are invading the tourist and business environment, provoking significant changes in the way people travel and in the way urban areas brand themselves.

To fully understand the concept of digital marketing, it is necessary to remember what (traditional) marketing is. According to Kotler et al. (2014), "Marketing can be defined as the social and managerial process by which individuals and groups get what they need and want by creating and exchanging products with others." Marketing is not just a business function but also a philosophy, a way of thinking and a way of structuring a business. According to Kotler et al. (2014), "marketing engages with clients more than any other business function, and customer value creation and satisfaction are at the core of the hospitality, hotel and travel industry marketing".

Due to the great technological changes that have led to the development of new technologies, traditional marketing is undergoing numerous changes. The development of information and communication technologies has influenced the rise of online business activities, especially marketing. New technologies have largely influenced the expansion and deployment of available marketing channels and the very definition of marketing communication. The Internet plays the biggest role in these changes. The Internet has been taken very seriously in the business world and is used as an indispensable tool for the operational efficiency of businesses - as a new medium, a new market and new communication and distribution channel. The Internet allows the buyer direct contact with business entities anytime, anywhere, so that the buyer can obtain the desired information about the product or service and then buy it.

The influence of information technology is visible on traditional marketing methods and techniques, but it is also possible to speak about a whole new type of marketing - digital marketing, which is widely used in tourism. Digital marketing is defined as the process of making offers, pricing, distribution, and promotion to profitably meet the needs and desires of customers with intensive use of digital technology. Digital marketing is evolving at a very rapid rate due to the high speed of Internet expansion and the development of information and communication technology. The main advantages of digital marketing are (Krum, 2010):

i) global reach,

ii) lower costs and better ROI than in traditional marketing,

iii) the ability for a tourist destination to access the global market,

iv) easily measurable results of marketing activities,

v) personalization of marketing activities,

vi) greater flexibility - the ability to respond quickly to new market trends.

Today, digital marketing in tourism is developing at an incredible rate. Tourism relies heavily on information and communication technology. Examples of the most significant use of information and communication technology in tourism are reservation systems, partner networks for common transactions, global distribution systems, numerous applications for hospitality organizations, destination management systems, travel agents via the Internet, reservation systems based on mobile telephony, etc. Information and communication technology have become a key support for many functions in tourism, facilitating, among other things, direct contacts with clients, making it easier for them to make reservations and payments.

Research on the strategic impact of the Internet in the tourism industry has shown that the use of the Internet in the tourism sector increases the flexibility, convenience, and transparency of business operations, enables the real-time presentation of the business situation, ensures immediate information transmission and accelerates the emergence of new intermediaries. The importance of the internet in the tourism industry is best illustrated by the fact that today more than 60% of all world-class travel starts with an Internet search. Everyone knows internet sites like *Booking.com*, *Expedia*, *Airbnb*, *Skyscanner*, *TripAdvisor*, and many others without making it much harder for end-users to get all the information they need about a destination and to book accommodation, air travel and plan the entire trip in no time. Moreover, today's lifestyle cannot be imagined without the aforementioned applications.

3. SOCIAL MEDIA HAS BECOME AN INDISPENSABLE PROMOTIONAL TOOL FOR MARKETING IN TOURISM

The impact of information and communication technologies has changed the image of the marketing mix. The components of the marketing mix have become transparent, dynamic, customizable and interactive. Information and communication technology are making tourism business easier and faster, so tourists can easily explore information about a tourist destination they want to visit, book accommodation and make various transactions. According to a survey conducted by the Institute of Tourism, we can see that the Internet in tourism is mostly used to collect information about destinations and then to book accommodation. Information and communication technologies in tourism consist of user-generated content, destination management systems, implementation of mobile information and communication technology, hotel electronic distribution and tourist internet sites. Each of these parts can function separately, but also in symbiosis with the other parts (Djak, 2017).

Social media has become a great promotional tool for marketing in tourism. They allow users to participate and interact across various platforms. Modern social media tools have changed the way people think and share their travel experiences. We can divide social networks into two groups. The first group includes social media such as *Facebook*, *Instagram*, *Twitter*, *YouTube*, *Snapchat*, blogs and the like. The second group includes collaborative media such as *Wiki-*

pedia, Rotten Tomatoes and the like (Kotler, et al, 2010). The most popular social networks today are undoubtedly *Facebook* and *Instagram*, followed by *Twitter, YouTube, Snapchat,* and *LinkedIn*. Users on social media edit their profiles and connect with other users through shared interests and relationships. This is one of the elements that service providers can leverage and strive to create common interests and relationships with customers and enable the presentation of their products and services through these social networks.

Popular users on social networks are nowadays called *influencers*. These are the people who actively use different social networks and blogs and participate in content creation by sharing their opinions and stories. Likewise, bloggers are often *influencers* because they influence other users in shaping their opinions. Research has shown that the interplay that results from an exchange of views between consumers is an important factor influencing consumer purchasing decisions. Word of mouth or advice from friends and relatives are often ranked as the most influential source of information before purchasing a product or service. Nowadays, this can be an extremely powerful tool in advertising a particular product or tourist destination, given the fact that a large number of users who get the message trust the recommendations from the *influencers* they follow on social networks.

In addition to social networks, blogs are also very popular. Blogs are websites run by individuals or small groups and are usually informational or discussion-based. Often, blogs interact with readers and authors of a blog so that they, based on a read article, give their opinions and come up with their views on the topic. They have developed a lot to date, so we also have video blogs, or blog posts, which are mostly posted on social media such as *YouTube* and *Facebook*. There are also a lot of popular *install blogs* that are running through the increasingly popular *Instagram* app.

Travel blogs have become such a powerful tool that tourist destinations can tell their stories and build good relationships with potential consumers. Travel blogs are digital word-of-mouth (eWOM) and they are becoming a favorite source of travel information. Travel blogs generally combine a set of texts, videos, photos and even audio. They are like virtual stories, full of experiences that describe the travel experience to a public audience and conjure up what their experiences might be like when they visit a certain destination. The interpretation of these experiences is becoming increasingly popular with the help of social networks. People can share blog posts with family, friends, acquaintances, and strangers, allowing interaction and engagement with blog visitors who can maybe become a new consumer of a particular tourist destination. Research also shows that people have a greater tendency to trust digital word-of-mouth than traditional marketing (Djak, 2017).

Bloggers' motivations for writing posts vary from having fun, being informed, to expressing themselves and making money. Travel blogs have shown that they play an important role in the online space, which can help and bring new consumers to a particular tourist destination/urban area. The number of blogs, including travel blogs, is increasing day by day, which means that marketing blogs are extremely popular and have a significant impact on urban area marketing.

For the tourism marketing and tourism industry in general, it is extremely important for travel blogs to be understood as a new technological phenomenon and to apply its implications to the marketing strategy of one tourist destination/urban area. Recently, personal or travel blogs have become an important source for collecting travel information. With them, tourists can share their travel experiences with others and potential tourists can seek and respond to the experiences of others (Djak, 2017).

For these reasons, nowadays, numerous business entities in general, as well as tourist businesses and tourist destinations, have included collaboration with *influencers* and bloggers in their marketing strategy. It is often the case that accommodation establishments, especially those of the higher category, host various travel bloggers and *influencers* to promote their accommodation on their online channels. It is also a trend that tourist boards at national, regional and local levels organize study trips for travel bloggers, covering all the costs during that trip. In return, travel bloggers share their experiences of the destination with their many companions through blog articles on the blog site, social media posts and many images that help their followers to portray that experience and possibly encourage them to travel to those destinations themselves (Djak, 2017).

It is something that should not go unnoticed when it comes to tourism development in urban areas. As previously said, new generations seek a different experience when it comes to traveling and leisure. It is often not enough to have beaches and nice weather with lots of suns. The new generation of tourists seek great experience and this is exactly why urban areas have a greater opportunity to attract those consumers. Urban areas often have a lot more to offer, which is why they have to adapt to new trends and use digital marketing tools to harness these opportunities and to reach and attract a much larger number of their consumers. The same goes for businesses that are part of the tourism industry and everyone who is directly involved in the creation of tourist offers in an urban area.

Although digital marketing in tourism has significantly increased the role of social networks such as *Facebook, Twitter, Instagram,* and *YouTube* channels, they still need to be approached with some caution. Advertisers need to keep constant track of social network investments as well as the profits they make through them. Being on *Facebook* and *Instagram* is a must, because the more followers someone has, the higher their social media reach is. It is the most important factor in digital marketing in tourism which can enhance or completely undermine the image and credibility of a particular tourist destination and/or urban area.

4. INFORMATION AND COMMUNICATION TECHNOLOGIES AND DIGITAL MARKETING POSITIVELY AFFECT TOURISM DEVELOPMENT IN URBAN AREAS

With a clear focus on consumer experience, the use of digital marketing tools in the development of tourism in urban areas has given rise to new opportunities. By using digital tools urban areas can position themselves in the tourist market much easier than it was the case before. However, for further development of tourism and harnessing the tourism potential that urban areas possess, it will be necessary for them to fully adapt to new trends and technologies and to invest heavily in promotion through digital marketing tools.

Urban areas that are seriously considering their marketing strategy and their digital transformation must anticipate a systematic effort and professional support in understanding the needs of its visitors (Novoselec, 2019). One of the reasons why it is so important for urban areas to transform and adapt new trends, from a position of understanding consumer needs and attitudes, is the fact that this digital era makes interaction with consumers inevitable. It represents a necessary step into an interactive and proactive relationship with its citizens, visitors, including two-way communication on digital platforms and social media.

Urban areas need to embrace the fact that digitization while facilitating a significant part of their everyday work processes, will give them an initially great effort to modify their procedures and practices. However, these efforts and challenges are inevitable if urban areas in Western Balkans want to keep pace with developed tourist destination in Western Europe, USA and other. Adapting to new trends, promoting their tourist offer through digital marketing channels are a prerequisite for successful economic and tourist development and, ultimately, will be a prerequisite for successful retention of their visitors. Consequently, tourism development means economic development which results in higher economic standards and support among their citizens (Novoselec, 2019).

New technologies have enabled virtually unlimited and backward communication with the end-users, which helps to improve the supply and consequently further development of tourism in urban areas. New technologies can bring a much wider reach, ie the audience to whom the message is sent through digital marketing is unlimited, while at the same time it enables the urban area/tourist destination to identify the target group that is most important and of which they benefit the most. Digital marketing is significantly more accessible because it does not require a huge budget and the money invested is far more effective and returns are multiplied. This should also guide the people in charge of implementing the tourism development strategy in urban areas since this shows that with relatively small investments they can send effective messages to attract more tourists, which will have a positive impact on the quality of the offer and consequently on increased revenues from tourism and improving the living standards of its citizens.

The key misconceptions of tourism development that distinguish successful destinations from those unsuccessful can be reduced to three recommendations for tourist boards and destination officials. First, it is important to recognize opportunities that information and communication technologies offer and see what their competition does in that segment. Urban areas/tourist destinations must not allow a comfortable market position to lead them into false security and ignore the obvious signs of a need for a new form of promotion. Also, it is imperative to identify and monitor new marketing disruptors and use them preferably before the competition does. Tourist boards of urban areas need to be more agile and prepared for a rapid response on the market. The second recommendation focuses on the need for continuous analysis of digital marketing channels. Specifically, the digital age offers new opportunities for marketing products and channels. Although using only digital marketing channels should not always be the only option, conducting a thorough analysis of potential marketing and sales channels with modern digital tools can make promotional campaigns of urban areas more efficient and successful. The third recommendation is perhaps the most important, which is to adapt their marketing strategy for new generations, as each generation has its habits and way of communicating and consuming information and content. They need to consider how promotional campaigns are tailored to the generations that are their market today, but more importantly, that will become their market in the years to come (Jakopović, 2019). Modern digital marketing tools, such as social media that focus on constant interaction and wide reach, can help greatly.

But for historical reasons, it is difficult for urban areas in Western Balkans to compete with tourism frontrunners in the traditionally developed countries. But when it comes to digital marketing in tourism, which has only recently begun developing in this region, the playing field is more leveled. Digitization of marketing and promotion of tourist destinations will become the next growth engine for urban areas in Western Balkans. Therefore it is crucial that urban areas/cities, like all other organizations, have a digital marketing strategy for tourism development and that they implement it systematically with clearly defined action plans, having in mind these recommendations mentioned above.

5. A GOOD EXAMPLE OF URBAN AREA THAT HAS USED DIGITAL MARKETING AS A TOOL FOR TOURIST DEVELOPMENT IS THE CITY OF ZAGREB

Digital marketing is the leading way of advertising in the world to date and it is hard to imagine that shortly some new form of marketing could take it down, especially since this way of advertising gives everyone a chance to get involved in the market race. Therefore, during this period of intense economic, social and cultural changes in the urban areas, it is necessary to identify and integrate new technologies in the implementation of their planned marketing strategy.

A good example of an urban area that has used digital marketing as a tool for tourist development is the city of Zagreb. Zagreb and its Tourist Board have recognized digital marketing as a necessary tool for promoting and developing tourism in Zagreb. Although still in its infancy and currently underutilized (as confirmed by research findings), the potential for further promotion of Zagreb and other urban areas through digital marketing is significant and should be harnessed. It will significantly contribute to the development of tourism in the city of Zagreb. Also, it will contribute to the valorization of its tourist offer on the international tourism market and ultimately it will contribute to the more significant promotion and strengthening of Zagreb as an unavoidable tourist destination in the region.

Given the increasing demands in the tourist market, the city of Zagreb needed to be profiled as a desirable and safe Central European destination, which is distinguished by its diverse offer by the wishes of its visitors. The emphasis of the marketing strategy of the Zagreb Tourist Board is on excellence and agility, ie the rapid development and promotion of new high-quality tourism products, which enables quick adaptation to changes in tourist demand and a more diverse tourist offer at more affordable prices. Information and communication technologies were crucial in delivering this action plan. This goes to show the importance of adapting to new trends and embracing new technologies and digital marketing tools to reach and attract a larger number of new generation tourists.

Elegant and welcoming, the city of Zagreb is becoming one of Europe's most popular city break destinations. With an eclectic mix of Mediterranean and Central European culture, Zagreb combines Austro-Hungarian tradition and a warm, Mediterranean lifestyle. Within the strategic framework of Zagreb as a touristic urban area, it is positioned as a European city, which with its urban content and lifestyle encourages people to live and come visit it. Zagreb is a city that tells its story innovatively and creatively, and at the same time prides itself on its tradition, Central European heritage and culture. Due to the fierce competition in the international tourism market and the increasing number of urban tourist destinations with developed and quality tourist offer, a relatively recent trend among destination marketing organizations in establishing their destination or a particular event into a brand.

The simplest definition of destination branding would be that it is a process used to develop a unique identity and personality that is different from any other competing destination. However, even though tourism destination branding is related to product branding and both public relations and advertising are used as communication tools, the ways of branding can vary a lot from one urban area to another. Since the urban area or destination itself cannot be sold as a product, this is more of a philosophy of managing the destination's identity and image in the global public opinion (Skoko, 2014). None of it would be possible or it would be very difficult without the use of od modern tools such as digital marketing.

To fully utilize the tourist potential and to further develop tourism in Zagreb, Zagreb city officials and Zagreb Tourist Board have set strategic goals for tourism development and branding of Zagreb as a tourist destination. These strategic goals imply the use of numerous information and communication technology tools as well as digital marketing channels. To meet the strategic goals and targets that have been set, Zagreb Tourist Board has operationally developed 21 activities across 9 different marketing units (product development, business intelligence, digital marketing, city vacations, events, promotion, B2B, congress office, sponsorship). These activities should significantly contribute to the growth and development of tourism in the City of Zagreb. According to the Tourist Board data, the growth rate of tourist arrivals from 2016 to 2020 is approximately 6% annually, with an increase in the number of overnight stays at a rate of over 8% in the said period.

In particular, Zagreb Tourist Board has started to advertise with *Google AdWords*, the largest advertising network in the world that displays ads on the *Google Search Network* (such as *Google Search*) and the *Google Display Network* (such as various web portals), which started back in 2008. The promotion of a series of events in Zagreb was carried out through the summer (*Dive in Zagreb*) and winter (*Advent in Zagreb*) campaigns on leading portals in the target countries and on mobile platforms. Zagreb Tourist Board advertised two films on its *YouTube* channel which had a very positive impact. Besides that, Zagreb is one of the first tourist destinations and urban areas for that matter to use virtual reality (VR) and augmented reality (AR) applications for promotion.

Tourist Board then continued to use social networks for promotional and branding purposes, such as *Facebook, Instagram, Twitter, Flickr, Google+, LinkedIn, Pinterest*, etc, while *YouTube* profile was constantly updated with new movies and *Blogspot* profile was updated with new texts and photos. The number of followers on social networks is on a constant rise which is a great sign for the wider reach of their marketing campaign.

To cover the subject matter, quick research was conducted with the created online survey as the main research instrument. The survey was conducted on a sample of 123 respondents (*N = 123*) who formed a public opinion poll to explore the impact of digital marketing on tourism development in Zagreb. *Google Forms* was used to create the survey questionnaire, which was then distributed via *Facebook (Messenger)*. Regarding the results of the research, shows that most respondents spend lots of hours daily on the internet, especially on social networks. It shows that social networks with 68% have an absolute advantage over other channels of digital marketing. Nonetheless, information obtained through digital channels still lacks such superiority in the decision-making process. In particular, respondents' exposure to digital media advertising is surprisingly low - only 6% of respondents were exposed to digital marketing. As a consequence, only one in four respondents believe that Zagreb is adequately advertised with digital media and 98% of them expect more promotion of Zagreb as a tourist destination through digital campaigns. These respondents also believe that the efforts and investments made by the Zagreb Tourist Board to promote Zagreb as a tourist destination through digital marketing channels have not been adequate so far. Further analysis of the survey shows that the vast majority of respondents believe that digital marketing will significantly contribute to tourism development as well as stronger branding of Zagreb as a recognizable tourist destination. Therefore, it can be concluded that the current tourism promotion of the city of Zagreb has not fully exploited the potential of digital marketing and that to further develop tourism it is crucial to adapt even more to the new digital marketing trends with the clear goal of branding Zagreb as a recognizable tourist destination.

6. CONCLUSION

The results and activities shown above are clear evidence that the Zagreb Tourist Board has recognized digital marketing channels as a key tool for the successful promotion of Zagreb as an attractive tourist destination, even though its citizens believe that these efforts have not been adequate. Surely, the usage of digital marketing will be on the rise in the years to come. After all, integrated marketing communication is one of the key strategic plans of tourism development in Zagreb as a precondition for the successful promotion and branding of the city. Previous investments in digital marketing tools, although insufficient in terms of broader potential, have shown good returns. Zagreb has seen a steady increase in arrivals and overnight stays on an annual basis and is slowly becoming a recognizable Central European tourist destination. To continue such growth or to exceed the set goals and KPIs, stronger promotional campaigns are needed, primarily on social networks as the cheapest and most effective form of advertising nowadays. This is just one of the proofs of the impact that digital marketing has on tourism development in Zagreb and any other urban area.

In conclusion, digital marketing channels have proven to be the most effective form of promotion nowadays, contributing directly to the development of tourism and the valorization of the tourist offer of an urban area on the international market. Also, they are probably the cheapest of all with the highest reach. That is why it is necessary to change the focus and alter the marketing strategies to digital marketing promotion as the backbone of the further development of tourism in the urban areas. Primarily, this refers to a stronger appearance of the urban areas on social networks as the cheapest, most effective and certainly the most popular digital marketing channel and as a channel recognized by end-users as the most important when it comes to online advertising. Research on the example of city of Zagreb shows that previous investments and efforts have gone in this direction, but given the potential that urban areas have as a tourist destinations and the impact and potential that digital marketing has in the function of tourism development in the urban areas, it is necessary to increase the investments and efforts of all stakeholders in this process.

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INFLUENCE OF THE DIGITAL ENVIRONMENT ON CHILDREN: COMPARISON OF PARENTS' PERCEPTION IN CROATIA AND SELECTED EU COUNTRIES

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Abstract

With the rise in modern information and communication technologies, the digital environment is constantly changing the way we communicate, carry out our work assignments, and spend our free time. Considering that the digital transformation is changing the world every day, it also has a continuous effect on children, i.e. on their behavior in the digital environment. A research study conducted in the Republic of Croatia has resulted in information on the habits of children in this environment, but also on their daily activities, as well as the situations they have experienced in their interaction with the internet. By comparing this information with the methodologically comparable research conducted in eight selected EU countries, we have concluded that children in *the Republic of Croatia, regarding their behavior, do not behave significantly differently in the digital marketing environment when compared to the children in other countries. The children included in the research, the one in the Republic of Croatia, as well as the research on the EU level, use digital devices daily to carry out various internet-based activities, and a large majority of them also own such devices for their personal use. The parents participate in online activities of their children actively and restrictively, and the perception of risk resulting from the dangers of the internet is rather high, which is conditioned by the potentially harmful effects and the likelihood of occurrence. The danger is related to violence, safety, and the protection of privacy and the personal information of children, as well as marketing activities and the exposure to ads that encourage unhealthy habits and consumerism. Regarding the parents' preferences on the safety measures, they believe certain ones are more effective than others. Similar to the fact that there are no significant differences in the behavior of children, there are also no statistically significant differences in the methods of parental mediation, considering various sociodemographic characteristics.*

Keywords: *children, the internet, digital marketing, Republic of Croatia, European Union.*

JEL Classification: I18, M31

1. INTRODUCTION

The issue in the two conducted research studies is the interaction of children and digital devices, i.e. the behavior of children in the digital environment. One of these research studies was conducted in Croatia, while the other one was conducted in eight different European Union countries: France, Germany, the Netherlands, Spain, Poland, Sweden, and the United Kingdom. Exposure to modern digital technologies is completely natural for children because contemporary generations of children are digital natives. Spitzer (2018) emphasizes that the term *digital native* is created from the term *native speaker* which designates the fact that the native tongue is learned differently and that it is used differently than foreign languages. Accordingly, a digital native would consider their digital world of modern information technology to be *native* for them. Apart from thinking and processing information in a different way than the children from earlier periods, "digital children" willingly spend time perfecting a set of skills based on technology, which eventually provides them with fluency regarding those skills. Learning does not occur only in the physical context, it also occurs in the virtual one, which is created dynamically through continuous interactions in space. Research has shown that the use of technology also has its advantages in learning, i.e. that the students in schools with a higher quality of information-communication equipment perform better than the students from schools with a lower level of equipment (Ribarić, 2018). The evidence indicates that technology offers advantages in locations where positive human effort toward learning is already ongoing (UNICEF, 2017). However, the same as with traditional media, the use of digital devices by children (especially mobile devices which are constantly available to them) modifies both the positive and the negative effects on the behavior of children and their development. There is an interdependence of various factors such as parenting styles, socioeconomic characteristics of the family, but also the specific traits of the child (their character and temperament) (Radesky et al., 2015).

Many authors emphasize the importance of the influence of the medium of the internet on children, as the least protected group of users. That is why children need to be aware of all the advantages, but also the potential challenges of the digital environment, starting with their first encounter with information-communication technologies (Šmit, 2020). "This process must also include the parents, who should be provided with the required information so they could engage in a dialogue with their children, who generationally find the internet to be a more natural environment than their parents do, and help them better navigate the online environment" (Radanović, 2018). Brezniščak (2017) states that it is "impossible to protect a child completely from unpleasant experiences on the internet, but it is possible to reduce the likelihood of their occurrence". According to Velki and Romstein (2018) "the literature from the area of online safety mostly does not assign any particular importance to the research on the risky behavior of adult users, it mostly focuses on children and minors, which it views as an extremely vulnerable population within the virtual environment". Today, children and young people are focused on the internet due to the socialization aspect it offers, which can partly be expected considering that children ages 6 through 14 are experiencing a period of development during which the relationships with their peers and other people are important to them, in which they are focused toward exploration and experimentation in the world that surrounds them, which unavoidably includes the digital world (Hr Kids Online, 2017). In the same context, Sečan Matijaščić (2018) states that the last several years have seen an increase in the new, fast-growing world trends of excessive posting and sharing personal information, photographs, and similar on the internet, by the children themselves, as well as their parents. This can be one of the dangers of the internet, in opposition to all the benefits it offers for children. Besides, marketing techniques used today are very sophisticated and children are faced with new situations every day, situations about which they must be educated (Šmit, 2020). Regarding digital marketing focused at children, certain protections and responsibilities refer to the advertisers, companies, and publishers that are directing online advertising to children, who should, according to Livingstone et al. (2014), provide simple safety tools adapted to family requirements, especially the requirements of children, provide them with adaptable and simple safety features, which would be easy to understand even by those with the bare minimum or basic digital literacy, as well as encourage greater standardization, classification, as well as parent counseling. Barnevakten et al. (2019) emphasize that parents should be the model for their children while they learn about the internet, while Šmit (2020) points out that parents when faced with many unknowns, decide on various approaches. Some believe that children do not require guidance because they can handle technology much better than they can, while others are worried because they want to protect their child, but they do not know-how. Those parents who believe that children require guidance rely on numerous methods which include: conversation, setting rules, and friending their children on social networks, all the way to reading their children's' messages or complete bans on using the internet. Each one of these methods has its advantages and disadvantages, some of them are more effective and some are less so, while some can seriously jeopardize the relationship between parents and children. Therefore, both research studies aim to create conclusions on the habits and experiences of children today, i.e. the way that the digital environment affects them, but through the opinions and attitudes, or the perception of their parents and guardians on the matter. The aim of the comparison between the two research studies is to present solid comparable results on whether the behavior of children in the digital marketing environment in the Republic of Croatia is different from the behavior of children in other selected European Union countries. Both of the research studies had the goal of gathering the attitudes of parents on the following:

- The ways children use the internet, or which methods of access and devices they use;
- The perception of digital skills of the children and themselves, as well as interdependence;
- Active and restrictive mediation regarding the online safety of the child;
- Risk perception, its seriousness, and the vulnerability of children;
- Safety measures they use;
- Problematic online practices;
- Actual situations that occurred to children as they used the internet.

2. RESEARCH METHODOLOGY

Scientific methods used for conducting the quantitative research study in the Republic of Croatia, or in the process of conducting every single stage of the research, with emphasis on the main ones (questionnaire drafting stage, data gathering stage, and the analysis of the acquired data stage), include, equally for both research studies, the analysis and synthesis method, the inductive and deductive method, and the generalization and specialization method, while in the comparison of the two research studies we used the compilation method and the comparative methods. During the analysis of the collected primary data, as well as the comparison of the acquired data, we used the software suites SPSS Statistics 23 and Microsoft Office Excel.

The quantitative scientific research in the Republic of Croatia was conducted using the Computer Assisted Web Interviews (CAWI) method at the national level, and it included N=400. The research methodology was based on a part of the complex "Study on the impact of marketing through social media, online games and mobile applications on children's behavior" (Lupiáñez Villanueva et. al. 2016), which was conducted as part of the EU Consumer Programme by the European Commission in 8 EU Member States (France, Germany, the Netherlands, Spain, Poland, Italy, Sweden, and the United Kingdom). The section of this study refers to research into the perception of parents who were also conducted using the CAWI method and online panels, and it included N=6,400 (800 toward each one of the selected countries). The time required to fill in the questionnaire in the Republic of Croatia was 20 min, while the average time to fill in the questionnaire as part of the EU Consumer Programme was 23 min, depending on the specific country. The participants using both questionnaires were persons who share a household with a child aged 6 through 14 if they are familiar with their daily habits. The study questionnaire for the research conducted in the Republic of Croatia was drafted, adapted, and filled in Croatian, while the study questionnaire for the research conducted in the EU was made in English and then translated and adapted for the languages in specific countries. One of the limitations for the comparison of these two research studies is the time difference, considering that it was conducted later in the Republic of Croatia.

2.1. Properties of the study samples

In the Republic of Croatia, the study included 66% female participants and 34% male participants, while the study conducted in the EU included 51% female participants and 49% male participants. According to their age, the study participants in the Republic of Croatia were divided into two categories, the younger category (ages 25-40) and the older category (ages 41-64). The number of study participants from the younger category was 38.8%, and 61.3% were from the older age group. In the study conducted in other EU countries, the participants were divided into three age groups and, according to the groups, the percentage of the participants was the following: ages 25-35: 28% of the participants; ages 35-49: 44% of the participants; ages 50-64: 28% of the participants. The information from both studies is comparable according to the age of the participants because both studies featured the largest number of participants from the middle age group included in the study. In the research conducted in the Republic of Croatia, 65.6% of the participants were aged 35-49, and in other EU countries, 44% of the participants were of the same age. The structure of education was formed differently, depending on the system of education in specific countries. In the Republic of Croatia, the largest number of participants have completed secondary education (48.5%), followed by higher or university education (42%). The percentage of participants who have only completed primary education is 0.5%, while 9% of the participants have masters or doctoral degrees. In summation, for all EU countries where the research was conducted, the largest number of participants have completed secondary education (31%), some level of higher education (53%), while 2% of participants have completed lower levels of education and 14% have completed postgraduate education. In the Republic of Croatia, 80.5% of the participants are employed and

12% are unemployed. Of the remaining participants, 2.5% have stated that they are employers, 3% are housewives, and 2% are retired. In other EU countries, 68% of the participants are employed and 6% are unemployed. Of the remaining participants, 10% have stated that they are employers, 12% are housewives, and 1% are retired.

According to the socioeconomic position, i.e. on the offered scale with values from 1 to 10, where the participants were requested to choose the value they believe match their position, in both studies, most of the participants chose the middle part of the scale, the values 5 to 7, which is shown in Table 1. Also, only 1% of the participants placed themselves in the lowest rank. Regarding the highest rank of the social scale, 1.5% of the participants in the Republic of Croatia and 2% of EU participants have chosen this position.

Table 1. Socioeconomic position

POSITION	HR (%)	EU (%)
1	1	1
2	2,25	4
3	4,5	8
4	10,5	12
5	19,75	19
6	26,25	20
7	25,25	18
8	6,5	12
9	2,5	5
10	1,5	2

Source: Lupiáñez Villanueva et al. (2016) and author's research

Furthermore, we have the information on the number of children ages 6 through 14 living in the household. In both research studies, most households included only one child (Republic of Croatia - 63%; EU - 67%). The ratio of households with two children of that age was also similar, 33% in the Republic of Croatia and 29% in the EU. Both studies included only 4% of households with three or more children ages 6 through 14.

Table 2. Number of children aged 6-14

NUMBER OF CHILDREN (6-14)	HR (%)	EU (%)
One child	63	67
Two children	33	29
Three or more children	4	4

Source: Lupiáñez Villanueva et al. (2016) and author's research

Regarding the familial relationship with the child for whom they filled in the questionnaire, the highest number of participants in both studies were one of the parents, 80.3 in the Republic of Croatia and a high 94% in the EU. Regarding the sex of the child, in the Republic of Croatia, the questionnaire was filled in for 47.3% of girls and 52.8% of boys, and in the EU, it was filled in for 46% of girls and 54% of boys. The ratio regarding sex is very similar for both research studies, and accordingly, apart from being representative for both studies, the resulting information is very comparable.

The age of the children for whom the questionnaire was filled in is proportionally distributed in both research studies for all age groups within the determined age limit between the ages of 6 and 14.

Table 3. Children's age

AGE	HR (%)	EU (%)
6	10,75	8
7	9,75	8
8	9	9
9	8,75	9
10	11,25	11
11	13	11
12	12	13
13	13,5	15
14	12	16

Source: Lupiáñez Villanueva et al. (2016) and author's research

3. HABITS AND ACTIVITIES OF CHILDREN IN THE DIGITAL ENVIRONMENT

Regarding the specific activities carried out by children, we will present data on where, when, how, and how often they are engaged in specific activities. When observing the locations in which children access the internet most frequently, it is clear that the information is almost identical in both studies. The location where the children are most commonly located when they are accessing the internet is at home, in the living room or another common room (94.3% in the Republic of Croatia; 80% in the EU). Further, they access the internet from their rooms (53.8% in the Republic of Croatia RH; 58% in the EU) or school (35.3% in the Republic of Croatia; 49% in the EU), while they access the internet from other locations less frequently.

Table 4. Internet access

PLACE	HR (%)	EU (%)
Living room (or other public room) at home	94,25	80
Own room (or other private room) at home	53,75	58
At school	35,25	49
In an internet café	11,75	2
At friends' homes	37,75	28
At relatives' homes	37,25	25
In a library/other public place	10,25	10
Somewhere else	0,9	5

Source: Lupiáñez Villanueva et al. (2016) and author's research

In the Republic of Croatia, children mostly access the internet using mobile phones or smartphones (91%), while in other EU countries they most commonly use desktop or laptop computers (91%). In the Republic of Croatia, 84% of the children use computers to access the internet, and in the EU, 65% of the children use phones. This information would likely favor mobile phone or smartphone use in the EU as well if the study was conducted later, i.e. during the same period as the study in the Republic of Croatia, because many things have changed regarding the accessibility of mobile phones and smartphones for daily use by children as time passed.

Table 5. Devices usage

DEVICES	HR (%)	EU (%)
Computer (desktop/laptop)	84	91
Mobile phone/smartphone	91	65
Tablet	59,3	68
Games console	29,8	37
TV	40,5	22
Other	8,3	3

Source: Lupiáñez Villanueva et al. (2016) and author's research

The information also indicates that 74.8% of children in the Republic of Croatia own a mobile phone or a smartphone, while the percentage is 61% for the EU. It is unlikely that the percentage of children in the selected EU countries who own mobile phones or smartphones is lower than the situation in the Republic of Croatia. The information that indicates whether the child's mobile device has a 3G/4G internet connection demonstrates that 93% of the devices in Croatia have that capability and the percentage in the EU is 83%. In the Republic of Croatia, 39% of children own a desktop or a laptop computer, in the EU it is 45%. The most noticeable difference is in the percentage of owned gaming consoles. In the Republic of Croatia, 24.50% of children own those, while the percentage in the EU is very high at 50%. A somewhat lower percentage of children in the Republic of Croatia own tablets (38.8% in the Republic of Croatia; 49% in the EU).

Table 6. Devices personal usage

DEVICES	HR (%)	EU (%)
Computer (desktop/laptop)	39	45
Mobile phone/smartphone	74,8	61
Tablet	38,8	49
Games console	24,5	50
TV	19,8	31

Source: Lupiáñez Villanueva et al. (2016) and author's research

In the Republic of Croatia, children usually spend 30 to 60 minutes on the internet during a standard workday (35.3%), while that time increases to 2 to

3 hours during the weekend (26.3%). In the EU, children spend 1 to 2 on the internet, both on workdays (29%) and weekends (23%). More than 5 hours a day during the weekends are spent on the internet by 6.5% of children in the Republic of Croatia and 12% of children in the EU.

Table 7. Internet frequency of usage

INTERNET FREQUENCY OF USAGE	On a normal school day		On a normal nonschool day	
	HR (%)	EU (%)	HR (%)	EU (%)
Less than half an hour	10,8	13	4,8	7
Between half an hour and 1 hour	35,3	26	20,8	15
Between 1 and 2 hours	31,3	29	26	23
Between 2 and 3 hours	16,5	18	26,3	23
Between 3 and 5 hours	4,3	11	15,8	20
More than 5 hours	2	4	6,5	12

Source: Lupiáñez Villanueva et al. (2016) and author's research

Furthermore, the results of both research studies indicate that watching videos is the most common activity of the children, as much as 61.3% among the children in the Republic of Croatia almost every day, while that percentage is lower in the EU (39%). Every day or almost every day, 46.3% of them in the Republic of Croatia and 29% in the EU exchange messages via messaging apps like for example *Messenger, Viber, WhatsApp*, and similar, and if we observe this percentage, the activity of exchanging messages is the most common among children included in both research studies. The activities most children never engage in are writing blogs or online journals (79.0% in the Republic of Croatia; 76% in the EU) and participating in chat rooms (64.5% in the Republic of Croatia; 62% in the EU). In the Republic of Croatia, 18% of the children use the internet every day or almost every day to write their homework, while that percentage is somewhat higher in other EU countries (27%). The information on playing games with other people online indicate that 20.8% of children in the Republic of Croatia and 23% of children in the EU do it at least once a week (but not every day). In the context of the participation of children in social networks, 27.3% of children in the Republic of Croatia and 27% in the EU use social networks every day or almost every day.

Table 8. Internet activities

INTERNET ACTIVITIES	Never		Less than once a month		At least once a month (but not every week)		At least once a week (but not every day)		Every day or almost every day		DK/DA	
	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)
Use the internet for school work	26	11	9,5	9	18,8	14	24,8	37	18	27	3	2
Watch video clips (e.g. on YouTube)	3,3	5	2,3	6	9,3	12	23	36	61,3	39	1	2
Download music or films	48	44	14,5	13	12	14	13,8	17	5,5	6	6,3	5
Read/watch news online	56,8	39	12,8	6	7,3	13	5,8	18	6,3	11	11,3	6
Visit a social networking profile	48	42	5,3	5	6,5	7	10,3	16	27,3	27	2,8	3
Visit a chat room	64,5	62	6,3	5	5	6	5	10	7	8	12,3	9
Use instant messaging	29,5	39	4,5	8	5,3	6	13,3	15	46,3	29	1,3	5
Play games with other people online	40	36	8	7	10,3	10	20,8	23	15,3	19	5,8	4
Spend time in a virtual world	43,3	43	9,5	10	19,3	9	16,3	19	12,3	13	9,5	8
Use a webcam	54	60	11,8	9	9,3	9	9,3	11	6	5	9,8	5
Put (or post) photos, videos or music online to share with others (including social networking or instant messaging)	54	50	11	8	12	11	11,8	17	6,3	8	6	5
Put (or post) a message on a website	67	56	8,3	4	5,3	9	7,3	13	1,5	7	10,8	8
Write a blog or online diary	79	76	5,5	6	2,5	5	3	5	2,5	2	9,8	7
Participate in a site concerned with good causes (e.g. campaigns, charity)	66,8	73	6,5	7	4,5	5	2,3	4	2,8	2	7,5	10
Use a file-sharing site	59,3	68	9,3		6,8	6	5,3	7	6,8	3	12,8	10
Download games	22,3	45	18,5	17	26	18	21	10	7	4	5,3	7
Play online games alone	18,8	22	11	9	11,5	16	30	31	25,3	16	3,5	5

Source: Lupiáñez Villanueva et al. (2016) and author's research

Furthermore, the results received from answers to questions on operational skills demonstrate that almost 80% of children participating in both research studies can perform one of the basic actions, opening a new browser tab. Almost 50% of children in the Republic of Croatia and 46% of children in the EU can use shortcut keys and almost 80% in the Republic of Croatia and 59% in the EU can download and save a photograph they found on the internet. One of the disheartening pieces of information is that less than 50% of children participating in both studies can adjust their privacy settings. When responding to identical questions on their operational capabilities, the participants have mostly stated that it is completely correct or correct to a high degree that they can carry out all the offered activities. When browsing the internet, 42% of children in the Republic of Croatia sometimes find themselves on a website unintentionally or without knowledge of how they got there, while that information is considerably different in the EU research study, which reported that only 25% of children experience this phenomenon. In the Republic of Croatia, 62% of children find it easy to enter keywords for an internet search, while in the EU, 55.5% of them are unable to do that. The percentage of children who enjoy finding new information online is almost the same (60% in the Republic of Croatia; 64% in the EU). In both research studies, the participants consider that they have very good skills related to browsing the internet. Considering the social skills of the children, the participants have stated that 57.3% of children in the Republic of Croatia and the almost identical percentage (59%) of children in the EU know which information they should and which they should not share online. Almost half of the children in the Republic of Croatia (48%) and a somewhat higher percentage (58%) of children in the EU can adjust their online comments and behavior in a way that is suitable for a specific situation. Regarding the knowledge about the settings on the people with whom the child wants to share their information, 50% of children participating in both research studies can adjust those. Considering the offered activities related to social networking, about 90% of the participants stated that they can use them completely or to a high degree, this includes the participants in both research studies. Indicators of the creative skills of the children show that 40% of children participating in both research studies can make something new using existing photographs, videos, or music, and 30% of them can modify the content made by someone else. Only 12.6% of children in the Republic of Croatia can design a webpage on their own, while 16% of them in the EU can do that. In the Republic of Croatia, 27% of the parents and are unable to design a webpage on their own, the percentage in the EU is 24%.

4. THE INVOLVEMENT OF PARENTS IN THE INTERNET ACTIVITY OF CHILDREN

As part of the EU research, Lupiáñez Villanueva et al. (2016) have differentiated various parenting styles based on two dimensions: Active mediation (being included in the online activities of children) and restrictive mediation (setting limitations for use). When combining those two dimensions, we can differentiate four styles: The authoritarian style (high activity and highly restrictive mediation), authoritative style (lower activity and highly restrictive mediation), permissive style (high activity and lower restriction mediation), and the "freestyle" (*French, laissez-faire*) (lower activity and lower restriction mediation). Regarding this, i.e. the involvement of parents in the internet activities of children, the information shows 39.8% of the participants in the Republic of Croatia and 43% in the EU very often or always use the internet along with their children. Regarding the issue of supervision, 53.6% of the participants in the Republic of Croatia and 62% in the EU stay close while the child is using the internet, and 33.1% in the Republic of Croatia and 41% in the EU sit with the child in those situations. The information shows that parents are still somewhat more involved in other EU countries, 64.5% of them in the Republic of Croatia speak with the child about their internet activities very often or always, while 70% of the parents in the EU do that.

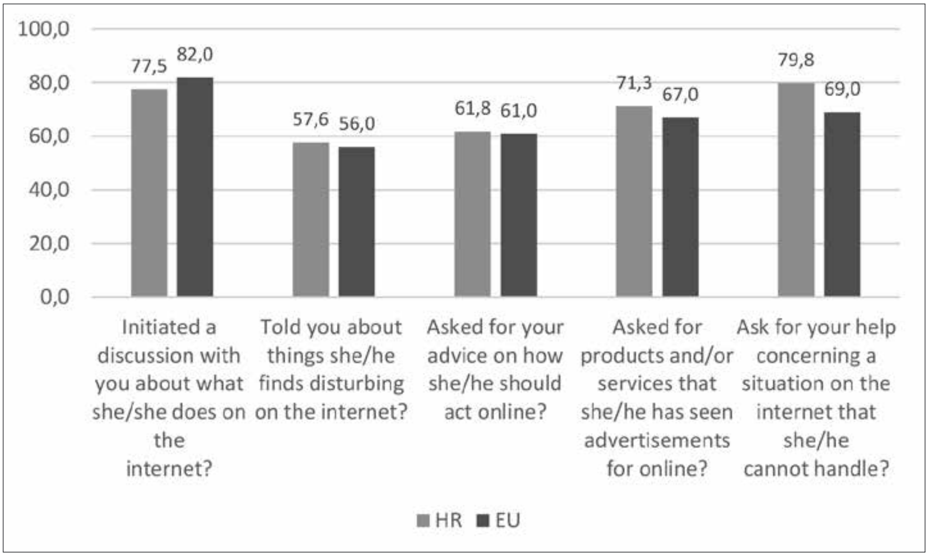
Table 9. Parents' mediation practice

PARENTS' MEDIATION PRACTICE	Never		Rarely		Sometimes		Very often		Always	
	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)	HR (%)	EU (%)
Talk to your child about what he/she does on the internet?	1	1	7	3	27,5	26	44	45	20,5	25
Encourage your child to explore and learn things on the internet?	5,3	3	16,8	12	38,5	40	29,3	31	10,3	13
Sit with your child while he/she uses the internet?	6,8	3	19,5	15	40,8	41	25,8	30	7,3	11
Stay nearby when your child uses the internet?	2,3	2	12,5	9	31,8	27	35,8	37	17,8	25
Do shared activities together with your child on the internet?	2	3	12,3	12	46	42	32,8	33	7	10

Source: Lupiáñez Villanueva et al. (2016) and author's research

Children often initiate conversations or seek help, and almost 80% of the children in the Republic of Croatia have requested help regarding a specific online situation, while the EU study has shown that 69% of the children have done that, which is still a somewhat lower percentage. In the Republic of Croatia, 77.5% of the children have started a discussion on their activities on the internet, while 82% of the children have done that in the EU. In general, the information favors the situation in which children from all countries included in the research often rely on the help of parents regarding their dilemmas or situations that they have experienced on the internet.

Figure 1. Children's practice



Source: Lupiáñez Villanueva et al. (2016) and author's research

After that, information on the restrictive measures taken by the parents has been compared. The activity that most children in the Republic of Croatia can engage in independently, without parental approval, is watching videos (57%), while in other EU countries it is using the internet to do their homework (65%). In the EU, 55% of children can watch videos without approval. In the Republic of Croatia, 19% of the children are now allowed to exchange private messages via messaging apps (like *Messenger, WhatsApp, Viber* and similar), while in the EU, as much as 30% of children are not allowed to do that. Self-initiated and independent social network use is allowed for 31% of the children in the Republic of Croatia and 37% of the children in the EU. The percentages of parents that have agreed upon rules with their child on the amount and the distribution of time that the children are allowed to spend online are 69.3% for the Republic of Croatia and as much as 76% in the EU.

When listing the methods that they use, the parents have said that they use tools for blocking or filtering certain types of websites (44.5% in the Republic of Croatia, 57% in the EU). The participants in both studies use ad-blocking software in similar percentages (41.5% in the Republic of Croatia, 43% in the EU). The service used the least is the one limiting the time that the child can spend on the internet (28% in the Republic of Croatia; 27% in the EU) and the software that limits the people that the child is allowed to contact online (26.3% in the Republic of Croatia RH; 26% in the EU).

Table 10. Parents' technical control practice

PARENTS' TECHNICAL CONTROL PRACTICE	HR (%)	EU (%)
Parental controls or other means of blocking or filtering some types of website	44,5	57
Parental controls or other means of keeping track of the websites or apps your child visits	43,8	52
Rules about how long or when your child is allowed to go online	69,3	76
A service or contract that limits the time your child spends on the Internet	28	27
Software to prevent spam or junk mail/viruses	56	75
Parental controls that filter the apps your child can download	39	42
Parental controls that alert you when your child wants to buy content (in-app purchase)	38,5	39
Software that limits the people your child can be in touch with (through voice calls and SMS/ MMS)	26,3	26
Ad-blocking software	41,5	43

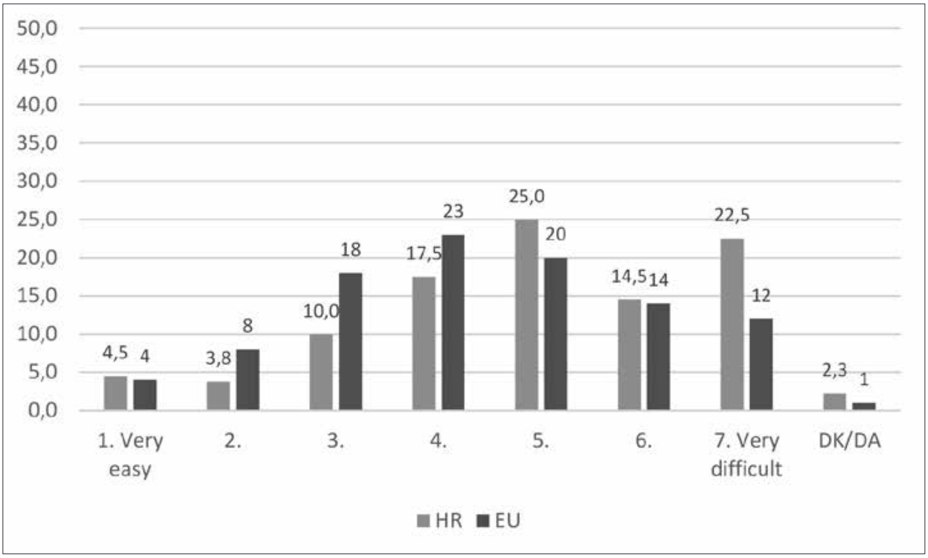
Source: Lupiáñez Villanueva et al. (2016) and author's research

5. ONLINE RISKS AND SAFETY MEASURES

The perception of risk resulting from the internet is generally rather high. Accordingly, 70.5% of the participants in the Republic of Croatia and 52% of the participants in the EU have stated that it is extremely harmful to a child to be exposed to ridicule on the internet from other children, or if another child would represent them in a way that they do not want, or intentionally exclude them. The participants in the Republic of Croatia consider it to be almost as harmful as digital identity theft or fraud, where someone would illegally acquire and use the personal information of a child (69.8% of the participants stated that it is extremely harmful), while the same thing was stated by a considerably lower percentage of participants in the EU (44%). The parents from France and Germany are somewhat more worried about data tracking and digital identity theft. Further, 66% of the participants in the Republic of Croatia and 53% in the EU have stated that it is extremely harmful to a child to be exposed to violence on the internet. However, the perception of risk regarding danger on the internet is different from country to country. The parents in Great Britain, the Netherlands, Germany, and Sweden had lower risk perception grades than the parents in other countries, while the parents in Poland were most concerned.

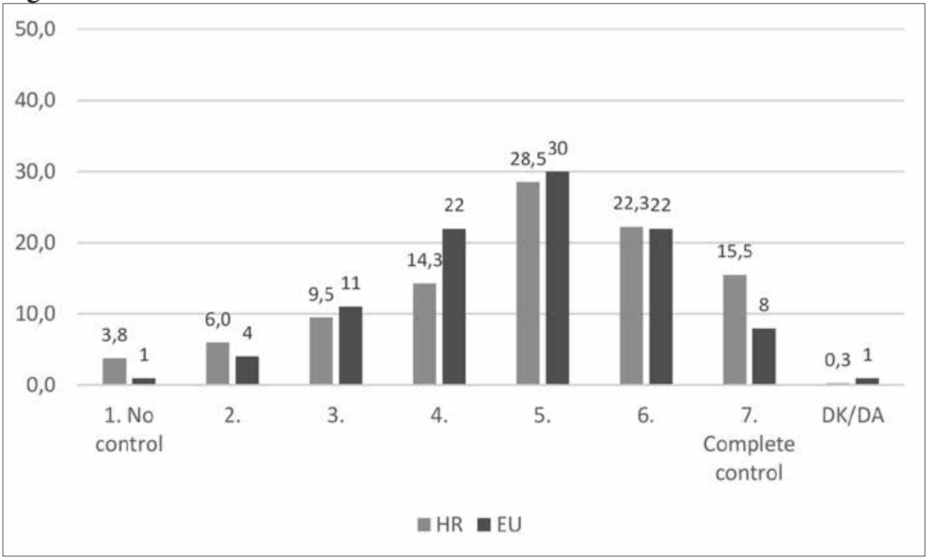
On the offered scale of 1 to 7, the highest number of participants in the Republic of Croatia (25%) chose the grade 5 for evaluating the level of child protection from online threats, while the highest number of EU participants chose the grade 4 (23%), which means that they still consider the protection to be simpler. The parents participating in both research studies believe that they have a relatively high level of control regarding the protection of their child from online threats, while 3.8% of the participants in the Republic of Croatia and only 1% in the EU believe that they have no control.

Figure 2. Difficulties to protect your child – online threats



Source: Lupiáñez Villanueva et al. (2016) and author's research

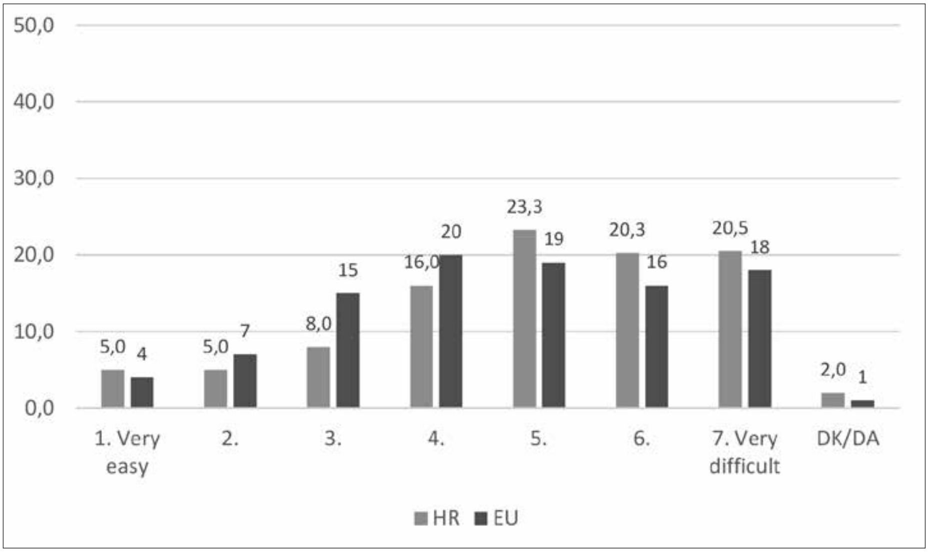
Figure 3. Perceived control – online threats



Source: Lupiáñez Villanueva et al. (2016) and author's research

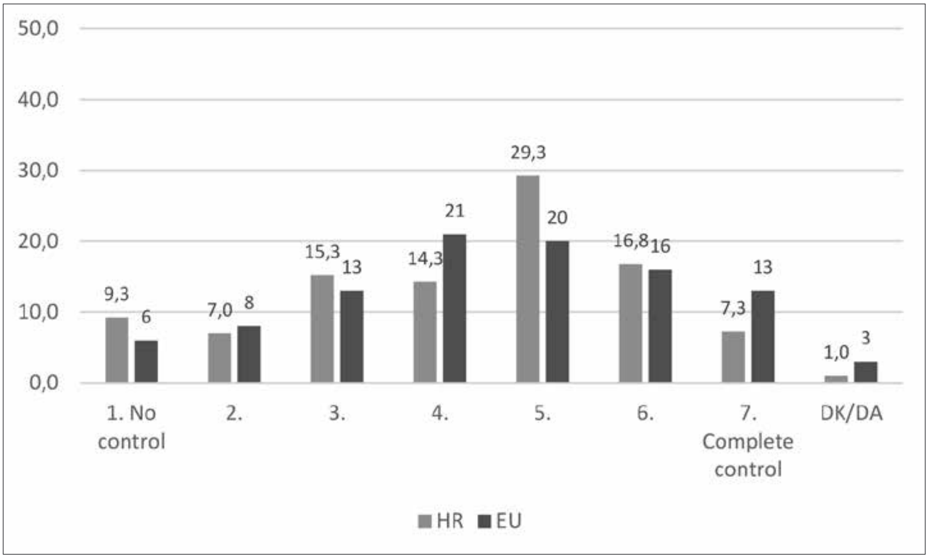
Furthermore, same as for online threats, the participants in the Republic of Croatia believe that the protection of children from online marketing is rather high, and 23.3% have selected the value 5 on the scale of 1 to 7, while the highest number of participants (20%) in the EU have chosen the grade 4. Concerning control, 9.3% of the participants in the Republic of Croatia and 7% in the EU believe that they have no control over the protection of children from online marketing.

Figure 4. Difficulties to protect your child – online marketing



Source: Lupiáñez Villanueva et al. (2016) and author's research

Figure 5. Perceived control – online marketing



Source: Lupiáñez Villanueva et al. (2016) and author's research

Regarding responsibility, 28% of the participants in the Republic of Croatia and 40% in the EU have fully agreed with the claim that the protection of a child from online marketing is their responsibility as parents. Therefore, 21% of the participants in the Republic of Croatia and 22% in the EU have fully agreed with the claim that the protection of children from online marketing is mostly the responsibility of the government, which must take regulatory measures, and 20.3% of the participants in the Republic of Croatia and 22% in the EU have said that the protection of children from online marketing is mostly the responsibility of the online industry. This proves that parents generally believe that the protection of children in a digital environment is their responsibility, which is somewhat more present in the awareness of parents in other EU countries than it is for the parents in the Republic of Croatia. Parents in all countries consider themselves to be most responsible for the safety of children, but the parents in Spain, France, and Italy assign more responsibility to the government and the industry than the parents in other countries do. In Germany and Poland, the online industry is considered somewhat more responsible than the government.

Considering that most parents have stated that the greatest responsibility for the protection of children online is theirs, they use protective measures accordingly. Further in the text, we have presented protective measures related to downloading apps and purchases before or during the use of those apps. Parents of children in the Republic of Croatia most commonly rely on parental approval of purchases (69.8%) and age verification of the person downloading the app (63.8%), while in the EU, parents usually rely on education in school (64%) and a cooldown period for children before making the purchase (59%).

Table 11. Applications: use of protective measures

APPLICATIONS: USE OF PROTECTIVE MEASURES	HR (%)	EU (%)
Parental pre-approval of purchases	69,8	38
Cooling-off period for children before making a purchase	48	59
School education in using online apps	46	64
A clear indication that in-app purchases are required to fully exploit the application/game	50,8	55
Age verification systems	63,8	55
In-app purchase password as the default option on the mobile	61,3	44

Source: Lupiáñez Villanueva et al. (2016) and author's research

Regarding the situations that have occurred, a high number of children were exposed to encouragement for purchases in the course of playing online games (56.5% in the Republic of Croatia; 40% in the EU). Furthermore, the children in the Republic of Croatia were exposed to adds encouraging the consummation of unhealthy food and beverages more often (55.3%), while the children in other EU countries were more exposed to targeted adds on social networks and hidden adds in online platforms, for example in branded games (both pieces of information 43%). The children were ridiculed on the internet in the percentages of 13% in the Republic of Croatia and 15% in the EU.

Table 12. Problematic practice

PROBLEMATIC PRACTICE	HR (%)	EU (%)
To see images on the internet that contain explicit violence against others	45,3	31
Being exposed to personalized/targeted advertisements (e.g. in social media, Google searches, etc.)	51,8	43
To be treated in a hurtful or nasty way on the internet by another child or teenager. (This includes being teased repeatedly in a way he/she did not like, or being deliberately excluded or left out of things)	13	13
Spending too much money on online games or in-app purchases	5,3	8
Being exposed to incentives to make in-app purchases while playing an online game (e.g. to progress faster in the game)	56,5	33
Being exposed to hidden advertisements on online platforms, such as branded games or product placement	50,8	35
That his/her data (information about his/her identity and behavior online) is being tracked, stored and used by third parties that use it for a purpose other than that for which they were collected	15,8	13
Being exposed to advertising about unhealthy lifestyle products such as tobacco or alcohol	37,3	18
Being exposed to advertisements for unhealthy food	55,3	25
Digital identity theft or identity fraud in which someone wrongfully obtains and uses your child's data	8,3	10

Source: Lupiáñez Villanueva et al. (2016) and author's research

The estimation of parents regarding the efficiency of a variety of possible safety measures is focused on stricter regulation of business practices for companies engaged in online content and service creation because 60% of the participants in the Republic of Croatia and 49% in the EU believe that this would make a significant contribution to the safety of children online. Also, 58% of the participants in the Republic of Croatia and 40% in the EU believe that increased availability would be very beneficial, i.e. parental control software application. They believe that the least effective measures are lectures for parents by non-governmental organizations, the government, and the local authorities on the marketing activities to which children are exposed online (4% in the Republic of Croatia 5% in the EU). Parents in France, Germany, and Sweden are least convinced about the contributions of safety measures, but they agree that any of them could achieve certain contributions.

6. CONCLUSION

As a conclusion to the comparison between the two conducted research studies, we can say that children in the Republic of Croatia behave in digital environments almost identically to the children in other, selected EU countries, i.e. that there are no significant differences or deviations between them. There are some small differences in specific segments, and just some of them stand out. Children in the Republic of Croatia most frequently access the internet using mobile phones or smartphones, and children in other countries use desktop or laptop computers. The highest number of children in the Republic of Croatia spend less than one hour during a standard workday on the internet, while it increases up to 2 hours on the weekends. Children in other EU countries spend 1 to 2 hours on the internet daily, regardless if it is a workday or the weekend. Parents in the Republic of Croatia believe that the protection of children from online threats and online marketing is somewhat more difficult than parents in other countries do, even though they state almost identical information when expressing their opinions on the level of control they have. Parents in the Republic of Croatia consider digital theft of personal information to be a significantly more serious threat than the parents in other countries do. Also, a considerably higher percentage of parents in the Republic of Croatia state that children are often exposed to ads that encourage the consummation of unhealthy food and beverages. Regarding the available information on playing online games, children in the Republic of Croatia download games more frequently, while a significant number of children in the EU never do that. However, the information on actual gameplay is almost identical, and it indicates that the children play games on their own more often, while a higher percentage of them never play online games with other participants. Regarding the participation of children in social networks, the children that use social networks usually use them every day or almost every day, while almost half of them in both research studies never do that. The sociodemographic characteristics of the participants, but also of the children for whom the questionnaires were filled in are rather similar, which makes the information gained from this research very comparable and relevant for the presentation of these facts.

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Strategy management

STRATEGIC ALLIANCES: CASE OF CROATIAN COMPANIES

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Abstract

Strategic partnerships are today one of the fastest-growing trends in the world industry. Alliances are becoming more and more important and play an increasingly important role in the business of the participating companies but become an important factor in the global economy. One of the key elements for creating a strategic alliance is the choice of partners because the organization itself will depend to a large extent on it. For the quality of the relationship between the participants in the alliance, it is very important to balance the mutual contributions so that there will not be situations in which one of the participants can dominate the other. Strategic alliances have become attractive tools for bridging the gap in technology and resources. In more and more companies, especially in fast-changing industries, strategic alliances become an integral part of the main strategy. At present, strategic alliances are an important form of connectivity and collaboration between companies. Enterprises operate in a turbulent environment, often *lacking enough resources, knowledge, or financial resources to only take certain business operations, so connecting with another enterprise imposes the optimal solution. An important notion of strategic alliances is synergy. By working together in the alliance, companies must achieve greater benefits and better results than they could alone. Otherwise, the alliance is not successful and strategic linking makes no sense. Strategic connectivity in Croatia is not sufficiently developed. The paper discusses the motives for joining strategic alliances. The focus is on the Croatian market and the importance of strategic alliances for the opening of the European market and the strengthening of the position in this area.*

Keywords: *Strategic alliances, Organization, Management,*

JEL Classification: M10, M19

1. INTRODUCTION

If Croatian companies want to step onto the international markets and act as successful competitors, the concept of strategic alliances for them is inevitable, otherwise, they are just small business entities without significant power or impact.

Darko Tipurić and Goran Markulin define strategic alliances as shared use of resources between more enterprises-partners on a long-term basis for the purpose of creating additional value. (Tipurić & Markulin, 2002: 31). According to them, managing strategic alliances is extremely complex as they assume separate control between the partners different from classic organizations. Neither partner has full authority in carrying decisions that would demonstrate his autonomy. The cooperation between the partners is crucial, requiring highly developed managerial skills especially because partnerships are frequently formed between two or more competitors in the market.

Strategic partnerships are nowadays present in all industries. They are a precondition for the survival in the contemporary competition, therefore their number increases rapidly. The main purpose of strategic alliances would be the growth or improvement of the competitive position in the organization.

The first part of the paper summarized the literature for the definition of a strategic alliance to help the understanding of the kinds of strategic alliances and their examples in Croatia. The second part of the paper is about the history of strategic alliances and the third part of the paper considers motives for entering strategic alliances. The fourth part is about different types of strategic alliances.

2. THE IDEA OF STRATEGIC ALLIANCES

In order to clear up the idea of strategic alliances, it is foremost required to distinguish between the term's cooperation and strategic alliance.

According to Markulin and Tipurić, the cooperation is defined as a harmonized joint functioning of two or more enterprises, or of their single functions for the purpose of improving their business relations and for the performance of the same or similar assignments and joint ideas (Tipurić & Markulin, 2007: 4), while they define strategic alliance in the sense of coalition of enterprises created for the purpose of achieving important business aims. They are seen as agreements between two or more enterprises for the purpose of joint work and/or division of resources for the common benefit. Alliances are between organizational forms which apply special knowledge, skills and/or resources of cooperating enterprises for the purpose of achieving joint or separate goals, specific for each enterprise; the explicit arrangements are long-term due to an exchange and/or combination of some (but not all!) resources of an enterprise with one or more other enterprises. (Tipurić & Markulin, 2007: 11).

Therefore, the main difference between these two terms lies in the fact that alliances are formed with a specific purpose, and for achieving that goal it is required for both partners to work together over a longer period. An organization uses strategic alliances in order to use the skills and efforts of its partners in creating their own competitive strategies.

Alliances can be simple if they consist of two enterprises sharing resources, and complex if they consist of many organizations from different countries. Moreover, one organization can be a part of more alliances. They can be formed by different market players. Alliances can be formed between companies from different or the same sectors. Members of an alliance are quite often competitors in the market. Sometimes enterprises make partners in one area of business, and competitors in the other.

Others like Filipović in 2012 states that strategic alliances are a special form of business association. They are defined as coalitions that are formed to achieve important business goals. These are agreements between two or more undertakings seeking mutual benefit

Furthermore, strategic alliances are contractual arrangements between two or more independent companies that carry out a project or operate in a specific business area by coordinating skills and resources jointly rather than either operating on their own or merging their operations. (Dussauge & Garrette, 2004: 702).

Thus, looking more widely, a strategic alliance can be defined as integration with the competition, suppliers or buyers, in order to take advantage of combining the benefits and the partners' strengths, whereby achieving a better competitive position in the global market (Previšić & Ozretić Došen, 1999: 399).

According to that, a broader definition of a strategic alliance would be: strategic alliance is an established connection with a competitor, a supplier or buyer whereby combining the advantages and strengths of a partner together they achieve a better competitive position in the global market.

2.1. How strategic alliances can be recognized?

This term signifies a whole line of connectivity of enterprises; however, they are not an unambiguous category, still, they do not represent all possible connections between the enterprises. Strategic alliances are different from other types of business agreements because they are established with the purpose of achieving long-term aims and plans of the companies in view of improving the competitive advantage on the market. There are various definitions and interpretations of strategic alliances. It is foremost important to mention some of their main characteristics: first of all, there are at least two partners who cooperate in order to realize a specific aim. Following that, there is also a very popular description of "marriage between enterprises". The other significance is the independence of enterprises within the partnership, regardless of the arranged relationship. In order to achieve a better competitive position in the global market, the former market competitors join quite often to be partners in the alliance, therefore it can be defined as a connection with a competitor, supplier or buyer.

Many strategic alliances have been formed in the Croatian market as well, among which a well-known example would be: Franck d.d. made an agreement on strategic investment with the company Tommy d.o.o., which want to strengthen the capital of the company in the context of financial restructuring, and it is involved actively in the refinancing program, as well as in the negotiations with the creditors of Franck. With this endeavor, Franck additionally strengthens already successful 25-year-long business cooperation with the chain of markets Tommy and has already been famous for its contribution to the food industry. Tommy is one of the leading Croatian market chains, the biggest company and job provider in Dalmatia and southern Croatia counting more than 3500 employees. Quality and stability of doing business have ensured the continuous increase of income and the size of market share, positioning Tommy with 2,7 billion Croatian Kunas of annual income, among the top 20 private companies in Croatia. Another example would be the company Badel 1862 and its strategic partner Meteor from ***Đakovo***, which fulfilled its obligation of recapitalization by concluding the contract according to which the claims in the amount of 184,15 billion kunas are infused into the share capital of Badel and by the payment of 30 million kunas. By concluding the contract on the contribution to the capital and by the payment of the sum of money for the purpose of increasing the share capital of Badel 1862, Meteor completed its obligation of implementation of recapitalization from the binding letter of intent.

Furthermore, the organization most known for their strategic alliances is Podravka d.d. Podravka d.d. and Microsoft. started their cooperation back in 2001, which they strengthened in 2007 by entering an enterprise licensing agreement, allowing Podravka d.d. to use all Microsoft's products in its business while participating in the product evaluation process. This isn't the only example of Podravka's strategic alliance. Tipurić & Markulin state that in 2002 Podravka and the Nestle World Trade Corporation signed a contract giving Podravka the right to sell and distribute a certain range of products in the former Yugoslavia. Also, at the end of 2005, Podravka d.d. entered into a strategic alliance agreement with Reiber Food, enabling her to enter the Polish market.

Only a small number of the largest Croatian companies, such as Pliva, Podravka, INA, Končar, Croatia Airlines, and a few others, are involved in strategic alliances processes. In 2004 Atlantic Group and INA d.d. have entered into a strategic alliance's agreement, which is broad cooperation in the sales network of this oil company.

Croatian companies could achieve a number of benefits through strategic alliances such as reduction of the gap in knowledge, technological capabilities, and skills in relation to regional business entities; contribution to the increase of

Croatian exports and other forms of international business cooperation, jointly developing new products and new markets all in the function of strengthening own competitive ability.

3. HISTORY

Strategic alliances have a long and rich background. Even though they first appeared in the 1930s, the nineties were the most significant for their structure due to many changes they experienced under the influence of numerous organizational changes. The reason for their expansion would be exactly their efficiency.

Some additional motives, therefore, were the challenges they had to face in order to get closer to the international market, to achieve the economy of scale and advances in the production and technology, and to encourage companies for international cooperation. Partnerships become efficient strategies per se for bridging the gaps in know-how, resources and abilities in order to achieve competency in the global markets. Therefore, more and more organizations aspire to form their future in the market and in doing business based on strategic cooperation.

The first real strategic alliance was formed in the sector of retail in 1930. The awareness of the importance of strategic alliances was first raised in the eighties when they started not to be seen only as an instrument of achieving specific aims, better success on the globalizing market. The nineties were the time of many organizational changes when many corporations saw their future development in strategic cooperation. (Tipurić & Markulin, 2007: 9)

4. MOTIVES FOR ENTERING A STRATEGIC ALLIANCE

The biggest contribution to the formation of alliances made globalization as a phenomenon in business, insecurity and high risk, i.e. something I refer to as a turbulent organizational environment, as well as limited resources. And finally, information as the most important resource, or the development of an informational economy. The strategic alliance is teamwork of more organizations. More companies mean more resources, more knowledge, and skills of every company, and when combined and organized appropriately they can create a bigger value of every single member of the alliance.

According to Horton (1998: 9), there are eight groups of motives that encourage companies into forming strategic alliances. The motives are connected to products/services, technology, marketing, protectionism, production (operations), monetary resources, natural resources, and competition. Her research showed that the most common motives in the global business are technology, marketing and competition.

Whipple and Genetry (2000: 303) classify motives into four categories: financial, technological, managerial and strategic incentives.

These motives can be of a defensive and offensive character. When an organization is forced to enter into strategic alliance due to external factors we talk about defensive motives. On the other hand, offensive motives can be categorized into two groups according to Doz and Hamel (1998: 18)

- Motives for acquiring global market so-called "world chase",
- Motives for discovering new market possibilities so-called "future chase"

Financial motives exist when the organizations entering the alliance are directly led by the motive of decreasing expenses and increasing the profit. They can achieve this primarily by distributing and cutting costs, as well as by spreading the business risks.

Acquisition and exchange of new knowledge and technologies as motives to join strategic alliances are especially present in industries of quick technological advances. This is very economical, but first of all a very efficient way of strengthening their own competitive ability. It is a very particular motive for smaller organizations that tend to join alliances in order to survive in the market. Accordingly, they can easily keep up with technological advances in their own activities.

Market and managerial motives, i.e. the access to new markets are one of the most important motives for joining the strategic alliance, especially when it comes to alliances formed on the international, or global scene. This motive can prevail when an organization wants to enter closed markets. Similarly, a strategic alliance can enable access to a new distributional channel which would be hard to reach independently, or it would be too expensive.

Vlahov (2014: 31) states that the different types of alliances in the extraordinarily dynamic and competitive business environments have often become the precondition for survival and competitiveness in the market. (Furthermore, Morić Milovanović (2013: 243) considers that the overarching motive that unites all covenants is that everyone needs the abilities of the other in order to pursue their own interests.

The aims of creating strategic alliances can always overlap but creating additional value will stay the main motive for the formation of alliances.

5. THE TYPES OF STRATEGIC ALLIANCES

Alliances can come in different forms, because of long-term cooperation between the organizations.

Alliances can be bilateral or multilateral, depending on the number of joining members. Bilateral alliances, as the name says, are formed by two organizations that join together for the purpose of completing the same objective. This is the simplest form of alliance.

Multilateral alliances come in three forms:

- Network alliance, one alliance with a big number of independent participating members
- A portfolio alliance is a group of bilateral alliance organizations and
- the network of alliances, i.e. a larger number of organizations participates in more alliances that are linked with each other.

The characteristics of these alliances are quite similar, regardless of the type of alliance, i.e. whether bilateral or multilateral. Their main difference actually is in the management, which is in multilateral alliances much more complex than in bilateral.

Alliances can be national and international. National alliances are those with organizations from only one country, while international alliances connect enterprises from different countries.

There is also another division that classifies alliances into vertical, horizontal and diagonal strategic alliances.

Vertical alliances relate to cooperation between a buyer and a supplier. Their purpose is in the improvement of their position in the market and in achieving competitive advantage. There is a huge difference between a traditional relationship between a buyer and a seller, and their relationship when they are in the alliance. This difference is primarily obvious in the fact that a supplier takes part in creating a new product from the very beginning of its lifetime, while in the traditional relationship only in the late phase. The advantage of such an alliance is for sure in cutting expenses, as well as in the safety of doing business.

Horizontal alliances are formed by competitors in the same sector. These alliances are very interesting to the public because it is always expected that the competitors are in the rivalry and conflict rather than in the alliance to become stronger and more cooperative. This trend is highly present in the pharmaceutical industry where companies achieve competitive advantage exactly in the alliance together with their competitors.

The reason is also profitability. Dressage and Garette divided horizontal alliances into three groups:

- "shared-supply" alliances are alliances focused on the cooperation in the production, or on the specific production phase, or on the research and development phase. These are mostly equal competitors from the same geographical territory.
- Quasi-concentration alliances are focused on the development and sale of a common product. These are quite specific for the aviation and military industry. Entering into this type of alliance requires complete elimination of rivalry between the members, and a key to success represents the excellence of managing this alliance.
- Complementary alliances are formed by members of the same sector who combine many different skills and competences. The most common example of such an alliance is that one member develops the product, while the other one distributes it. The production is not quite often the part of the cooperation, but this belongs to the area of marketing and sales.
- Diagonal strategic alliances include cooperation between organizations from different industries. Some of the most important alliances are between Coca-Cola and partners from different industries. Coca-Cola is a strategic partner to the chain of fast-food restaurants McDonald's and Burger King and to the world football federation FIFA.

Baojun, Hangjun, and Feng in their study on how strategic alliance type influences firm performance when it comes to vertical and horizontal types shows that strategic alliances can lead to several positive outcomes for firms. Towards them, managers should develop an open mindset to connect the external environment with internal organizational capability development. Their empirical findings show that managers should pay more attention to the formation of vertical symmetric alliances, which can create more abnormal returns. (Baojun Yu et al., 2019)

When we talk about the different types of strategic alliances depending on the level of integrity and legal form, Barny divided alliances into proprietary and contractual. Proprietary alliances are supported by purchasing the proprietary interest in the capital of a partner. It gives better access to information and more successful performance surveillance. Contractual alliances represent every co-operation between the organizations which don't include proprietary relations, whether they deal with joint production, technical support or joint marketing development. They are usually formed for a shorter period. The most common forms of such an alliance are licensing and joint ventures.

The phrase "joint venture" comes from the American legal system which defines a legal form which in its nature is a partnership, engaged in this joint venture of a specific transaction for the purpose of achieving a joint profit. It is also defined as an association of persons or companies in a joint venture of a commercial company where generally everyone contributes to and shares income. This requires a common interest in achieving a goal, the right of management and leadership and obligations of contributing to the income and share losses. In short, this is an association of two or more people in a business venture due to a specific objective. It is a joint venture with the same opportunities and shared risks. The origin of this term can probably be found in the contracts of this subject matter which were in the 19th century concluded by the competitive railway companies on the construction of railway stations and infrastructure of railroads. The first contract on the international level was the contract between the French company Le Cellophane and the American company Du Pont de Nemours on the formation of the company to produce cellophane. The advantage of such an investment over the formation of a company by a single member is in the share of risks between all the members. On the international plan, they use local experiences, even the local influences, better knowledge of the opportunities of the local partner, which are very useful to familiarize with in order to succeed in an unfamiliar territory, where jobs are not only influenced by the economy of the state, but also by the political risk. (Barbić, 2003: 3)

5. CONCLUSION

Globalization as a phenomenon influenced the change of popular belief about the market, market rivalry and competition. For big multinational global corporations, it is very difficult to define which country is their host since most of the profit usually comes from another country. Even though the competition between the companies is generally higher and more present between them, the organizations also cooperate and compete against each other at the same time in order to get a competitive advantage. The trend is that direct competitors are no longer independent organizations, but group organizations. In situations like these, the organization needs to approach to one of the groups in order to achieve the right efficiency and competitive ability. The aim of such a competition in all the segments is the promotion of a position in the market, lowering costs, the increase of sales, new achievements in research and development, the improvement of the production and technological process.

Strategic alliances give a significant competitive advantage for organizations, but they do not guarantee success in business.

Failure risk is very high and doing business, consequently, as well. The organizations in Croatia should cooperate on different projects and create alliances with corporations abroad which could bring them strategic assistance. Organizations can be competitive only if they develop strong strategic connections with their competitors, suppliers, buyers, and distributors. The purpose of such new alliances is the acquisition of new knowledge, technologies, competencies, and the creation of strong leverage for the acquisition of new markets. If the organizations are successful they will also operate well, they will become innovative, flexible, having a strategy that promises high productivity in the long term.

To conclude, strategic alliances can definitely be and stay, with technological advances, increasing competition and changes in the business, the key to success in achieving strategic goals and above-average results in business. The emphasis is on the importance of the fact that neither organization in Croatia will ever have the luxury of ignoring trends of strategic cooperation if it wants to be competitive in the contemporary market.

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MANAGEMENT OF THEATER ACTIVITIES IN THE CULTURAL AND CREATIVE INDUSTRY OF THE REPUBLIC OF CROATIA

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Abstract

The role of culture and creativity in the economic sector is increasingly important in the global context. The world economy recognizes the potential and importance of creativity as an important resource of the end-product in creative product and service while statistics show a positive trend in employment and gross added value. According to the UNCTAD Creative Economy Outlook Report 2018, the Republic of Croatia employs more than 42,000 people in the creative sector and generates more than 2.6% of gross domestic product. In the period from 2005 to 2015, the creative industries of the Republic of Croatia recorded an increase in the trade balance, where exports of cultural and creative goods and services in 2014 amounted to USD 284.3 million. The authors accept the assumption that cultural content determines the process of creative, cultural and artistic creation and proposes a model of concentric circles *where successive layers of concentric circles are defined as ideas and influences of creative activities. Accordingly, they analyze the same issue in the paper and make some recommendations for improvement and further research.*

Keywords: *urban economy, management of the theater, cultural industry, theaters, performance measurement*

JEL Classification: Z10, Z19

1. INTRODUCTION - THEATRE IN CULTURAL AND CREATIVE INDUSTRIES

Culture and creativity are taking on an increasingly important role in the global economy. The global economy has recognized the potential and the significance of creativity as an important resource in the development of the end-product of cultural and creative industries, and statistical data indicate a positive trend in employment and gross added value. According to the UNCTAD Creative Economy Outlook Report (2018), the creative sector in Croatia employs more than 42,000 people and generates more than 2.6% of the gross domestic product. Between 2005 and 2015, creative industries in Croatia experienced a trade balance increase, with exports of cultural and creative goods and services in 2014 amounting to USD 284.3 million. Considering their complexity and interdisciplinarity, there is no uniform definition of the concept of cultural and creative industries. Adorno and Horkheimer discussed the first anthropological controversies regarding the concept of cultural industry way back in 1947 in *The Dialectic of Enlightenment*. According to Lanza-Maronić et al (2010:134), creative industries can be defined as human activities using specific skills, creativity, know-how, and technology to generate products and services, which are defined as content whose purpose is to provide information, educate and entertain, and which indirectly generates jobs and financial capital. In any case, cultural industries are interpreted as creative even if there is doubt as to the differences between creative economy and culture and artistic creativity, which cannot always and fully be identified as industrial production (Švob-Đokić et al; 2002:56). Furthermore, the authors argue that modern cultural and creative industries have very similar or identical meanings, based on the creation of new symbolic values. However, in addition to symbolic values, cultural content also has a commercial value resulting from its creative idea and action. Different cultural assets have different degrees of cultural content with respect to their commercial value (Throsby; 2008:149). The author accepts the presumption that cultural content defines the process of creative, cultural and artistic creation, and proposes the *concentric circles model*, where consecutive layers of concentric circles are defined as ideas and impacts of creative activities. Accordingly, the concentric model of the cultural industry:

Core creative arts
- Literature
. Music
. Performing arts

. Visual arts

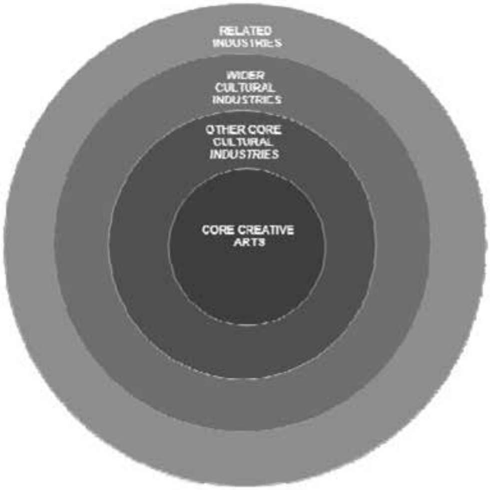
Other core cultural industries
. Film
. Museums, galleries, libraries

. Photography

Wider cultural industries
. Heritage services
. Publishing and print media.
. Sound recording
. Television and radio
. Video and computer games

Related industries
. Advertising
. Architecture
. Design
. Fashion

Figure 1. The concentric circles model in cultural industries



Source: Created by authors based on Throsby (2008:150)

According to the above *model*, the core creative arts comprise literature, music, performing arts and visual arts, which generate two values as a cultural asset: the cultural and creative value, and the economic value. Performing arts, including theatre, are at the center of the model. In other words, theatre and theatre activity are a core creative art in cultural and creative industries due to their cultural and creative content. Theatre activity sells its creative and cultural product by presenting its artistic asset through drama, opera, ballet, and other types of performances. Theatre activity includes preparation, organization and public performance of drama, musical, puppetry and other pieces (NN71/06, 121/13, 26/14, 98/19). The theatre scene in Europe is famous for its historical performing tradition and artistic creations presented at world-famous stages such as La Scala in Milano, The Royal Opera House in London, Staatsoper in Vienna, *Kungliga Dramatiska Teatern* in Stockholm and so on. The word theatre has a double meaning: it stands for the theatre building, but also for the complex of theatre life that proceeds in this building (Dragičević-Šešić et al; 2011:124). Croatian theatre and its historical, artistic, cultural and creative performance are evenly matched with their European and international counterparts. The Croatian National Theatre in Zagreb, for instance, is an acclaimed national drama theatre with a repertoire to match any of its European counterparts, and a building whose stunning exterior, the work of Hermann Helmer and Ferdinand Fellner, Viennese architects specializing in theatre construction, is a tourist attraction in itself.

2. CROATIAN THEATRE ORGANIZATION MODELS AND A COMPARISON WITH SWEDEN

Theatres are legal entities preparing, organizing and publicly performing theatrical and musical pieces, who are in possession of a theatre space functionally adequate and equipped for the performance of theatrical and musical pieces, as well as the requisite artists and organizational and technical staff (NN71/06, 121/13, 26/14, 98/19). Theatres belong to drama arts and include both theatre groups and theatre companies. Theatre groups are legal entities established for the purpose of preparing and perfuming theatrical and musical pieces (NN71/06, 121/13, 26/14, 98/19), whereas theatre companies are legal entities in possession of a space functionally adequate for the performance of theatrical and musical pieces and the requisite staff (NN71/06, 121/13, 26/14, 98/19). The establishment, management, organization, financing and supervision of theatres and theatre groups, and the position of theatre artists and other theatre workers, are regulated by the Theatre Act. The establishment of a theatre, theatre group or theatre company is confirmed by registration in the court or commercial register and in the *Register of Theatres* maintained by the Ministry of Culture and regulated by an ordinance passed by the Minister of Culture, whereas independent artists register their art organizations in the *Art Organizations Registry*. The Republic of Croatia and regional and local self-government units establish theatres and theatre groups as public institutions (NN71/06, 121/13, 26/14, 98/19). Public theatres include national, county, public city theatres and theatre companies, and private theatres can be registered as companies, private institutions and art organizations (Lončar; 2013:209). There are five Croatian National Theatres operating in Croatia, in Zagreb, Osijek, Split, Rijeka, and Varaždin. The theatre in Rijeka is named Croatian National Theatre Ivan pl. Zajc and the rest are named after their respective cities. The Republic of Croatia holds a stake only in the Croatian National Theatre in Zagreb. To be more precise, the Ministry of Culture holds a 51% stake in the Theatre, and the City of Zagreb 49%. The City of Osijek and the Osijek-Baranja County hold a 50% stake each in the Croatian National Theatre in Osijek. The Croatian National Theatre Split, the Croatian National Theatre Ivan pl. Zajc in Rijeka and the Croatian National Theatre Varaždin are the property of their respective cities (Bestvina Bukvic et al; 2015:150). In addition to the national theatres, there are a total of 25 city theatres among public institutions registered in the theatre industry in Croatia, 36% of which are based in the City of Zagreb.

Table 1. The organizational model of theatres in the public sector

	The organizational model of the theatre/theatre groups	Number
Public sector	Institution	32

Source: Created by authors based on available data published at https://www.min-kulture.hr/default.aspx?id=2868&kazid=1705. Access 28 November 2019

National and public city theatres are so-called repertoire theatres, meaning that they employ a permanent ensemble and have a certain number of titles in their repertoire that is performed in turns for several seasons (Lončar; 2013:211). According to the Theatre Registry, there are a total of 183 theatres and theatre groups registered in the public and private sectors in Croatia.

Table 2. The organizational models of theatres in the private sector

	The organizational model of the theatre/theatre group	Number
Private sector	Art organization	135
	Company	15
	Institution	1

Source: Created by authors based on available data published at https://www.minkulture.hr/default.aspx?id=2868&kazid=1705. Access 28 November 2019

There are a total of 151 subjects in the private sector, 31% of which are theatre groups, and 10% are companies. Art organizations are the most common organization model in professional theatre business in the private sector. Art organizations are non-profit legal entities, established by artists, and confined to the art activity they are registered for (NN 43/96, 44/96). Art organizations acquire legal personality and become active once they have registered in the *Art Organizations Registry*. According to Lončar (2013:209), independent artists can also be engaged in professional theatre activity as a special category. The author underlines that professional art associations and trade unions are also important stakeholders in the theatre industry: although they do not engage in professional theatre activity, they hold a specific place in the system.

3.2. Organization of theatre activity in Sweden

Taking a look at the types of association in the culture industry in developed European countries, we will focus on the organization of theatre activity in Sweden in this paper. In Sweden, in terms of organization, theatre activity is treated the same as any other industry. The Government supervises art organizations in Sweden in the same way it treats all other public organizations (Lindqvist, 2007:311). A government authority comprising the Swedish Public Employment Service (*Arbetsförmedlingen*), the Swedish Companies Registration Office (*Bolagsverket*), the Swedish Tax Agency (*Skatteverket*) and the Swedish Agency for Economic and Regional Growth (*Tillväxtverket*) is a separate government agency responsible for business support and development. Another 45 government agencies take a less active part in it. The purpose of this organization is to provide support and advice and disseminate information in the process of company registration, management and development, including companies in the cultural and creative sector. This organization is called the *Verksamt* and offers highly organized and transparent information about starting any kind of business. It can be accessed online at www.verksamt.se. Performing arts (*scenkonst*) are thus also given a transparent online space that provides culture professionals with the following information before they start a theatre:

1. Starting a performing arts business
2. Laws, rules, permits
3. Organizations
4. Culture incubators

The section "Starting a performing arts business" provides separate information about the social security system for artists/culture professionals (unemployed/unengaged culture professional insurance, healthcare, and social insurance, pension system), company financing and management, economic supports and financial contributions, and the tax system in culture. The menu "Laws, rules, permits" offers information on copyrights, laws in culture, types of spaces and regulations for spaces in culture, theatre buildings, building security regulations, and contractual rights for producers and other artists and professionals in culture. The menu "Organizations" contains a list of contact information of trade unions in culture, education and development centers, interest organizations, organizations for copyrights in music, and so on.

Theatres are established via an e-service, where registration takes no more than 30 minutes, and the official confirmation arrives in written form on the registered address within 1-2 business days. Information about all theatre organization forms, finances, management and so on are available in one place that contains links to the above agencies, laws, and organizations. This example of the establishment and management of a company in culture is administratively and bureaucratically fast and efficient. It makes it easier for artists and culture professionals to start and manage a company in culture in the best way possible.

Table 3: Number of theatre companies

Total	2010	2011	2012	2013	2014	2015
Number of theatre companies	12 867	14 792	16 416	17 904	19 106	20 146

Source: Created by authors based on available data published at https://tillvaxtverket.se/download/18.29fe82761674b6928a121756/1543397465153/Kreametern%20metodrapport%20(2018)%20WEBB.pdf, access 21 September 2019

In Sweden, there are public and private theatres. Public theatres include national, county, municipal and city theatres. Public theatres are usually incorporated as shareholding companies. Private theatres are usually incorporated as shareholding companies, limited liability partnerships, associations or *sole traders*. A sole trader means that a physical person establishes a theatre as a private individual and participates in the culture tax system, and the physical person's identification number serves as the company's organization number. The difference is in the presentation of financial results: a sole trader is not required to present its final financial results publicly. Other companies in the cultural and creative sector are obligated to submit their final business accounts to the Bolagsverket in the timeframe defined by the law, and they are publicly accessible to any physical or legal person.

All of the above shows a clear difference in organization infrastructure for theatre establishment and in the nomenclature of the theatre activity. Sweden's bureaucratic system and public administration are an example of a transparent theatre registration model that could be copied in Croatia. Such an e-model would facilitate and speed up the bureaucratic system, eliminate the accumulation of documentation and provide all necessary information in one place.

3. THEATRE MANAGEMENT

The management of a cultural institution or organization at the time of highly developed production and mass culture requires the development and use of a number of strategic and organizational measures. Culture (cultural) management, as a "new economy" element, is the most prominent in the specific sector of creative industries (Lamza-Maronić et al; 2010:133). Professionals in culture are exposed to intensive learning, training, adaptation, and the development of new interdisciplinary know-how and skills.

The corpus of theoretical knowledge required to run cultural institutions comprises management theory and organization science, sociology of culture, cultural politics and economics of culture (Dragojević et al; 2008:14). Theatres, especially in the private sector, are turning towards corporate management methods to ensure the financial stability of artistic production. The general task of management in culture, as a form of scientific organization of art activities, is to optimally reproduce the best art production while making sure that it achieves the broadest possible communication with the audience (market) (Raduški, 2013:290).

Management in culture is based on the assumption that the working conditions, production process and the marketing of artistic creativity can be shaped, organized and managed, which implies alignment of the community's needs on the one hand and the overall activity in the culture industries on the other (Dragičević-Šešić, Stojković; 2011).

The production process requires the synergy of all sectors in a cultural institution. The very nature of their business means that cultural institutions are usually exposed to turbulent and economically unstable times, requiring them to constantly adapt to market circumstances. Management in turbulent times differs from management in general by fewer firm plans and much more precise and detailed decision-making procedures and mechanisms that guarantee better adaptability, while the firmness of form guarantees quality and success or realization (Dragojević, Dragićević-Šešić; 2008:55).

3.1. Managing theater

Theatre management implies an organizational infrastructure that is adapted to artists and market circumstances. Due to its impact on the culture landscape and the distinctive nature of its expression, the theatre is much more complex and much more intimately interwoven with the outside world than literature or any other art form. What is more, changes in the world are connected with changes in theatre production (Lukić, 2010:187). Any change is at the same time an opportunity and a threat (Adižes, 2002:109). In order for the theatre management to take advantage of the opportunity and avoid the threat, the entire organization needs to make sound, well-timed production decisions (theatre play production circle) regarding a piece and to implement them. The success of a production depends on the synergy of a number of professionals with interdisciplinary profiles and experiences, and the situation at hand requires an entrepreneurial approach. Since the theatre industry is built on drama, opera and ballet, the organizational structure requires cooperation between sectors on the micro-level of internal organization, with an emphasis on the introduction of corporate management and marketing.

According to Dragičević-Šešić and Stojković (2011:125), the basic elements of the organizational structure of a theatre are as follows:

- Art sector
- Technical sector
- General sector (administration and operations) – common affairs

The authors explain that the art sector is responsible for the artwork, the theatre's core business, while the technical sector is responsible for the technical preparation of performances. The general sector is responsible for the administrative, accounting and commercial tasks, in addition to marketing tasks.

Adižes (2002:114) singles out four main management functions: *production, administration, business, and integration,* where the business function of management is the creative function that assumes the risk and is open to changes. Due to the nature of their product, theatres, as a part of cultural industries, require a somewhat more interdisciplinary approach to management, since they include the art sector. Røyseng (2008:47) concludes that business management thinking and methods have been very prominent in art in the past two decades. Below we will elaborate on the organization of management on the examples of two professional national and public repertoire theatres, the Royal Dramatic Theatre in Stockholm and the Croatian National Theatre in Zagreb.

Case study: *The Royal Dramatic Theatre in Stockholm*

Kungliga Dramatiska Teater AB (Dramaten) is a shareholding company 100 percent owned by the Swedish state and subject to the Companies Act (Aktiebolagslagen, 2005:551). The Dramaten is a professional royal and national theatre with a permanent ensemble that gives spoken drama performances only. The theatre's management comprises 10 members who hold management functions equivalent to companies in different sectors. The executive management comprises seven members: the chief executive officer (CEO), the chief financial officer (CFO), the head of marketing and public relations, the head of human resources, the intendant, the producer, and the scene and technical director. The theatre's organization structure is split between the operative and the arts sector. The operative sector is composed of four managers specializing in finance, marketing, communication and the media, and human resources management. The art sector is managed by three members (intendant, production director, and scene and technical director), who are in charge of repertoire selection, direction, acting, ballet, orchestra, scenography, costume design and stage and technical preparations. A team of seven persons runs and organizes the theatre equally, in line with their sector responsibilities, while reproducing artistic production.

Table 4. Dramaten production, performances, and attendance

	2014	2015	2016	2017	2018
Total productions	29	31	32	37	38
Total performances	1 144	1 203	1 130	1 137	1 022
Total visitors	303 785	275 000	266 625	272 200	280 555

Source: Created by authors based on the annual report for 2018, available at https://www.dramaten.se/globalassets/om-dramaten/dokument/2019/arsredovisning-2018-till-webb.pdf, access 4 October 2019

The table above shows that the number of productions has increased over the five-year period, which means costs have increased as well. The number of visitors has also increased somewhat in the period in question. In 2018, the theatre had a total of 1022 performances, 280,555 visitors and 38 productions. It earned SEK 56.2 million from tickets, which accounts for 17.91% of its total revenue of SEK 313.7 million. The company's total revenue was also up 6.32% year-on-year. State aids account for 78.06% of the theatre's revenue. The theatre had a negative bottom line of SEK 2.2 million at the end of 2018 as a result of new production programs. The average production time is 12-18 months before the premiere. Production expenses are registered in three different financial years for the same production. Total production expenses in 2018 thus amounted to SEK 8 million. The management anticipates a negative budget for 2019 in line with the planned investments in theatre infrastructure. A bank loan was taken out to finance the infrastructure reconstruction project. Three new members with experience and know-how in cultural and creative industries have joined the management team. The theatre's annual report presents transparent information about staff changes, art and business audits, performance statistics, attendance, ticket sales, and financial results, as well as clear objectives and visions for the period ahead. This professional public sector theatre aims to freshen up the existing infrastructure, adapt its management team by recruiting members experienced in corporate management and cultural industries, attract a wider audience and tourists using marketing instruments, and increase the share of revenues from ticket sales and other activities in the total revenue in the period ahead. The Nordic theatre management perspective implies a mutual, two-way relationship between art and business. The positive contribution of business to arts and the many things arts have to offer to the business world in return are underlined (Røyseng, 2008:37).

Case study: *Croatian National Theatre in Zagreb*

Croatian National Theatre (HNK) is a public institution founded by the Republic of Croatia, which holds a 51% stake in it, while the City of Zagreb holds the remaining 49%. The Theatre is subject to the Institutions Act (Official Gazette 76/93, 29/97, 47/99, 35/08). The Croatian National Theatre in Zagreb is a professional repertoire theatre with a permanent ensemble and a public institution with national theatre status. It has opera, drama and ballet sections. The Theatre's management is made up of the intendant, drama director, opera director, ballet director, and the Theatre Council, composed of two members from the City of Zagreb, two members from the Ministry of Culture, and two members from the Theatre. The Theatre's management covers both the art and the organization sector. The intendant runs the Theatre's operations, organises and implements the art programme, and represents the Theatre in dealings in which the business director runs the financial operations. The art sector is responsible for art production, organised by the intendant, drama director, opera director and ballet director. The organization sector comprises the Technical Department (Stage

Technology and Production; Lighting, Sound, and Video; Costume Design; Security, Energy, and Protection), Sales, Marketing and Public Relations; Legal and Common Affairs; Accounting; and Public Procurement. The Theatre's Strategic Plan 2017-2019 outlines the Theatre's job systematization, where each employee of the organization has a single line manager.

In 2018, the Theatre posted revenue of HRK 110 million, with ticket sales revenue accounting for 11.54% of the sum. State aids account for 86.40% of the Theatre's finances. The Theatre had a positive bottom line of HRK 2.3 million at the end of 2018, having increased its total revenue by 5.8% year-on-year. After covering the deficiency of revenue over expenses from the previous years, amounting to HRK 1,200,416.87, the Theatre was left with an amount of 1,128,704.59.

Table 5. Croatian National Theatre in Zagreb - performances, and attendance

	2012/13	2013/14	2014/15	2015/16	2016/17
Total performances	249	269	231	287	359
Total visitors	123 290	140 415	113 833	120 892	192 000

Source: Created by authors based on data from the Statistical Yearbook of the City of Zagreb 2018, available at https://www.zagreb.hr/UserDocsImages/arhiva/statistika/ZG_Statisticki_ljetopis_2018.pdf, access17 October 2019

The table does not include data for the season of 2018 because the statistics are not yet available from the Croatian Bureau of Statistics or in the Statistical Yearbook of the City of Zagreb. However, the performance season 2016/2017 stands out in the five-season period we analyzed with a substantial increase in attendance and number of performances. It is possible that the same trend continued in 2018 since ticket sales (including guest performances, sponsorships, and donations) affected the increase in revenues with a total share of 10.9%.

The Theatre's website includes the Strategic Plan 2017-2019, outlining the Theatre's performance in 2015 and 2016, and a clear vision and mission. In the SWOT analysis, the management identifies financing of culture from the state and city budget, fewer sponsorships, absence of restructuring of the Theatre in cooperation with its owners, lack of jobs in the full-time employee quota, obsolete technology, and inability to establish a self-sustainable model as the main threats. The Theatre's weaknesses include the lack of another stage for the development of the drama ensemble, non-alignment of the Theatres Act with the Labour Act, legal insecurity caused by tax system regulations, the deficit of Croatian ballet choreographers, and outdated instruments.

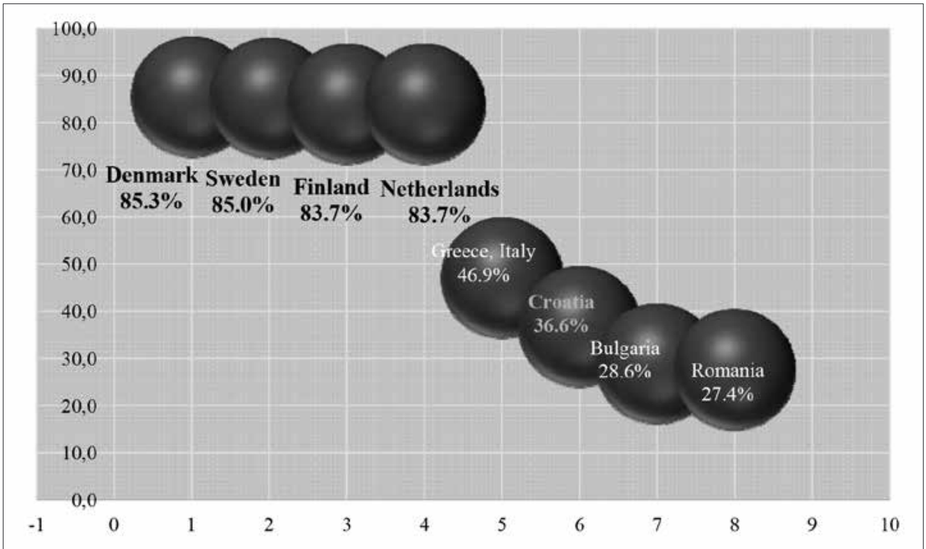
The case study indicates that both theatres receive state aids from the state budget, but the Croatian National Theatre in Zagreb is still managed in the traditional way, whereas the Dramaten has modernized its management team by bringing in managers with experience and skills in business, corporate management, and marketing in cultural and creative industries. Also, it has spun off its opera and ballet sections, which are now a separate company (Kungliga Operan AB) with its own management, which has not been discussed in this paper. Considering that the Dramaten's art and organization sectors already have certain intersectoral routines, the new changes give the artists extra motivation for proactive artistic strategic action. Meanwhile the share of state aids in the total budget has decreased somewhat. Production and investments have been increased, and the benefits of the website taken advantage of. The website transparently presents the theatre's management, with detailed manager profiles. The management team presents a creatively designed annual report, including transparent data, statements from the intendant and the management, statistics, and clear visions for the period ahead to all drama arts lovers, sponsors, and other interested stakeholders every year. The Croatian National Theatre in Zagreb is the property of two self-governing units, an aggravating factor in terms of budget financing. The theatre's management is making room in the organization sector to restructure the organization and modernize management in order to start the process of self-sustainability, increase production, develop marketing and attract sponsorships and investments, take advantage of EU supports and projects (Creative Europe), digitalize performance arts, build cooperation between sectors and interact with the audience, and modernize the stage and technical equipment.

4. THEATRE PARTICIPATION AND MEASUREMENT OF EFFICIENCY OF THE THEATRE ACTIVITY: MBO – CURRENT SITUATION

The collection of data in the performance arts sector is extremely important for Croatian and European statistics in order to measure the efficiency of theatre companies, measure attendance, develop a culture policy, and invest in theatre activity and attendance. Statistical data for performance arts in the culture sector in the EU provides information about the participation and consumption in the performing arts sector. However, since the systems for monitoring cultural participation and the data collection methodologies are not aligned between EU member states, this section of the paper will provide an overview of the currently existing statistical tools for the monitoring of theatre activity and participation in Croatia. An overview of the current situation creates opportunities for a revision of the current situation and for plans and incentives for the development of cultural participation monitoring instruments.

EUROSTAT's Culture statistics report (2019:124) confirms that more than 43% of EU residents over 16 years of age visited some form of a live performance (theatre, concert, another event) in 2015. Scandinavian countries had the highest percentage of cultural participation: Denmark (85.3%), Sweden (85.0%), Finland (83.7%) and Netherlands (83.7%). Croatia had cultural participation of only 36.6% and was at the other end of the range with Greece and Italy (both 46.9%), Bulgaria (28.6%) and Romania (27,4%).

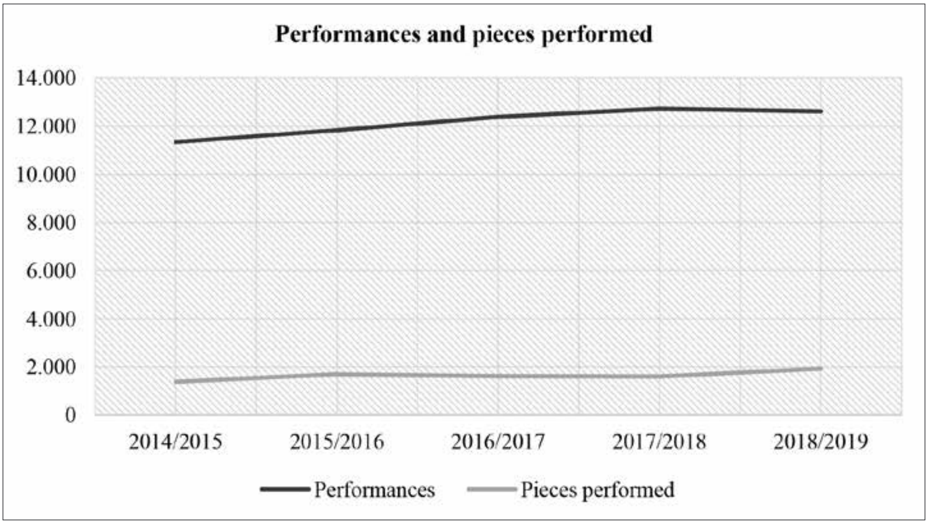
Graph 1. EU cultural participation in performing arts (2015)



Source: Created by authors based on data from EUROSTAT Culture Statistic 2019 https://ec.europa.eu/eurostat/documents/3217494/10177894/KS-01-19-712-EN-N.pdf/915f828b-daae-1cca-ba54-a87e90d6b68b, access17 October 2019

Naturally, the gap in the data presented is in part due to differences in economic development, gross domestic product, demographic situation, cultural policy, cultural habits of the residents of the EU member states in question, and other factors related to a country's level of development. The Croatian Bureau of Statistics is the only entity in Croatia that keeps statistics on performing arts. The Bureau publishes an annual artistic production and lives performance report. Its data collection methodology is based on the *Theatre Annual Report* (form KU-1), which professional theatres, professional children's theatres, and amateur theatres are required to submit. The annual report of the Ministry of Culture for 2018 provides information about budget activities in the theatre and live performance industry. The budget spending on this sector in 2018 accounted for 12% of the total budget funds. The *Strategic Plan of the Ministry of Culture 2019-2021*, in cooperation with the Ministry of Economy, Entrepreneurship and Crafts, develop the program "Entrepreneurship in cultural and creative industries for 2018", aimed at developing economic operators in performing arts, among other areas. The same Plan aims to support the computerization and equipment of the cultural institution's network.

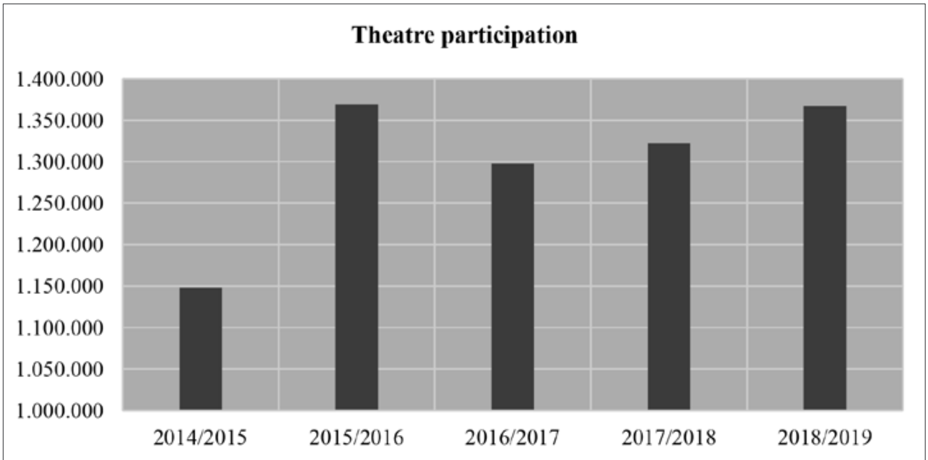
Graph 2. Live performances in Croatia



Source: Created by authors, Croatian Bureau of Statistics, Artistic Production and Live Performances Report, www.dzs.hr, access 23 November 2019

It is evident from the graph that there is a trend of performances in four seasons in Croatia, with the season of 2017/2018 having had the most performances, a total of 12,725. The data presented include professional theatres, professional children's theatres, and amateur theatres. The number of performances in the season 2018/2019 dropped by 111 compared to the previous season. However, the number of performances is the highest in the last two seasons, and there is an average of 12,178 performances in five seasons. Since the number of pieces performed is the highest in the season 2018/2019, this is the most successful season both in terms of the number of performances and in the number of performed pieces, with a total of 14,544 performances and performed pieces, 1,823 more than in the first analyzed season (2014/2015). It is important to note that children's and puppetry performances account for 52.69% of total performances. In other words, performances for children account for half of the total theatre product.

Graph 3. Theatre participation in Croatia



Source: Created by authors based on the data of the Croatian Bureau of Statistics, Artistic Production and Live Performances Report, www.dzs.hr, access 23 November 2019

There was an average of 1,300,942 visitors per season in the five analyzed seasons, among which the season of 2015/2016 had the highest cultural participation of 1,369,222 visitors. Attendance declined notably in the seasons of 2016/2017 to only 71,592 visitors. However, theatre participation recovered the very next season. In the last season included in the analyses, there were 1,367,354 visitors or 1,868 fewer than in the most successful season in terms of attendance. Regrettably, the authors of this paper are unable to offer information about the types of visitors in cultural participation, since there are no statistics about their social and demographic profiles, their motives for visiting the theatre, their perception and the satisfaction of the visitors. The satisfaction of consumers/buyers in the theatre, as a form of judgment of the spectators of a theatre event, provides a pleasant level of fulfillment regarding their consumption, including too low or too high fulfillment (Boerner et al; 2011:879). The authors point out that it is possible to assess the success of a theatre performance by studying its reception by visitors.

4.1. Efficiency measurement system: Management by Objectives (MBO)

As we have stated above, organizational structures with an element of corporate management are very important for the economic performance of a theatre company. In such a model, the art director is released from the burden of administrative tasks and free to focus their full attention on arts, while the business director takes charge of the operative sector. One of the important tasks of the operating sector is to document theatre activity and conduct quantitative measurement of its performances and efficiency. Belfiore (2004:189) points out that the advocation of public investments in arts is based on expected tangible and measurable economic and social effects. The author underlines the importance of audit in culture using New Public Management, where audit in culture, including theatre activity, is performed by collecting economic efficiency data and measuring performance. Røyseng et al (2019:4) feel that Management By Objectives is an appropriate method that could be used to study expectations from art institutions harbored by public authorities on the one hand and the response of the art institutions on the other. The Management By Objectives (MBO) model is a reform measure of New Public Management defining transparency and art quality targets against which the performance of the theatre activity is measured. Such a model was successfully applied by the Norwegian Ministry of Culture, whose defined targets included theatre efficiency indicators (Røyseng et al; 2019:9):

- Total number of productions, performances, and visitors
- Total number of productions, performances, and visitors on a tour
- Total number of productions, performances, and visitors in the theatre's country
- Total number of productions, performances, and visitors outside of the theatre's country

Operating management documents the attainment of defined targets and efficiency indicators and is fully responsible for their realization, without burdening the art manager with the quantitative administration. The organizations that lacked healthy managerial practices were the organizations where the art director performed all the roles alone (Adižeš, 2002:39). The MBO model showed gradual structuring of the documentation in accordance with performance targets and indicators in theatre activity and proved that a basis existed for further development and monitoring of theatre efficiency and profitability. This model systematizes communication between the government and all theatres and the statistical coverage and facilitates documentation and the flow of information based on which theatre activity is audited. As we stated above, the Central Bureau of Statistics collects information about theatre activity in Croatia. The main problem of theatre statistics is the lack of data on social and demographic profiles and consumer satisfaction, the instability of information about culture financing (the relevant ministries have this information), lack of alignment with the EU, and so on. The Swedish model for monitoring cultural participation and the efficiency of theatre activity, called *Kreametern* and established by the Agency for Economic and Regional Growth, and the *Kulturanalys*, established by the Swedish Agency for Cultural Policy Analysis, provide a good MBO example that Croatia could use to develop its own cultural statistics. These two models together are the Government's system for the development and monitoring of arts and culture. Statistical reports about the culture and creative sector, aligned with the EU and with EEsnet Culture, are published several times a year and made available to entrepreneurs, professionals, and artists in the culture and creative sectors, as well as the audience.

5. CONCLUSION

The theater is an integral part of the artistic, cultural and economic life of a society. The authors of this paper begin by adopting the Throsby's (2008) model of concentric circles according to which the theater activity within the performing arts forms the fundamental creative expression. In addition to its symbolic and cultural content, the theater business has its commercial value and is thus an economic asset in the cultural and creative sector.

In accordance with its organizational forms, in the Republic of Croatia, the institution prevails in the public sector, while in the private sector it is an artistic organization. Only 10% of the theater industry is registered as commercial companies.

Comparing the professional organization of the theater activity of the Republic of Croatia with the example of a developed European country - Sweden, the difference in the organization and organizational infrastructure is highlighted. Setting up a theater is facilitated through the organization and centering of all available information in one place without any additional accumulation of documentation. The authors of this paper propose the creation of such a model in the Republic of Croatia, which would facilitate and accelerate the process of establishing a theater, develop a theater enterprise, concentrate all necessary information in one place and improve the management of the theater activity.

Because theater is complex in itself, the management of a theater is most often made up of the arts, technical and administrative-operational sectors. According to case studies, the National Theater in Zagreb (*HNK*) and Stockholm (*Dramaten*) are both professional and repertoire theaters with the arts and operations sectors in the system of financial support from the national budget. However, unlike the HNK (Zagreb), Dramaten (Stockholm) is a shareholding company whose organization is comprised of employees from the arts and cultural and creative industries, business, and production has more sophisticated management. The current organization in HNK, Zagreb opens the room for the restructuring and modernization of management with the aim of artistic and entrepreneurial self-sustainability and encouraging theatrical participation.

Theatrical participation in the Republic of Croatia has a positive trend where as much as 50% of the total participation is made up of children and puppet shows, which is an important percentage for the additional stimulation of young people in total theater participation. However, current theater statistics do not contain more detailed information on attendance, sociodemographic images, satisfaction, motivation, etc. The authors, therefore, propose the implementation of New Public Management with an emphasis on the implementation of theater performance by the Ministry of Culture of the Republic of Croatia, which would surely improve and synchronize the documentation with the European Union system.

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INSTAGRAM – EIN GESCHÄFTSMODELL MIT BILDERN

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Abstract

Seit etwa zwei Jahrzenten treibt die Digitalisierung Wirtschaft und Gesellschaft. Neuartige IT-Konzerne mit weltweiter Macht und Relevanz sind entstanden, die heute auch die Börsenkapitalisierung dominieren. Instagram wurde im Jahr 2010 gegründet und zwei Jahre darauf von Facebook erworben. Das soziale Netzwerk setzt auf die Bearbeitung und Speicherung von Bildern und Videos und hat heute mehr als eine Milliarde Nutzer. Es wird das Geschäftsmodell von Instagram vorgestellt, dessen Funktionalität, Eigenarten und Chancen.

Keywords: *Digitalisierung, soziale Medien, Plattformökonomie, disruptive Geschäftsmodelle, AIDA/ASIDAS-Modell, Facebook, Instagram*

JEL Classification: L86, M30

1. DIGITALISIERUNG ALS TREIBER VON WIRTSCHAFT UND GESELLSCHAFT

Die Dynamik, mit der sich die Gesellschaft und Wirtschaft in den letzten zehn Jahren ändert, ist beachtlich. Der entscheidende Treiber hierfür ist die Digitalisierung (Accenture, 2017: 3; Episerver, 2018: 5, Ostermeier, 2018: 3; Keese, 2018: 7). Dabei hat der Begriff einen Bedeutungswandel durchlaufen: Stand der Begriff der Digitalisierung ursprünglich für den Sprung von der analogen in die digitale Speicherung von Daten und für die Übertragung von Informationen auf einen Computer, so spricht man heute von einer digitalen Transformation, die neue Geschäftsmodelle schafft. Neue Märkte mit anderen Zielgruppen entstehen, alte Märkte verändern sich oder brechen ganz weg. Das soziale Netzwerk Instagram mit über einer Milliarde registrierten Nutzern, von denen über 500 Millionen die Plattform täglich nutzen, nimmt eine immer größere Rolle im Vertrieb von Produkten und Services für Unternehmen ein. Im folgenden Beitrag wird die Plattformökonomie generell dargestellt, speziell das Geschäftsmodells des Onlinedienstes Instagram – dessen Nutzen und Chancen.

2. PLATTFORMÖKONOMIE ALS GESCHÄFTSMODELL

2.1. Interaktion und Informationsaustausch als Basis

Moderne Plattformen sind Teil von komplexen Organisationen und bauen auf einer IT-basierten Infrastruktur auf. Diese digitalen Unternehmensprozesse ermöglichen den Anbietern und Kunden auf Plattformen wie Google, Amazon und Facebook eine nahezu freie Interaktion untereinander. Außerdem sind diese modernen IT-Plattformen unendlich skalierbar und gelten daher als "echte und freie" Marktplätze.

Der Begriff der Marktplätze bzw. Plattformen beschreibt Geschäftsmodelle, die sich auf das Steuern von Marktakteuren konzentrieren. Anbieter und Nachfrager werden auf einer zentralen Plattform gemanagt. Da Plattformanbieter als Bindeglied bzw. Vermittler zwischen Anbietern von Produkten bzw. Services und den Kunden agieren, sind mindestens zwei handelnde Akteure notwendig. Durch das Zusammentreffen von Angebot und Nachfrage wird ein marktüblicher Preis bestimmt. Ziel der Plattformanbieter ist es, durch möglichst geringes Eingreifen in das Marktgeschehen einen freien Austausch an Interaktionen zu ermöglichen.

2.2. Plattformrelevante Märkte

Es gibt verschiedene Arten von Plattformunternehmen, die unterschiedliche Märkte bearbeiten und in Kernbereiche unterteilt werden:[1] Plattformanbieter können sich auf digitale Inhalte, wie z.B. Nachrichten, Musik, Filme und mediale Dienstleistungen spezialisieren. Dabei werden Einnahmen meist durch die Platzierung von nutzeroptimierter Werbung erzielt. Beispiele für Unternehmen aus diesem Plattformsegment sind das Handelsblatt oder die Streamingdienste Netflix für Filme und Spotify für Musik. Daneben gibt es Unternehmen, die den Nutzern durch mitlernende Algorithmen passgenaue Treffer auf Suchanfragen in ihren Suchmaschinen, wie z.B. google.de liefern. Bei dieser Art von Plattformen generieren die Anbieter Erträge über bezahlte Suchergebnisse, den Verkauf der Kundendaten oder das Schalten von Fremdwerbung. Auf Marktplätzen im Internet wird zudem klassischer Handel betrieben: Die bekanntesten Handelsplattformen weltweit sind *Amazon* und *Alibaba*, Vergleichsportale wie *Check24* gelten als Vermittlungsplattformen. Die Unternehmen bieten den Anbietern und Nachfragern einen Zugang zum Internethandel und verlangen im Anschluss für jeden Verkauf eine gewisse Provision vom Anbieter.

Plattformen, die sich auf Kommunikation spezialisieren, werden auch als Soziale Netzwerke betitelt. In dieser Kategorie sind facebook, Xing, LinkedIn bekannte Beispiele. Die Nutzer können Informationen in Form von öffentlichen Texten, Bildern und Videos und privaten Nachrichten teilen.[2] Teilnehmer dieser Sozialen Netzwerke sind Privatpersonen, Unternehmen und Organisationen. Die Betreiber dieser Plattformen werten die generierten Nutzerdaten aus und bieten diese Informationen Werbetreibenden zum Kauf an. Durch personalisierte Werbung auf den Kommunikationsplattformen ist ein kundenorientiertes Marketing möglich. Andererseits erhalten Drittunternehmen die Möglichkeit, mehr über Käufer und potenzielle Kunden und Markttrends zu

1 Vgl. Lammenett (2019), 425 ff; Kreutzer (2019), S. 7 ff., 151 ff., 179 ff; Kreutzer u. a. (2015), S. 7; Heinemann (2019), S. 41 ff, Weinberg (2014), S. 2 ff; Looy (2016), S. 6 ff.

2 Zu den Vorteilen der bildhaften Darstellung vgl. Kroeber-Riehl/Esch (2011), S. 24; Kobilke (2016), S. 200.

erfahren. Die gewonnenen Kundeninformationen sind praxisnah und ein wertvoller Input für die Produktentwicklung vieler Unternehmen.

2.3. Kundenfokus als Erfolgsfaktor

IT-Konzerne wie Google, Amazon, Facebook und Apple (kurz: GAFA) feiern Börsenerfolge und zählen zu den wertvollsten Unternehmen weltweit.[3] Innerhalb von nicht einmal 30 Jahren sind Unternehmen mit weltweiter Macht und Relevanz erstanden. Gerade die sozialen Netzwerke haben sich in den letzten Jahren als profitable Geschäftsmodelle herausgestellt. Ein Erfolgsfaktor dieser Unternehmen ist die Konzentration der Unternehmensaktivitäten auf die Wünsche und Bedürfnisse der Kunden. Gerade die vier größten amerikanischen Technikkonzerne (GAFA) setzen diesen Kundenfokus konsequent um: Auf ihren Plattformen haben Kunden eine große Bandbreite an oftmals kostenlosen Produkten und Services.

Exemplarisch für diese Art von Plattformen soll deren Art der Skalierung ihres Geschäfts beschrieben werden: Die Netzwerkanbieter testen in der Anfangsphase, wie der Markt (und somit die Nutzer der Social-Media-Plattformen) auf verschiedene Funktionen reagiert und passen die IT-Prozesse dementsprechend an. Sobald der Grundnutzen und das individuelle Wertversprechen der jeweiligen Social-Media-Plattform gegenüber dem Kunden klar festgelegt ist, also zum Beispiel das Versenden von Nachrichten oder Bildern in Echtzeit störungsfrei digital abgebildet werden kann, wird eine mittel- bis langfristige Marketingstrategie festgelegt. Über kostenlose Inhalte bzw. Services wird versucht, die Userzahlen konstant zu steigern. Durch den weltweiten Zugang zum Internet haben Nutzer auf der ganzen Welt die Möglichkeit, dem jeweiligen Sozialen Netzwerk beizutreten und mit Freunden und Familie aus der ganzen Welt zu kommunizieren. Unternehmen können über digitale Prozesse innerhalb kurzer Zeit große Nutzerzahlen erreichen und ihr Geschäftsmodell skalieren. Große Anbieter wie Facebook, Instagram und YouTube erlauben Unternehmen, Werbekampagnen gegen eine Provision auf ihren Netzwerken zu schalten und verkaufen zudem Nutzerdaten an Dritte weiter. Online-Händler wie Amazon Business, Alibaba, wer-liefert-was und Mercateo

[3] Die jeweilige Marktkapitalisierung ist am 27.01.2020 wie folgt (vgl. Marktdaten von Comdirect und Onvista): Apple 1,3 Billionen €, Amazon 830 Mrd. €, facebook 520 Mrd. $, Alphabet/Google 400 Mrd. €. Zum Vergleich die teuerste deutsche Aktie: SAP 155 Mrd. € und Siemens 100 Mrd. €, Allianz 92 Mrd. €; vgl. auch Ostermeier (2018) S. 2/3 und Keese (2018), S. 7.

machen mit ihrem Geschäftsmodell der Plattformökonomie klassischen Fach- und Großhändlern Konkurrenz, besetzen oft die Marktführerschaft und setzen einen Standard bzw. die Benchmarks.

2.4. Disruptive Geschäftsmodelle

Die digitale Speicherung und Übertragung von Informationen verändert die Gesellschaft und das Wirtschaftsleben. Man kann diese Entwicklung „disruptiv" oder auch „schöpferisch zerstörend" nennen. Welches Adjektiv man auch nimmt, die Digitalisierung hat das Potential, ganze Wertschöpfungsketten aufzubrechen und neue Geschäftsmodelle zu generieren. In solchen Umbruchphasen ergeben sich völlig neue Chancen, aber auch Risiken.

Um langfristig erfolgreich zu sein, müssen klassische Unternehmen die Chancen aufgreifen, sich zukunftsorientiert auszurichten und auf die Globalisierung der Wirtschaft einzustellen. Dabei ist erkennbar, dass das Geschäft im Internet und im stationären Handel sich immer mehr verschmelzen. Ergo: Ein erfolgreiches (klassisches) Handelsunternehmen muss beide Welten beherrschen und seine Zielgruppe auf möglichst vielen Kanälen effektiv erreichen.

3. INSTAGRAM: GESCHÄFTSMODELL MIT BILD UND/ODER VIDEO

3.1. Die grundlegende Idee von Instagram und der bisherige Erfolg

Instagram wurde im Jahr 2010 gegründet. 2012 hat Facebook die Social Media Plattform Instagram für eine Milliarde US-Dollar gekauft. Die grundlegende Idee hinter dem Sozialen Netzwerk Instagram ist, Bilder und Videos über das eigene Smartphone aufzunehmen, mit Filtern zu bearbeiten und anschließend mit Freunden und Familie auf Instagram zu teilen. Von Beginn an stiegen die Nutzerzahlen rapide an. Mittlerweile ist Instagram eine der größten Social Media Plattformen weltweit. Dieses Konzept hat Erfolg: Mehr als eine Milliarde Instagram-Konten werden weltweit jeden Monat aktiv genutzt, über die Hälfte davon täglich. Mehr als 90 Prozent der Konten folgen einem Unternehmen.[4]

4 Angaben von Facebook auf der Firmenhomepage vgl. https://www.facebook.com/business/marketing/instagram# abgerufen am 09.02.2020.

3.2. Instagram als Handels- und Kommunikationsplattform

Der Vorteil von Plattformen ist, dass sie Informationen digital und unabhängig von Raum und Zeit bereitstellen. Damit wird Angebot und Nachfrage auf effiziente Art und Weise zusammengeführt, was eine neuartige Marktform erzeugt.

Instagram ist ein moderner Marktplatz und ein Kommunikationsnetzwerk, auf dem die Nutzer digitale Inhalte miteinander teilen und nutzen können – privat wie kommerziell. Üblicherweise veröffentlichen Unternehmen dort auch relevanten Content zu ihren Produkten oder Services. Ziel hierbei ist, (potenzielle) Kunden über neue Produkte zu informieren und zum Kauf anzuregen. Hierbei entsteht das "AIDA-Prinzip" – bestehend aus den Stufen „Attention, Interest, Desire, Action". Durch die Transparenz des Internets hinsichtlich der Anbieter und des Verkaufspreises wird das AIDA-Prinzip durch zwei neue Komponenten „Search" und „Share" erweitert (Jungermann, 2015: 17) Aus dem „AIDA-Prinzip" wird damit das „ASIDAS-Modell". Dabei wird auf die Produkte und Services des eigenen Unternehmens auf der Social-Media-Plattform Instagram aufmerksam gemacht (*Attention*). Beliebte Formen hierfür sind, Neuigkeiten in Form von Blogeinträgen zu teilen oder Bilder und Videos von neuen Artikeln und Events zu posten. Danach sucht der Internetnutzer nach mehr Informationen im Web (*Search*). Wenn diese Suche erfolgreich war, erfolgen die nächsten zwei Stufen Interesse (*Interest*) und Wunsch (*Desire*). Dabei helfen kundenorientierte Inhalte, um das Interesse der potenziellen Kunden zu wecken. Im Optimalfall bekommt der potenzielle Kunde das Verlangen nach dem Produkt oder der Dienstleistung des werbenden Unternehmens (*Desire*). Sobald der Wunsch konkret wird, entsteht eine Nachfrage (*Action*). Durch die direkte Kommunikation mit dem Endverbraucher oder Beschaffer in einem Unternehmen entsteht anschließend ein Nachfragesog (*Pull-Effekt*). Viele Kunden teilen ihre Erfahrungen mit dem jeweiligen Unternehmen im Web (*Share*). Meist erfolgt dies über eine Bewertung im Onlineshop, auf Google oder in den großen Social-Media-Plattformen wie Facebook. Dabei ist es zweitrangig, ob diese Form des Direktmarketings die Produzenten oder die Handelsunternehmen übernehmen.

Instagram bietet viele Möglichkeiten, um Kunden direkt anzusprechen und ist daher ein beliebtes Tool im Online-Marketing. Das System übernimmt eine Kommunikationsfunktion der Nutzer untereinander und bietet weiterhin die

Chance für Handelsunternehmen, Produkte und Dienstleistungen anzubieten (Handelsfunktion) (Jungermann, 2015: 17). Dabei agiert Instagram als Marktplatz für Anbieter und Nachfrager und belastet den Werbetreibenden für jede geschaltete Werbung die vereinbarte Gebühr (Provision). Über entsprechenden Links können Nutzer auf die Webshops der Internetanbieter verlinkt werden und die gewünschten Produkte einkaufen.

3.3. Grundnutzen und Funktionsumfang von Instagram

Instagramnutzer können über Bilder und Videos mit anderen Nutzern kommunizieren. Meist wird Instagram auf dem Smartphone als App verwendet. Nach dem Herunterladen müssen sich potenzielle Nutzer auf Instagram registrieren: Um doppelte Accounts zu vermeiden, muss eine E-Mail-Adresse oder Telefonnummer angegeben werden. Zur Erstellung eines eigenen Profils muss ein Profilname genannt werden, der nicht bereits vergeben ist. Außerdem muss der Ersteller eines eigenen Accounts auf Instagram ein Profilfoto hochladen und Informationen über sich selbst angeben. Nach der vollständigen Anmeldung hat der neue Nutzer ein eigenes Instagramprofil und kann Bilder und Videos veröffentlichen. Diese Inhalte können nur registrierte Nutzer sehen. Wichtig ist der Hinweis, dass es zwei Arten von Konten gibt: Einerseits können Privatnutzer ihr Profil öffentlich einsehbar machen und ihre Posts mit allen registrierten Benutzern der Social-Media-Plattform teilen. Andererseits besteht die Möglichkeit, das eigene Konto auf Privat zu stellen. Somit sehen nur zuvor hinzugefügte Abonnenten (Berechtigte) die Posts. Die Seiten von öffentlichen Personen, Organisationen oder Unternehmen sind immer öffentlich und somit der Content für jeden Nutzer der Plattform weltweit einsehbar. Damit die Plattformnutzer Freunde, Familie und interessante Seiten finden können, gibt es eine Suchfunktion. Dort können User nach Namen, Personen oder auch nach Stichworten oder Hashtags suchen. Die Suchbegriffe werden gespeichert, so dass im späteren Verlauf das System ähnlichen Content automatisch angezeigt werden kann. Wenn der Content den Nutzern gefällt, kann man diese abonnieren und erhält fortan im Newsfeed Informationen zu neuen Posts. Um selbst Fotos und Videos auf Instagram hochladen zu können, bestehen zwei Möglichkeiten: Einerseits greift die App auf die Foto-Bibliothek des verwendeten Geräts zu, andererseits können Nutzer in der App selbst Bilder und Videis aufnehmen. Wenn sich der Nutzer festgelegt hat, welches Bild oder Video er auf Instagram teilen will, stehen verschiedene Tools zur Verfügung, um den Content zu gestalten. Zum Beispiel erzeugen Farbfilter bestimmte Stimmungen: Sepia oder Schwarz-Weiß-Filter kreieren Bilder bzw. Filme im analogen Stil. Um Videoinhalte weiter zu individualisieren, können Zeitraffer oder die Funktion Slow-Motion Videos komprimieren oder besondere Momente verlangsamen.

Durch eine Software zur Gesichtserkennung haben die Instagramnutzer die Möglichkeit, Tiermasken und andere Verkleidungen über ihre Gesichter zu legen. Interaktive Inhalte, die anklickbar sind, entstehen durch die Instagram Zusatzfunktionen: Bei den Nutzern beliebt ist beispielsweise die Veröffentlichung des eigenen Standorts oder einer Verlinkung von anderen Nutzern auf den Bildern oder Videos, deren Funktion denen von Snapchat ähneln.[5] Seit August 2016 steht den Nutzern eine neue Funktion zur Verfügung: In den „Instagram Stories" können in Videos, die maximal 60 Sekunden lang sind, Highlights des Tages gepostet werden. Sie sollen einen schnellen, täglichen Austausch unter den Benutzern fördern. Die Instagram Stories sind nur 24 Stunden sichtbar und werden dann automatisch gelöscht. Besondere Stories können dauerhaft in den „Instagram Highlights" gespeichert werden. Damit sind diese Videos ständig im Profil der jeweiligen Person sichtbar. Die Kurzvideos sind beliebt: Mehr als 500 Millionen Menschen nutzen Instagram Stories täglich.[6]

Eine Erweiterung der Filmfunktion bei Instagram erfolgte im Juni 2018: Über IGTV können die Nutzer längere Videos von bis zu 60 Minuten teilen. Dabei sollen die Videos so intuitiv wie möglich sein: die Instagram TV-Videos werden vertikal aufgenommen und können dann auf dem gesamten Smartphone-Display abgespielt werden (*full screen*). Wenn ein neues IGTV-Video online ist, werden die Abonnenten der Instagram-Kanäle über das neue Video per Nachricht informiert. Zudem sind die Videos mit bis zu 60 Minuten Länge über eine gesonderte Verlinkung im Profil des jeweiligen Nutzers sichtbar.[7] Um die verschiedenen Social-Media-Plattformen des Konzerns zu verknüpfen, können die Nutzer auf Instagram Inhalte posten und diese direkt mit Facebook teilen.

5 Beispiele z. B. https://blog.hubspot.de/marketing/instagram-stories-einfuehrung und https://rp-online.de/digitales/internet/instagram-fuehrt-stories-ein- geschichten-funktion-aehnelt-snapchat_aid-17883543; beide abgerufen am 10.02.2020.

6 Angaben von Facebook auf der Firmenhomepage vgl. https://www.facebook.com/business/marketing/instagram# abgerufen am 10.02.2020.

7 Statt vieler ein Beispielblog https://allfacebook.de/instagram/igtv abgerufen am 08.02.2020.

3.4. Die "Mobile First"-Strategie von Instagram

Die Mehrheit der weltweit über eine Milliarde Nutzer nutzt die Social Media Plattform über die eigene Instagram-Application.[8] Dabei spielt die Marke des Smartphones, auf dem die App läuft, eine untergeordnete Rolle. Kunden haben sowohl im Apple-Appstore als auch bei Android[9] die Möglichkeit, die Instagram-App kostenlos zu downloaden. Zudem ist Instagram für die Nutzung auf Smartphones optimiert und wird daher von der Vielzahl der Nutzer auch auf dem Mobiltelefon verwendet. Es besteht aber auch die Möglichkeit, das Soziale Netzwerk über den Webbrowser zu erreichen.

3.5. Herausforderungen für Instagram

Social-Media-Plattformen stellen ihren Nutzern Netzwerke zur Verfügung, um mit anderen über Textnachrichten, Bilder und Videos zu kommunizieren. Die Nutzer wiederum geben ihre Kunden- und Personendaten wie Name, Alter, Geschlecht und Konsumpräferenzen. Instagram nutzt die Masse seiner registrierten User, verkauft diese Daten an Dritte und generiert Erträge durch die Möglichkeit für Dritte, Werbung auf Instagram zu schalten. Dieser gegenseitige Einfluss zwischen Plattformanbieter und Nutzern kann sowohl positive, als auch negative Netzwerkeffekte mit sich bringen. Positiv ist, wenn der Grundnutzen einer Plattform zunimmt, hier also ein Netzwerk an interaktiven Usern stetig wächst. Im Gegensatz dazu kann eine negative Auswirkung sein, dass trotz steigender Nutzerzahl der Plattform der Nutzen für die "Kunden" sinkt. Am Beispiel von Instagram wäre dies der Fall, wenn trotz steigender Zahl an Instagram Usern deren Nutzen, also der Informationsaustausch, sinkt.

3.6. Die Vernetzung von Instagram mit dem Mutterkonzern Facebook

Täglich nutzen etwa zwei Milliarden Menschen Facebook[10] zur Interaktion mit anderen.[11] Die Grundidee hinter Facebook ist, Menschen aus aller Welt

[8] Zum Nutzungsverhalten von Medien vgl. Frees/Koch (2018): ARD/ZDF Online Studie 2018.

[9] Die Smartphones von Huawei und Samsung laufen auf diesem Betriebssystem.

[10] Gegründet 2004 von Mark Zuckerberg.

[11] Vgl. Lammenett (2019), S. 361 ff, vgl auch die Unternehmensangaben nach https://newsroom.fb.com/company-info/ abgerufen am 08.02.2020.

über ein zentrales Kommunikationsnetzwerk zu verbinden: Die Nutzer können Kontakte knüpfen, sich in Foren austauschen und Bilder bzw. Videos mit Freunden und der Familie teilen. Allein in Deutschland sind mehr als 32 Millionen Menschen jeden Monat auf Facebook aktiv, davon nutzen mehr als die Hälfte der registrierten Nutzer das Netzwerk mobil über das eigene Smartphone oder Tablet.[12]

Facebook agiert als zentrale Verwaltungsplattform: Mittels einer Platzierungsoptimierung können die Werbenden ihre Anzeigen auf allen Kanälen des Facebook-Konzerns schalten: Sowohl Facebook, als auch Instagram und das *Audience Network* stehen als Werbeplattform zur Verfügung. Das *Audience Network* verbreitet die Kampagnen auf weiteren Apps, Plattformen und Webseiten um noch mehr potenzielle Käufer anzusprechen. Diese plattformübergreifende Strategie des Konzerns verspricht Erfolg: Die von Facebook in Auftrag gegebene Studie ergab, dass der Werbeerfolg durch plattformübergreifende Kampagnen signifikant steigt. Denn: Die *Conversion Rate* von Menschen, die Werbekampagnen sowohl auf Facebook, Instagram und im *Audience Network* gesehen hatten, war achtmal höher als bei den Personen, die die Werbung nur auf Facebook sahen. Dabei ist die *Conversion Rate* eine zentrale Kennzahl im E-Commerce und beschreibt das Verhältnis zwischen der geschalteten Werbung und den tatsächlichen Klicks (Jungermann, 2015: 17).

4. DAS B2B-GESCHÄFT: INSTAGRAM FÜR UNTERNEHMEN

4.1. Kommerzieller Nutzen von Plattformen erkannt

Eine große Plattform allein ist jedoch keine Erfolgsgarantie für immer. So hat *Brandwatch* im Social-Media-Report-2018 herausgearbeitet, dass es Trendwechsel gibt.[13] Auf Facebook und Twitter fahren mittlerweile Unternehmen im B2B-Bereich ihre Aktivitäten stark zurück oder stellen sie sogar ganz ein, hingegen gewinnt Instagram an Bedeutung.

B2B-Unternehmen geben verschiedene Ziele bei ihrer Social-Media-Strategie an: Für Unternehmen ist es wichtig, die Zielgruppen (sowohl Kunden als

12 https://newsroom.fb.com/company-info/ abgerufen am 08.02.2020.

13 Vgl. Brandwatch (2018) URL: https://www.brandwatch.com/de/reports/b2b-social-media-report-2018/view/ abgerufen am 10.02.2020.

auch die breite Öffentlichkeit) auf Sozialen Netzwerken anzusprechen. Dies umfasst die externe Darstellung des eigenen Unternehmens mit ihren Produkten und Dienstleistungen und als attraktiver Arbeitgeber. Zum anderen geben Unternehmen das Ziel vor, durch Content-Marketing[14] Reichweite und Traffic zu erzeugen um die Nutzer auf die eigene Website zu führen. Dabei nimmt der Vertriebsaspekt im Online-Marketing zu und die Unternehmen erkennen das Absatzpotenzial online. Besonders Foren und Videos stehen im Fokus der Unternehmen: Im Vergleich zum Vorjahr stiegen die Forenbeiträge 2018 um 26 %. Videos gelten als wichtiges Element im Content-Marketing von Unternehmen, um Werbung für sich zu machen und neue Produkte bzw. Projekte vorzustellen. Das Medium Film ist aufwändig, aber auch sehr nachhaltig und vielseitig einsetzbar: Die befragten B2B-Unternehmen nutzen Videos um ihre Marke inklusive der Produkte und Services vorzustellen oder informieren die Zuseher durch Schulungsfilme und Anwendungsbeispiele.[15]

4.2. Kommerzielle Nutzung von Instagram

Das Marktpotenzial von Instagram haben auch kommerzielle Unternehmen erkannt. Mittlerweile sind mehr als 25 Millionen Unternehmensprofile (*Instagram Business Accounts*) auf Instagram registriert. Um Instagram als Unternehmen zu nutzen, müssen Unternehmen in den Einstellungen den Button *switch to Instagram Business Account* anklicken. Sobald die Anmeldung bestätigt ist, stehen Unternehmen verschiedene Analysetools zur Verfügung.

Das Soziale Netzwerk bietet Unternehmen die Möglichkeit, mit potentiellen Kunden in direkten Kontakt zu treten. Die Nutzer können Marken und deren Produkte bzw. Services entdecken und zudem über die Plattform einkaufen. Die einfache Handhabung von Instagram und die kundenorientierte Werbung zeigen Wirkung: Mehr als 60 % der registrierten Nutzer geben an, dass sie auf Instagram von neuen Produkten erfahren, fast die Hälfte der weltweit über 500 Millionen aktiven Nutzer besuchen täglich mindestens ein Unternehmensprofil. Auch bei den Instagram Stories spielt die Werbung eine immer größere Rolle: circa ein Drittel der meistgeklickten Instagram Stories stammen von Unternehmen. Dabei muss zwischen organisch geschalteten Stories und

[14] Zum Begriff vgl. Lammenett (2019), S. 317 und Jungermann (2015), S. 52/53.

[15] Vgl. Brandwatch (2018) URL: https://www.brandwatch.com/de/reports/b2b-social-media-report-2018/view/ abgerufen am 10.02.2020.

den sogenannten *Stories Ads* unterschieden werden: Bei dieser bezahlten Form des Marketings können die Unternehmen verschiedene Werbeziele wie Markenbekanntheit, Reichweite, Videoaufrufe, Conversions, App-Installationen, Leadgenerierung oder Traffic als Marketingziel auswählen. Dadurch wird die angesprochene Zielgruppe maßgebend beeinflusst.[16] Ziel von Instagram ist es einerseits, den Nutzern der Plattform relevante und interessante Werbung zu zeigen und andererseits den Unternehmen durch personalisierte Werbung zu helfen, den angegebenen Kampagnenzweck bzw. die geforderte Zielgruppe bestmöglich zu erreichen.

4.3. Instagram Statistiken

Die Besitzer eines *Instagram Business Accounts* können im Menüpunkt "Statistik" bzw."Insights" verschiedene Profilstatistiken zu ihren Aktivitäten auf dem Sozialen Netzwerk einsehen. Die gesammelten Nutzerdaten können die Profilbetreiber nutzen um ihre Posts zu optimieren. Neben den Posts von Bildern und Videos im Profil können auch *Instagram Stories* ausgewertet werden.

4.4. Der Instagram-Algorithmus

Um die Reichweite des eigenen Kanals zu steigern, hilft es die Interaktion zwischen den Nutzern und dem Unternehmen auf Instagram zu erhöhen. Instagram nutzt ein Algorithmus-System, um den Nutzerfeed zu ordnen und die Reihenfolge von Fotos und Videos zu bestimmen. Der Algorithmus analysiert das Nutzerverhalten und versucht aus diesen Nutzungsgewohnheiten relevante Inhalte anzuzeigen. Durch die Einführung von personalisierten Feeds, also dem individuellen Anzeigen von relevanten Inhalten der jeweiligen Instagramnutzer, wird sowohl Content von der Familie, Freunden und Bekannten sowie interessanter Marken angezeigt. Das heißt: der Newsfeed ist nicht chronologisch aufgebaut und somit nach Datum sortiert, sondern nach Relevanz für die jeweiligen Instagramnutzer. Die User können neue Inhalte über die Suchfunktion *Entdecken* finden. Nutzer können entweder in der Suchleiste direkt nach Hashtags, Orten, Seiten oder Personen suchen oder Inhalte über die Vorschläge von Instagram selbst entdecken. Dabei zeigt die App relevanten Content und interes-

[16] Unternehmensangaben vgl. URL https://www.facebook.com/business/instagram/stories-ads# abgerufen am 10.02.2020.

sante Themen auf Basis von vorher erfolgten Suchanfragen bzw. abonnierten Instagramprofilen an. Hierbei analysiert der Instagram-Algorithmus vor allem die Hashtags unter Bildern und Videos, zudem erleichtern Standortangaben unter den Posts die Suche nach regionalen Inhalten.[17]

5. ZUSAMMENFASSUNG MIT THESEN

Die Erfindung des Internets in den 1970er Jahren des letzten Jahrhunderts legte den Grundstein für die Globalisierung und Digitalisierung des 21. Jahrhunderts. Seither haben Unternehmen und Verbraucher haben fast unbegrenzten Zugang zu allen Märkten dieser Welt. Das wiederum fördert den Austausch von Dienstleistungen, Technologien und Waren. Das Internet und die daraus resultierende Digitalisierung von Informationen eröffnet neue Geschäftsmodelle: Die vier großen IT-Konzerne Google/Alphabet, Amazon, Facebook und Apple haben es in nicht einmal 30 Jahren geschafft, zu den wertvollsten Unternehmen weltweit aufzusteigen. Dabei basiert der Erfolg auf einer Idee: der Plattformökonomie. Die Unternehmen bringen Angebot und Nachfrage auf einer zentralen Plattform im Internet zusammen, Bilder und Videos spielen dabei eine wichtige Rolle.

Zusammenfassend lassen sich folgende Thesen ableiten:

1. Durch digitale Prozesse können die Nutzerzahlen skaliert und enormes Wachstum generiert werden. Der digitale Trend wird anhalten.
2. Plattformen bauen auf einer IT-basierten Infrastruktur auf, stellen digitale Inhalte dar, die Nutzen stiften und weiter an Bedeutung gewinnen werden. Die Anwendungen sind unendlich skalierbar und generieren Einnahmen durch Verkauf von Daten, Werbeflächen und mittels Provisionen.
3. Die Digitalisierung bringt immer mehr neuartige Geschäftsmodelle und Anwendungen mit sich, die disruptiv wirken können. Für den Handel und für Dienstleistungen stellen Plattformen innovative Marktplätze dar.

[17] Angaben auf den Seiten von Instagram vgl. URL https://allfacebook.de/instagram/der-instagram-feed-algorithmus-kommt-aber-zuerst-nur-als-test; http://www.social-media-herbst.de/das-sind-die-instagram-kategorien-und-unterkategorien-fuer-business-accounts/https://allfacebook.de/instagram/algorithmus alle abgerufen am 01.12.2019.

4. Das Soziale Netzwerk Instagram hat weltweit eine Milliarde Nutzer und zählt damit zu den ganz großen Plattformen weltweit. Das Geschäftsmodell mit „Bildern und Videos“ wird sich weiter durchsetzen – privat und kommerziell.

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Human resources management

DIFFERENT CULTURAL APPROACHES TO EMPLOYEE MANAGEMENT

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Abstract

Research has clearly established that different cultural attitudes influence the application of management theory and practice. Work principles are an element of cross-cultural awareness and they are measures of a cultural dimension themselves and have strong consequences in many management areas. from the motivation of employees to organizational communication. Furthermore, research focused on the unique collaboration of managers and employees in organizations coming from people from different cultures and areas has found that similarities and differences are increasing rapidly, and so should management.

In order to successfully apply management practices that originate from different cultures, it is necessary to first identify domestic requirements, behaviors, and values and then adjust management practices before applying them. Most countries now have a multicultural demographic structure and the global market is integrated with globalization, and multinational corporations are becoming commonplace in all corners of the world, and managing such companies *and employees is becoming a challenge as well as a reason to research for this work.*

The crucial part of a successful company is having a culture based on a firmly accepted and broadly communicated set of beliefs that are aided by the strategy and structure of a company in a specific area. When a company has a strong culture, three things happen: employees know that they will be rewarded for proving the value of the organization, employees think that the expected answer is the right one, and employees know that top management wants to respond to any situation.

The paper states the importance of knowing the different cultural approaches to employee management through the example of two financial institutions coming from two countries and proposes further research on this important topic.

Keywords: *cultural differences, multicultural demographics, people management, management*

JEL Classification: O15

1. DEVELOPMENT OF DIFFERENT CULTURAL APPROACHES

For years, almost a century, the relationship between culture and behavior has been questioned. The conclusion is that culture is increasingly complex, diffuse, fluid and networked in modern terminology. From this perspective, culture no longer connects basic social correlations and will not be able to function as a set of fundamental guiding standards for institutional agreements in society (Vinken, 2002). Management in organizations can be evaluated as one of the most important social institutions in this category.

The culture appears hard to grasp in the business world, and most researchers focused on tackling this problem (DeLong and Fahey, 2000; Groeschl and Doherty, 2000; Perks and Sanderson, 2000).

In terms of human resource management in different cultures, researchers (e.g. Hofstede, Laurent and Schneider, etc.) sought to convey the significance and impacts of culture with regards to human resources and to define culture (McGuire et al., 2002). There is also research on the influence of culture in human resource management fields such as employment, organizational socialization and professional development, where it is generally known that there is a serious lack of academic rigor and studies into the influence of cultural issues in this field (McGuire et al., 2002).

Attitudes of early studies by O'Donnell-Trujillo, Pacanowsky and Pettigrew (Suzuki, 1997:1) relied more on organizational behavior as a cultural trend in view of the advancement in the business literature of culture and concluded that this was crucial. Most of the following studies of organizational culture emerged after the conclusion that the informative and ethnographic tradition tended to define organizational codes, myths, sagas, and symbols. Contrary, researchers such as Hofstede, Nevijen, Cooke and Rousseau, Chatman, O'Reilly, Caldwell, and Sheridan have undertaken more methodical research through quantitative analyses of cultural content and their affiliation to organizational results, such as organizational beliefs, norms, and values (Suzuki, 1997: 1).

Managing cultural diversity is a strategy that enables the effective workforce diversity management established by demographic change generally in the late 80s and early 90s of the last century. Fleury (1999) interprets cultural diversity management as an *organizational response or a response to the need for competitiveness and increasing workforce diversity*. The research states that managing cultural diversity entails a holistic emphasis on how to establish an organizational atmosphere that allows workers to achieve their highest ability in accomplishing organizational goals. The principle of this model is the whole, made up of members of organizations that hold unique characteristics different from one another and, as stressed earlier, may have an abundance of evident or hidden characteristics (Groeschl & Doherty, 2000). Management of cultural diversity has led to a parallel improvement, with the growing importance of international business. The explanation is that it carries a greater connotation and dimension in this business type and that it can change all multiculturalism elements in organizations. Cultural distinctions became central to transnational governance (Frey-Ridgway, 1997).

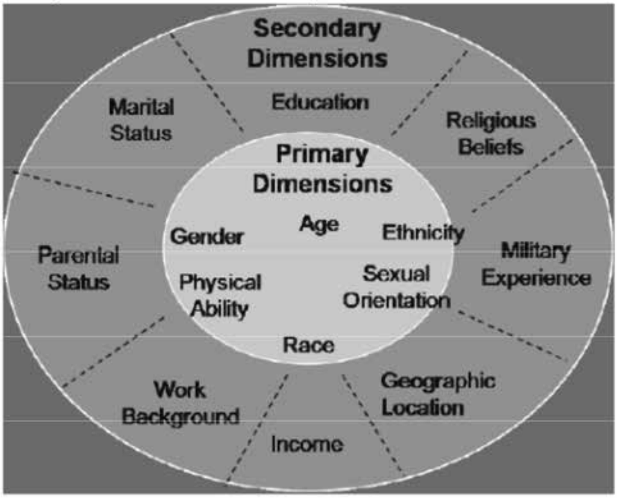
Thus, organizational cultural diversity should be considered and efficiently handled. Diversity management, as a new view on workplace diversity, appeared in the USA but also became highly important in the UK during the 1990s. What gives great momentum to the diversity management model has been the expanding statement that valuing variations makes sense for business (Iles, 1995). Other sources argue that most companies are ineffective in overseeing the steadily rising diversity of the workforce.

2. FEATURES OF CULTURAL DIFFERENCES IN ORGANIZATIONS

Lavaty and Kleiner (2001) state that increasing diversity represents one of the most important trends affecting the workforce in the 21st century. Higgs (1996) argued that diversity would be one of the hot topics in the second part of the 1990s and, in the worldwide context, managing and developing employees would certainly lead to the consideration of diversity and associated tasks. As is the case with the global population, diversity has been gradually increasing in the workforce structure. There are several examples that reflect the diversity of the workforce. For example, statistical predictions point that ethnic minorities in the US will make up 40% of the population in 2020, and the ratio will reach 50% by the year 2050. It is stated that the workforce in the USA is gradually becoming more diverse, particularly regarding race, ethnicity, age, gender, cognitive and physical skills (Wright and Noe, 1996; Boone and Kurtz, 2013; Fleury, 1999). Demers (2002) states that Canada's noticeable minorities make up 10% of the population, and this number will be doubled in the future. Atiyyah (1996) focuses on the diversity of the workforce made up of Europeans, Americans, mainly Asian countries such as Sri Lanka, India, Bangladesh, Iran, Pakistan and the Persian Gulf countries. Lenartowicz and Johnson (2002) argue that Latin American countries aren't homogeneous and culturally diverse, suggesting different managerial behavior and values. The above examples of workforce diversity in organizations can and certainly will increase in number. However, what is important now is that cultural diversity comparing employees' diversity across organizations is at the front. Building on this, the composition of the workforce made up of workers from various cultural groups within the employees' diversity across organizations indicates cultural diversity.

In his research, Daft (2009) divides dimensions of diversity into two groups (i) primary and (ii) secondary dimensions (Figure 1).

Figure 1. Primary and secondary dimensions of diversity



Source: adapted from Daft, 2009

The secondary dimensions (outer circle) can be changed or acquired during a lifetime. Primary dimensions presented in the inner circle include peoples' inborn differences or differences that impacted one's life. These dimensions are crucial elements through which people structure their self-image and the viewpoint on the outer world. Daft (2009) states that secondary dimensions likely have a smaller influence in relation to primary dimensions. Nevertheless, they can also change a person's definition and influence how the other view person.

Organizational cultural diversity is included in the magnitude of secondary diversity depicted above and has a similarly important impact on individuals' opinions, ways, and insights. As distinctive features of groups and persons arising from cultural diversity in organizations, they influence workers' sense of identity and how they understand each other. Differences in organizational attitude, communication styles, management style, patterns, and behavioral characteristics can be related to cultural effects (Frey-Ridgway, 1997; Karoc-Kakabadse and Kouzmin, 2001).

Shenkar (2001) works with the cultural distance concept and accurately explains it by measuring to which extent cultures are different or similar. This construction has been used in most areas of business administration (i.e. finance, marketing, management, and accounting).

The cultural gap has been applied as a crucial variable in management, strategy, organizational behavior, and human resources management. Before conducting a thorough assessment of the cultural diversity phenomenon, the culture concept can be seemingly centered on terminology. In legal terms, culture can be classified as a whole consisting of the overall moral attributes of society, emotions, and threads of the mind, all kinds of life, thoughts, and art in the state of tradition. For Lavaty and Kleiner (2001: 55) culture is a *routine of sleeping, bathing, dressing, eating, and getting to work. It is our household chores and the actions we perform on the job; the way we buy goods and services. It is the way we greet friends or address a stranger, and even to a large extent what we consider right and wrong.* Others argue that culture involves not only ordinary behavior interpretations but real discrepancies in views (Smith et al., 2002).

In short, culture is a mix that includes art, knowledge, law, belief, morals, and resolutions common to almost all members of a specific society. It separates one group member from another; other habits and skills, common responsibilities and attitudes that were later acquired, such as emotions, original lifestyles, etc.

Members of a culture and their thoughts on the world, people and their attitudes differ from each other. In other words, persons communicate their culture and their normative values through the principles they have about all characteristics of human life and the world around them. These values affect their attitude about the type of behavior that is thought the most suitable and useful in any situation (Parkhe, 2001; Miroshnik, 2002)

The reason is the emergence of the phenomenon of cultural diversity as a way of life and a communication type used by people for problem-solving. Zakaria (2000) state that communication is culture and culture is communication. Tayeb (1997) emphasizes that national culture involves everything associated with work and organization. Mellahi (2001) states that individuals have different understandings of work, what they expect from work and different attitudes about how they should behave towards others and how to behave in a work environment. These descriptions disclose that most researchers agree that culture is a very complicated concept, difficult to be defined by words. Groeschl and Doherty (2000) suggest that culture is made up of many parts, some of which are explicit and others implicit.

2.1. Approaches that support cultural diversity and multicultural organizations

Some researchers (Cox and Blake, 2005) argued that a culturally mixed workforce carries a prospective competitive advantage for organizations. Dadfar and Gustavsson (1992) state that multicultural work structure and cultural diversity are elements that should be supported in organizations of our age that aim for high performance. Numerous studies reveal that teams and the general workforce are made up of individuals originating from different cultures can present better solutions to business problems. They show excellent execution and perform their duties effectively in comparison to homogeneous groups of employees. It should be noted that this difference is partly due to the perspective, point of view and experience in enhancing creativity and innovation in multicultural teams. Iles and Hayers (1997) argue that many organizations believe that their flexibility can be increased in a globally competitive market by deploying transnational project teams. Such teams will more easily handle the problem, assimilate processes and understand new methods. It is argued that these teams perform a major role in bringing about innovation and change and that they establish global strategic collaboration.

In addition, companies are gradually serving diverse customer groups that have different features because of the dynamism of our age; therefore, a diverse workforce helps organizations develop their skills to understand clients' needs and it ensures good relationships with them (Wright and Noe, 1996). Cosmetic giant Maybelline achieved 41% of the ethnic cosmetic market by recruiting African American, Hispanic and Asian workers to improve marketing and strategy for new products (Boone and Kurtz, 2013).

In global companies, the most important feature of directors is that they must be aware of and effectively manage cultural diversity and be able to summarize the situation as follows: (i) provide a variety, a perspective and a spectrum of alternative ways of creativity, innovation and thinking; (ii) achieve organizational flexibility; enrich human resources; better recognize the different markets needs; (iii) encourage job satisfaction; (iv) encourage learning by doing; (v) provide the foundation for specialization that is imperious for composite business scenarios and (vi) reduce costs by lowering labor turnover rates (Harung and Harung, 1995; Ozkalp and Kirel, 2000).

Daft (2003) states that the overarching goal of organizations seeking to provide and enhance cultural diversity is the dominance of pluralism for one culture and ethnorelativism for ethnocentrism. Pluralism encompasses different subcultures of organizations; however, ethnorelativism accepts the fact that members of subcultures are the same dominant culture. Because of these two perspectives, those who feel neglected and excluded because they come from various organizations can be engaged thoroughly within the organization. For proponents of this standpoint, cultural diversity is perceived as essential, valuable, natural and cheerful characteristics that enable an organization to feel truly happy in the pluralism and use of the various advantages of human resources. Herbig and Genestre (1997) concentrate on a culturally orientated business strategy and the benefit of the diverse cultural and social principles of the employees to apply them as organizational culture. They state that establishing long-term competitiveness for companies is a benefit based on cultural co-operation between employees in the best way.

2.2. Approaches that support the idea that the benefits and drawbacks of cultural diversity should be studied independently

Peppas (2001) argues that there are benefits and drawbacks to cultural diversity in organizational terms and that every fact needs to be considered separately. Based on this, cultural diversity management is a whole that enhances organizational applications and systems and the possible cultural diversity products while minimizing its disadvantages (Dessler, 1998).

Bhadury et al. (2000) acknowledge that diversity can have a positive and negative organizational impact, but the impact's nature depends mainly on the climate diversity that exists, not the diversity itself. Dadfar and Gustavsson (1992) imply that there is a general view that cultural diversity can be beneficial if is managed well, and its effect can be reduced if it is ignored or poorly managed. In particular, in the case of failure to create effective cultural communication, persons may feel ignored and feelings of doubt, lack of trust, and even antagonism may arise. Obstacles in communication can permeate all areas of the lives of foreigners and their families, where they are unhappy in the environment and unable to adapt to their new country and culture. Montagliani and Giacalone, (1998) state that foreigners may become ineffective in the workplace, resulting in reduced progress, psychological stress, and eventually the failure, as a result. Chevrier (2003) concentrates on how diversity rises ambiguity, complexity in group processes, and thus turn into potentially detrimental to team efficacy.

Harung and Harung (1995) claim that the coexistence of two completely opposed views on quality – unity, and diversity – should be kept together for a solid individual and a powerful organization. The researchers present how acquired propensity and the need for integration increase as diversity grows. Based on this theory, there are two fundamental ideas in a large organization's internal functioning: integration and differentiation.

The phrase differentiation includes behavioral attributes of members' organizational subsystems. Integration is characterized as the method of accomplishing harmony by endeavor between the different subsystems in the realization of an organization. These two concepts are basically antagonistic.

Cultural diversity plays a crucial role in communication problems in global affairs. Deficient information on the cultural characteristics and structure of an employee group produces misjudgments in the segment of performance appraisal, measurement and general management decision making (Deniz, 2000). Many global companies have difficulty evaluating the workforce because of cultural needs that show diversity. Thus, the growth of a standard performance appraisal system appropriate for all departments of most global companies would not be accurate (Arslan, 2001).

The cultural diversity problems need to obtain as much attention as the benefits and sometimes even more. For example, Higgs (1996) argues that often multinational companies see cultural diversity within their organizations as a setback rather than as an opportunity for creating a competitive advantage. Fleury's research (1999) facilitates the awareness of this difference. He stated that a completely diverse cultural structure is already in place in some businesses and the cultural diversity management is out of order or becomes less important than it is when cultural diversity becomes a problem.

2.3. Approaches that emphasize the need to combine cultural diversity with a major organizational culture

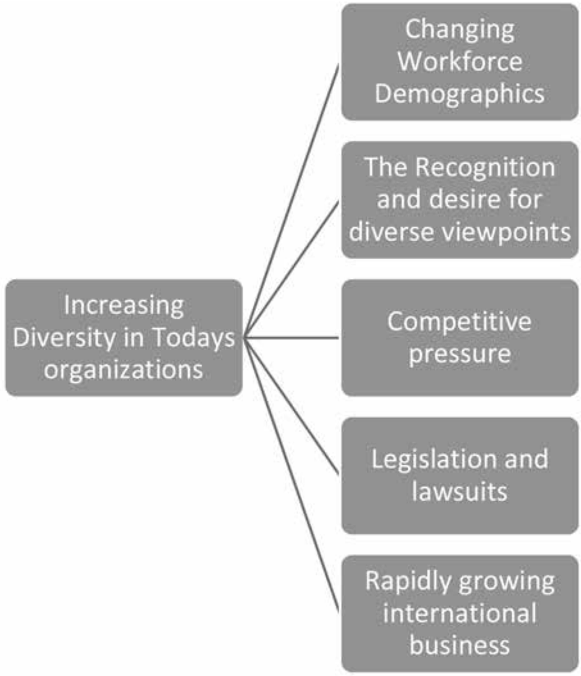
Some researchers see cultural diversity as an effort of creating a shared culture where individuals from different cultures within the company can work together comfortably and where differences are not sensed. Kidger (2002) suggests that one of the organizational goals that exhibit particularly multinational or transnational activities is creating a sense of shared cultural identity and purpose, including the entire organization. Likewise, Kutal and Buyukuslu (1996) indicate that many multinationals have been trying to create a "powerful organizational culture" to gain a competitive edge since the 1980s. Based on this standpoint, organizational culture in large organizations integrated at the global level should be a mechanism that provides people in different countries with a sense of unity at an appropriate level and ensures the dependency of enterprises. The cultural image, behavior, spirit or of an organization are all under an organizational culture whose essential values are shared. This will be helpful as a joint platform for identifying their diverse employees (Ng et al., 2003). Considering this, the concept of "cultural control" may be mentioned. Culture is assumed to be like a clan, and it recognizes three social aspects that result from it: intimacy, trust and subtlety. According to this, when all members of an organization are acculturated and socialized towards a universal set of social values, control can be managed both informally and implicitly. Similar to this view, resources that portray holistic philosophy adaptation can be found as one of the organizational control of basic resources.

Organizational culture represents a group of governing ideas that includes reasoning modes, action modes, shared mutual values, codes of conduct and ethical standards. These ideas are formed and developed during a long period with the active consent of their principals and inspired by the social environment in the background (Ng et al 2003). According to this, the notion of organizational culture is the content of values, attitudes and norms that support commercial actions and support organizations' behavior forming in a particular country (Randlesome, 2002). As a natural outcome of group forming, different cultures members have discovered a distinctive value and belief system that is distinct from but is relative to and common to them (Seymen and Bolat, 2002). Tan (2002) argues that the cultural and economic ideological influences integration will result in a distinctive value system that is different from any native culture. As organizational culture employs the workforce around shared values, it allows them to navigate an acceptable model of behavior and is a transferable accumulation of knowledge. Palthe (2004) validates that expatriate socialization can be seen as a process in which their norms and values are tightly associated with organizational culture. He claims that ex-pats must build a dual value understanding, social knowledge and expected behaviors that are crucial to presuming an organizational function and to participate as a member of organizational in the host organization. Theory Z is one of the best-known cases of successful cultural diversity management through organizational culture. Theory Z adapted by Quichia has been recognized as a combination of the different methods of Japanese and American companies. What distinguishes Z companies is that it is a shared philosophy that creates unity, harmony and collaboration from shared values that have all been adapted regardless of having employees from two different cultures (Duren, 1999).

2.4. The emergence of diversity and how to manage it

Because diversity (i.e. workforce, the marketplace, population) has become a normal part of life all over the countries, the issue concerning diversity has also become more complex than it was 50 years ago. Daft (2009) states that managers found different innovative methods to incorporate diversity initiatives into their companies. Many companies thought that integrating new employees into the companies required them to be introduced to follow to the company's current culture, but recently companies are recognizing that the culture of the company has to change if it wants to invite and keep competitive employees (McCornik, 2008). Although everybody is not the same, companies now realize that the differentiation they bring increases the business value and allow companies to confront global competitors (Wijewantha, 2016). McCormick (2008: 2) conclude that *it is difficult to pinpoint the origin of diversity initiatives in the workforce*. Luthans (2005) identified five major reasons why diversity occurs in companies. (Figure 2)

Figure 2. Major reasons for increasing diversity



Source: adapted from Wijewantha, 2016

The research studies are clear and consistent in presenting the potential and power of the culturally diverse company. The main point of utilizing the benefits of multiculturalism and preventing its drawbacks is to establish an organization whose employees come from all socio-cultural origins participate and accomplish their full capacity (Edevor and Aluko, 2007).

Carnevale and Stone, (1994) state that business managers who wish to build and operate a successful, balanced multicultural workforce should consider the significance of the following, among other: (i) setting a good example, (ii) communicate in writing, (iii) training programs (iv) recognizing individual differences, (v) revamping reward system, and (vi) continuous monitoring.

From the previously stated, diversity poses tasks to business managers who must capitalize on the prospects that it presents while reducing its costs. The question, therefore, is how to approach diversity and multiculturalism in people management? For this, we will turn into the next part of the paper.

3. PRACTICAL EXAMPLES – A MULTICULTURAL APPROACH TO PEOPLE MANAGEMENT

Large corporations, due to their number of employees, mainly in numerous different countries, are certainly oriented to multicultural management in order to meet the needs of all employees, regardless of their cultural background. The same situation is observed in the banking sector, where banks in Croatia are organized mainly as part of a large corporate group, which in most cases is foreign-owned. Therefore, a multicultural approach to the management of human resources and the challenges they face are something that the banking sector faces on a daily basis. Although banking corporations generally are coping a business organization to all its members regardless of where in the world they are located, it is often the case that certain levels of business organization in human resource management require adaptation to the particular country and society in which employees are ultimately pleased to lead to better business results for the whole corporation. It can also be noted that cultural differences in employee management can affect the final business result and speed of regular work and communication between employees, depending on whether it is a large or small corporation and whether the owner comes from the western part of Europe or the eastern part of Europe, where we have completed two different cultural climates and traditionally completely two different approaches to managing employees.

Accordingly, in the next part, we will present two case studies of a multicultural approach to people management. One is an Austrian owned large bank and the second one is Turkish owned smaller bank. Both are operating in Croatia.

3.1. Austrian bank

Austrian bank is a large bank with a centuries-long tradition in Austria, that has spread its operations throughout Southeastern Europe especially after the opening of the EU to the east of Europe, thus becoming a large multinational company. Since 1997, the Group has grown into one of the largest financial service providers in Central and Eastern Europe, serving 15.8 million customers in 2,500 branches with 46,600 employees in 7 countries: Austria, Slovakia, Czech Republic, Hungary, Romania, Croatia, and Serbia.

They are currently the third bank in Croatia in terms of market share. The bank operates in Croatia at the national level and serves more than 888,352 customers through a network of 129 branches and 755 ATMs. The network also includes 13 commercials, 8 entrepreneurial and 9 profit centers for corporate clients. According to the size of the assets, the bank holds third place in Croatia with 14.7% of the market share.

In its operations, the bank is primarily focused on citizenship and SMEs, but at the same time on traditional large partners with which it operates in the regions where it is strongly present - Rijeka, Zagreb, and Bjelovar. The Bank is particularly distinguished by its innovativeness and customer care, while continuously working on expanding customer service as well as constantly raising the level of quality.

The bank is organized in a very detailed and strict manner, and because of its size and a large number of employees, it is faced with the challenges of multicultural management on a daily basis. The bank is divided into sectors, directorates, departments, and teams. The human resources sector has a vital role in the overall operations of the Bank, as well as in managing multicultural management, where great efforts are invested in the constant education of employees and their evaluation by themselves, their superiors and subordinates. They are very open to all cross-cultural differences, and there is also the possibility of an international exchange of excellent employees in order to spread best practices within the Group, as well as internal competitions in domicile countries as well as in all other countries where the Group is present. Employees have the ability to evaluate their superiors, post specific questions to the board through an internal intranet, all for the purpose of greater transparency and greater employee satisfaction, which ultimately leads to better Group business results.

The Group itself is following the modern trends in dealing with clients and employees and encourages employees in their proposals, which could ultimately contribute to better business results and customer satisfaction. Although the Bank looks very flexible and open, due to the banking sector and their size, there are very clear rules especially in terms of employee management so that the entire business process can proceed smoothly in each segment. Employees have a proper dress code and there is not much room for toleration for change. There is a very clear line of management and communication with superiors, ranging from team leader to board member. Due to the size of the system, we can talk about system sluggishness, which is in most cases the problem of large systems, where the internal or external client is most likely to feel this sluggishness. In practice, it has often been shown that these really large, rigorously regulated and innovatively upgraded systems for employees can seem very inflexible and sluggish for external clients. This can lead to the loss of quality employees which leads to loss of quality clients, due to the fact that they are often connected to best employees in terms of customer service and relationship management and not exclusively with the Bank in terms of its product terms and prices.

3.2. Turkish bank

The second example is a smaller bank operating in Croatia which is in Turkish ownership. They have a completely different cultural environment in relation to the previous example. The bank is a modern and universal bank focused on dealing with citizens and small and medium-sized enterprises with 15 branches all over Croatia, 200 employees, and approximately 30,000 clients. Based on the bank's results, they are among the fastest-growing banks in Croatia.

The bank is focused on retail banking and SMEs, where the bank's greatest advantage and focus are on speed and flexibility and complete customer service and orientation. They offer products and services "tailored to the client" both in the retail and small and medium business segment. The bank is constantly working on upgrading existing and introducing new products and services and expanding it's business and ATM network. They are part of the big Turkish multinational group. In 2017, the Bank established a representative office in Istanbul aimed at creating new business opportunities for entrepreneurs from Croatia and Turkey, and to be a bridge connecting the economies of these two countries. Although this bank is much smaller than the Austrian example, they have a much more flexible approach to both employers and clients which is in accordance with the bank's mission and vision.

The Bank is organized into Sectors, Departments, and Branches. Their Human Resources Division consists of a much smaller number of people than in the Austrian example, and consequently, the education of employees is not as enviable as in the previous example. But due to this, the spread of best practice within the bank is very pronounced, and the encouragement of a great entrepreneurial spirit is emphasized within employees. Thus, the employees are mainly multi-segment oriented and not responsible for just one small segment of the business. Due to this, employees are mostly responsible for the various segment and the responsibility of each individual is much greater than that of the large system because the visibility of the final result of each individual employee is more transparent in the smaller system.

When it comes to employee management, dress code and decision-making lines, although this bank may have a "more conservative" owner culturally, they are a smaller system. This is making this bank more flexible, faster, more client-focused allowing the achieving of positive business results and ultimate customer satisfaction with tailor-made products to each client's needs. This is increasing creativity, innovation, and entrepreneurship of each individual employee in satisfying the customer need in accordance with the legal requirements. It should be emphasized that this bank has better flexibility in decision-making lines and increased two-way communication between the Management Board and all employees. This is facilitating the realization and achievement of the set goals for employees and eliminates all preconceptions about rigidity and the closeness of the Turkish owner. The results, whether positive or negative for each individual employee are very easily and quickly visible. This increases the fluctuation of employees and in a smaller system, as in a large one, except that in this case every fluctuation is much stronger felt in this system which greatly affects the Bank's final business result.

The multicultural approach to employees is certainly present, but at a much smaller level than in the previous example, since the Bank, we are talking about has fewer employees and is only present in Europe in Croatia. The multicultural approach is actually most evident in the flexibility of owners and members of the Management Board and their adaptation to Croatian culture, Croatian business customs and the Croatian market, which is, of course, much different from the Turkish one.

4. CONCLUSION

The globalization concept enhances the significance and part of workers' diversity in companies in terms of "culture". The issue of cultural diversity in all organizations operating in an unrestricted area has become the subject of several researchers recently. The worker's cultural diversity predicted to influence the 21st-century business world is extremely effective in organizational behaviors, management and communication styles and working relationships among individuals. Thus, it is important to understand the cultural diversity of organizational and managerial dimensions. It is well-known that there are different typologies in the relevant literature and that they are gained from empirical studies. Alternatively, it is obvious that cultural diversity at a global level should be effectively managed. A group of researchers claims that cultural diversity is a significant tool for the organizations' competitive superiority of our time and thus, should be endorsed. In another perspective, it is argued that cultural diversity has both benefits and drawbacks and should be assessed as the source of the problem. The researchers who endorse this approach say that organizational applications and systems should be designed to maximize the possible cultural diversity advantages and minimize their disadvantages.

In case of evaluation has a consequence on the quality of effective management of cultural diversity in organizations, it is useful to grow an "organizational diversity management model" specific to the company, bearing in mind the positive and negative effects of the different perspectives presented in this paper.

Two examples from the Croatian bank sector show that although both banks are operating in Croatia due to their foreign ownership, size and their organizational structure have a multicultural approach to the people management. They have a similar but still different approach in people management. The difference in the multicultural approach to the people management is connected to their size and origin but is also in connection to the legal regulation of the banking sector.

Based on conducted research we are suggesting further studies about different cultural approaches to employee management in Croatia but on a bigger sample and studies in neighboring countries (e.g. Bosnia and Herzegovina, Serbia, etc.) and also study about the multicultural approach to the people management in different sectors.

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COMPENSATION MANAGEMENT AS A TOOL FOR ATTAINING EMPLOYEE SATISFACTION, EFFICIENCY AND PUBLIC INTEREST IN UTILITY BUSINESS

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Abstract

This article aims to identify the compensation management possibilities to increase efficiency as well as the satisfaction of employees in the utility business sector. In the Republic of Croatia, companies involved in utilities are mainly legal entities that are fully or partially owned by the state, regional or local self-government units. Their funding is secured through national, regional or local budgets, thus exposing them to a high degree of public perception and expectations. The premise of this article is the necessity to change how standards of efficiency, quality of work, flexibility, rationalization and optimization of the costs are being achieved. The necessity arises from the need for fulfilling the public interest in the most responsible and the best way possible. The use of market-oriented compensation management practices is expected to be the key to obtaining the change and sustainability of such public entities. For theoretical framework comprehension, the research of relevant scientific literature has been conducted. The empirical part of the research originated from the survey based on a questionnaire applied to a utility company. The research identified that the reward and motivation system for employees to achieve both expected and outstanding results of work in the observed sample is either non-existent *or ineffective, which hinders the achievement of higher standards in activities of public interest.*

Keywords: *compensation management, motivation, efficiency, utilities, public interest*

JEL Classification: M10, M12

1. INTRODUCTION

In contrast to healthcare, education and other activities in the public interest that are carried out by public institutions, utility and waste management services in Croatia are provided by legal persons that – though publicly owned– are registered as companies and operate on the market as business entities. The differences between public and market principles that coexist in these companies give rise to various issues, one such being the challenges in the context of compensation management that this paper will focus on.

The period following Croatia's accession to the European Union and the ensuing access to the labor market has been marked by a capital outflow of the workforce, principally of inclined workers seeking more adequate compensation for their work. The workers who stay expect better pay and benefits that are out of reach for at least two reasons. Firstly, the salary expenses of publicly-owned companies are paid from their operating income that cannot be increased discretionarily due to their dependence on public fees that any local self-government unit strives to retain at the lowest possible amount. Furthermore, remaining as ever under public scrutiny is the quality of the services provided by public companies as well as their total operating costs that are expected to be both rational and socially acceptable. Said public scrutiny is more intense than ever, which can also be deduced from the fact that activities of public interest and the business entities that engage therein are ever more frequently the subject of public discourse, whether through traditional media, social networks or similar communication platforms and channels. Consequently, the only way to raise employee compensation is to rationalize the number of persons employed and simultaneously increase work quality and efficiency.

Motivated by the above premises, this paper examines the possible methods of increasing employee motivation in utility companies as a prerequisite for achieving greater efficiency by meeting the habitual needs of employees for expanding their tangible and intangible rights. This was achieved by analyzing an existing case, grasping the entirety of its remuneration system and exploring the transformation possibilities to achieve motivation that would, in turn, lead to a high-efficiency level. The results of the analysis are presented in the chapters below. The second chapter points to the specificity of the observed company, the third presents the applied scientific methodology, while the fourth and the fifth provide an overview of the existing scientific knowledge, i.e. the relevant legislation. The penultimate chapter presents the results of empirical research and the discussion thereon, the conclusions of which are expounded upon in the final chapter.

2. RESEARCH CASE - FEATURES OF THE OBSERVED UTILITY COMPANY

Services of the observed utility company include:

a) waste management,

b) maintenance of public green areas and horticulture,

c) public hygiene maintenance (including motorways, pedestrian areas, bicycle paths, and squares),

d) vertical traffic signalization maintenance,

e) winter conditions maintenance of motorways,

f) playgrounds, urban equipment, water fountains and public area irrigation systems maintenance, and

g) management of the city's zoo.

The above activities may be classified into three categories.

Forming the first category is the waste management activity as defined under the Waste Management Act of the Republic of Croatia and the Municipal Waste Management Regulation. The latter defines the obligations of both the waste disposal service provider and the receivers, i.e. customers who are defined as owners of real estate property for which there is no certificate of permanent disuse. The use of the service is mandatory for all-natural and legal persons according to the decision of the local self-government unit in which the observed company carries out its activity. "Polluter pays" as the underlying principle of the above Act and Regulation implies that all customers must be charged for mixed municipal waste collection based on the amount of generated waste. The invoice for the said service subsequently consists of a fixed fee and a variable charge. The fixed fee comprises standing charges as well as the cost of removing the separately collected paper, plastic and biodegradable waste, the recycling center operation cost, and the removal of bulky waste, etc. The variable charge on the monthly waste collection invoice payable by all customers depends on the produced amount of collectible mixed municipal waste. In other words, the service allows users to shape the invoice amount due to their effort. Separation of usable waste and disposal of miscellaneous waste at recycling centers reduces the amount of mixed municipal waste and subsequently the invoiced variable charge. The above exerts a substantial effect on the income generated by the observed company. By encouraging the separation of recyclable material, the economic sustainability of the subject activity is rooted in environmental protection. However, the resulting simultaneous reduction of mixed municipal waste, as reflected in smaller invoice sums, decreases the income generated for this activity, which in 2019 accounted for 51% of the observed company's total income.

The second category encompasses activities from b) to f) above that primarily involve the maintenance of public areas and infrastructure. Said activities are carried out by the observed company following maintenance contracts with the local self-government. These activities are largely financed through municipal fees that are mandatory for all owners and occupants of real estate property in the local self-government area.

Occupying the third category is zoo management. As the company's only full-scale market activity, the zoo generates revenue from ticket sales. Seeing as how this income does not cover zoo maintenance costs, the remainder of funds is subsidized by the local self-government.

In sum, given that the entire population within the community in which the company operates forms its customer base, the observed company, as well as its work and services provided, are inevitably under intense public scrutiny. As the customers themselves fund the waste management activity and utility services and are well aware thereof, they expect their provider to maintain a certain standard of service quality and efficiency as well as of operating costs.

The observed company segments its activity into four basic divisions: cleaning, greenery, roads, and zoo. The company's organizational scheme also involves two general management departments (finances, accounting, and procurement being one and general administrative, human resources and legal affairs being the other).

The company employs 369 staff whose job profiles are analyzed below. In the context of tangible and intangible rights in the service of employee compensation, remaining at the forefront are collective goals such as trade unions' efforts to have remuneration increased by raising the payroll base while maintaining the security of employment. Incentives as an appeal to well-trained, expert staff and their loyalty and further development inside the observed sector have thus far been disregarded.

In all probability, the main constraint thereof is an outdated human resource management system based on fixed base salaries in which tangible and especially intangible benefits have marginal or no effect. Aside from diminishing the possibility to motivate employees to work more efficiently and thereby encourage a healthier work environment and nurture ambition, such a structure prevents the individual or a group of employees from distinguishing themselves from the collective, which in turn adversely affects the overall quality of the available workforce in the current Croatian labor market.

3. METHODOLOGY

3.1. Methods Used

The research carried out for this paper unfolded in two stages. To establish a theoretical framework, the first stage involved researching secondary data sources, i.e. relevant scientific literature by way of analysis, synthesis, induction, deduction, and data comparison methods. Such an understanding of theoretical preliminaries, as well as modern scientific discourse, underpinned the second research stage, which entailed empirical research through which primary data was collected and subsequently analyzed. The survey, as the selected scientific method, was conducted via a questionnaire as the principal research instrument. The questionnaire was conducted online within a company established by the local self-government unit to carry out waste management and municipal services. The questionnaire comprised of open- and close-ended questions, each with a set of pre-defined responses, as well as close-ended questions with 5-point Likert-type response ordinal scales (the responses ranged from "completely irrelevant" (1) to "most important" (5)).

3.2. Sampling and Data Collection

At the time of conducting the survey, the observed company employed 369 staff. The questionnaire was distributed to all employees, of which 192 (52 %) completed it. Of the total respondents, 77% were male and 23% female, which roughly correlates with the gender structure of total company staff. The percentage differences concerning the level of education between the total respondents and the total staff do not exceed 4 percentage points. The percentages are identical in terms of the employment contract duration, i.e. status. Descriptive statistical data is presented in more detail in Table 1 below that supports the representativeness of the sample despite the questionnaire not having been completed by all employees.

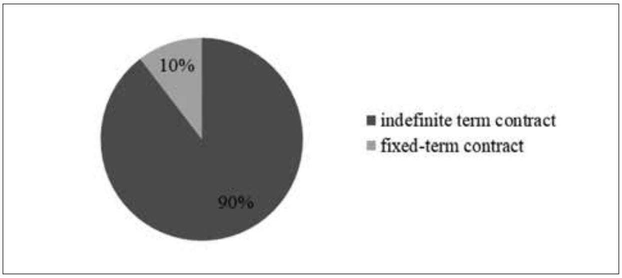
Table 1. Employee frequencies by gender, qualification level, and employment contract duration

	TOTAL STAFF			TOTAL RESPONDENTS		
M	291	369	**79%**	147	192	**77%**
F	68	369	**18%**	45	192	**23%**
elementary education	94	369	**25%**	43	192	**22%**
secondary education	234	369	**63%**	129	192	**67%**
Bachelor's degree or equivalent	13	369	**4%**	9	192	**5%**
university degree or higher	18	369	**5%**	11	192	**6%**
indefinite term contract	346	369	**94%**	172	192	**90%**
fixed-term contract	23	369	**6%**	20	192	**10%**

Source: authors' calculation

Data collected on employment contract duration indicate that most staff of the observed company hold indefinite term contracts. This suggests that the employer aimed to satisfy objective preconditions for providing its staff a feeling of employment security to positively affect their loyalty and dedication.

Figure 1. Staff structure about employment contract duration



Source: authors' calculation

Lastly, the reported number of prior employers shows that most respondents had a small number of prior employers. The staff fluctuations are expected to remain at a minimum given that in comparison to private sector employers (in which salaries often vary following the financial standing of the company) publicly-owned companies guarantee compensation both in terms of the amount and the pay date, and employee rights are protected by trade unions per the collective agreement. These advantages will presumably be appreciated by staff who have held employment in different conditions.

4. THEORETICAL FRAMEWORK

Solid waste management (SWM) is defined to include refuse from households, non-hazardous solid waste from industrial, commercial and institutional establishments, market waste, yard waste, and street sweepings. It encompasses the collection, transfer, treatment, recycling, resource recovery and disposal of municipal solid waste. As such, the primary goal of SWM is to protect the health of the population. Other goals include the promotion of environmental quality and sustainability, support of economic productivity and employment generation (Schübeler et al., 1996).

Due to the growing volume of waste, SWM is a growing environmental and financial issue. Ownership structures affect the efficiency and accounting behavior of waste management companies (Ferramosca, 2019). In this regard, the existing body of knowledge suggests that the most successful initiatives occur were a mixture of public, private and community involvement that has come into being, either through evolution or by deliberate design (Klundert & Lardinois, 1995).

As a result, SWM is usually a major responsibility of the local government. It is a complex task that requires appropriate organizational capacity and co-operation between numerous stakeholders in the private and public sectors. Sustainable municipal solid waste management (MSWM) needs to consider specific interests, roles, and responsibilities of (Schübeler et al., 1996):

- households, community-based organizations and other service users,
- local and national government authorities,
- non-governmental organizations (NGO)
- formal and informal private sector enterprises, and
- external support agencies.

Solid waste management (SWM) has been an integral part of any human society. However, the approaches to SWM differ depending on the nature of a given society and a country's economic status. Findings suggest that informal collectors occupy a significant role in low-income countries. By depositing the waste at the nearest, unofficial site, they provide cheaper service to the poorest population segments whilst earning a minimum (additional) wage for themselves (Katusiimeh et al., 2013). Recycling in low- and middle-income countries represent neither the service of removal nor an activity of "greening" related to ecological modernization. Recycling in such countries is primarily an economic activity of commodities extraction, upgrading, and trading. As such it provides a livelihood for millions of persons worldwide (Scheinberg et al., 2011).

In developed countries, the introduction of technology in waste collection enabled cost-effective service affordable to all whilst preserving the environment. Higher-income countries can afford to spend more to incorporate 3R technologies (reduce, reuse and recycle) and concentrate on sustainability issues (Shekdar, 2009). However, not only income but the strict regulatory framework, at least among European countries, ensures practicing waste management in a uniform, sustainable way. This includes transitional countries like Croatia who joined the EU and are therefore obliged to conform to these rules despite certain socialist behavior pattern residues in public activities.

Based on the above, it seems reasonable to conclude that sustainable SWM is contingent on economic development, national policy, and legal frameworks, institutional arrangement, appropriate technology, operational and financial management, public awareness and participation.

As such, SWM involves technical, socioeconomic, legal, ecological, political, and even cultural components (Chang et al., 2011). One of the key objectives among economic components is to ensure the productivity and economic effectiveness of waste management systems. This paper focuses primarily on the analysis of achieving economic effectiveness through effective compensation management so insight into key issues of that body of knowledge is needed, as well.

Compensation management relates to the management of a reward system that requires all aspects and elements of the rewarding process to be adequately and comprehensively configured, all the while taking into consideration the multidimensionality of the entire system and its direct and indirect environ (Galetić et al, 2015).

Modern theory and practice (Jensen et al., 2007) of compensation management corroborate the need to apply a total reward model with the aim of sourcing and retaining prime staff, i.e. the need to achieve a desired organizational efficiency. The total reward model includes all potential tangible and intangible rewards an employer is willing to offer to the staff in exchange for their work and utilization of their knowledge, skills, and experience that they might perceive as values (Gross and Friedman, 2004).

Tangible or transactional, i.e. financial rewards include all monetary rewards and benefits employees receive for their work: base salary, variable pay attached to an individual or team performance, group incentives that inspire staff loyalty, and benefits. Benefits as tangible compensation form an integral part of total employee pays as guaranteed by employer atop regular compensation. Benefits are a quantifiable value that may be either deferred or dependent (pension insurance, life insurance, paid leave) or take the form of instant privilege (Galetić, 2015).

The total reward model is based on the notion that identical rewards motivate employees differently, due to which their responses to said rewards differ as well (Calo et al., 2014). Given that the motivational character of individual rewards exerts a different effect, it is considered that a combination of reward types through a complex model is a far better route than using a single reward type (Chiang & Birtch, 2012).

Any reward system carries with it additional organizational cost. Nevertheless, it has the potential to increase organizational productivity for two reasons (Handersson, 2006):

- it increases employee satisfaction, and
- it provides employees with a feeling of security.

To exploit the potential of increasing organizational productivity, the total reward model should comprise a unique reward combination that would be created based on employee preference survey conducted in the observed organization (Cable and Judge, 1994). Precisely this premise served as the foundation for the empirical aspect of this paper that identified the attitude of employees in a public utility company.

5. RELEVANT REGULATORY DOCUMENTS

Compensation in return for the work performed as an obligation of the employer to employees, as well as compensation management possibilities at disposal as established under the Labor Act (2019), Income Tax Act (2019) and internal documents, such as a code of conduct or collective agreement, that are mandatory depending on the number of employees.

5.1. Labor Act

The Labor Act (2019) itself does not provide for rewarding of employees, but rather prescribes the fundamental rights and obligations under employment (such as adequate compensation as compensation paid regularly for equal work, equal pay regardless of gender), as well as the obligation to pay employees for work performed or pay salary compensation in cash. Additionally, it prescribes difficult working conditions, overtime and night work, working Sundays or holidays or similar grounds for salary increase. In other words, the implementation of compensation management measures that may affect motivation as a prerequisite for greater work performance efficiency is prescribed by internal acts of employers, especially the code of conduct and collective agreement.

5.2. Income Tax Act

A legislative framework separate from the Labor Act – namely, the Income Tax Act and the associated Income Tax Regulation (Official Gazette of the Republic of Croatia, nos. 10/17, 128/17, 106/18, 1/19, 80/19 and 1/20) defines tax-exempt income, support, reward and similar compensation that are not considered income from employment, but rather are used in practice as compensation management elements. The said Income Tax Regulation prescribes income exempted from income tax. Due to the volume of the said legal framework, this paper shall only define the basic groups of income exempted from income tax. The subsequent subchapters will examine the income applicable in the observed company. The basic groups are as follows:

- support for disability extended sick leave and passing of employee or close family member,
- severance pay for retirement, employment termination due to redundancy or personal reasons, an accident at work or occupational disease
- awards for special occasions in an amount exempt from taxation according to the Income Tax Act (holiday bonus, annual leave allowance, etc.),
- supplementary and additional health insurance coverage based on valid documentation,
- jubilee rewards (for 10, 15, 20, 25, 30, 35 and 40 years of service),
- travel allowance and maritime allowance for business trips home and abroad,
- family separation allowance,
- business travel allowance (including transportation and overnight costs), commuting allowance (using public transportation), and private car allowance
- performance bonuses and similar rewards,
- expenditure payments (service industry expenses and similar),
- flat-rate meal allowance,
- cost of food and accommodation for employees,
- allowance for regular support of employee children,
- gifts to employee children under the age of 15 in cash, and
- childbirth allowance.

5.3. Code of Conduct and Collective Agreement

While the code of conduct is adopted independently by the employer following only a consultation with its works council, the collective agreement is entered into between the employer and trade union representatives, thus preventing the employer from amending it without the prior agreement of the said cosignatory. Where a code of conduct and collective agreement coexist, and where individual rights and conditions of employment derogate from provisions under individual employment contracts, collective agreement and code of conduct, an agreement between employer and works council or Labor Act, the right that is more beneficial to the employee will apply unless otherwise provided by law.

Employers who employ 20 persons or more are obligated to adopt and publish a code of conduct defining compensation, organization of work, employee dignity protection procedure and measures, discrimination protection measures, as well as other matters relevant for employees of the respective employer unless such matters are defined under a collective agreement (Article 26 (1) to the Labor Act of the Republic of Croatia (Consolidated Version), OG 93/14, 127/17 and 98/19). Previous compensation management practice of business entities established to carry out activities in the public interest involved tangible and intangible rewards regulated under collective agreements, i.e. agreements governing the rights and obligations of the contractual parties. Said legal documents usually contain legal rules that govern entering into, content and termination of employment, social security and other matters under or deriving from employment (Art. 192 (1) of the Labor Act of the Republic of Croatia). The content of a collective agreement is directly and mandatorily applicable to all employees of the respective employer. The observed company has both a collective agreement and a code of conduct, which regulates employee compensation and benefits.

5.3.1. Compensation

The collective agreement and the code of conduct of the observed company define compensation as an employee right acquired based on work performed at the employer, which comprises:

- the base salary for the position the employee works in,
- years-of-service increment,
- compensation for work on public holidays, non-working days, weekends, night work, and second shift work where shiftwork is implemented, and
- performance bonus (incentive pay).

Employees acquire a right to up to 20% increase of base salary as incentive pay through their performance. The amount of employee incentive pay is determined individually by the employer management or other authorized persons, contingent upon transparent reasons. In rewarding employees with a performance bonus, quality of work performed, prompt completion of tasks and duties, degree of independence and inventiveness in work performance, contribution to employer reputation, and relationship with co-workers and employer clients are all taken into consideration. The above implies that the observed employer does not provide for variable pay that is systematically determinable based on performance measurement or evaluation but rather foresees a base salary increase of up to 20% contingent upon the fulfillment of the above-prescribed conditions.

Concurrently, this is the single individual compensation management measure through which each employee or group of employees may be shown recognition for their effort by way of a tangible reward paid out in cash. A different measure entailing a decrease in salary of up to 20% as prescribed under the collective agreement following legal regulation. This measure serves as a contractual penalty provided for circumstances of physical fights, tardiness, leaving the workplace during working hours, unjustified absence from work and negligence in performing work duties and tasks. The latter therefore cannot be considered an incentive in terms of the effect variable pay might exert on performance results, but rather withholding of a portion of base salary as a penalty under the above circumstances. It must be noted that Article 69 to the Labor Act that prohibits offsetting to employers also prevents withholding of a portion of salary without employee consent.

5.3.2. Benefits

The observed company's code of conduct, collective agreement, and management decisions provide for direct and indirect tangible compensation, i.e. benefits arising under applicable legislation, as well as benefits that the observed employer provides to its employees as a contribution to their welfare. Indirect tangible benefits include:

- additional days of annual leave as an entitlement based on years of service, special social conditions and status (number and age of children, single parenting, disability) and special working conditions as determined by risk assessment,

- paid leave, i.e. exemption from the obligation to work in case of personal events and circumstances for which employees receive remuneration (conclusion of marriage, the birth of a child, etc.).

Direct tangible benefits include the following payments in a maximum tax-exempt amount as defined under the applicable legislation:

- jubilee rewards and retirement package,
- awards for special occasions in an amount exempt from taxation according to the Income Tax Act (Christmas, Easter, holiday allowance, etc.),
- payments-in-kind and gifts to employee children under the age of 15 in cash,
- solidarity assistance in case of passing of employee or employee's immediate family member (spouse, parents, children), in case of sudden and severe employee disability and sick leave exceeding 90 days,
- childbirth allowance,
- performance bonus.

The above elements of employee rewarding through benefits are de facto bases for collective rewarding as determined by previously mentioned legal documents. All employees are entitled to say rewarding, i.e. benefits, provided they fulfill the prescribed conditions (social conditions, years of service, number of supported children, etc.). Similarly, benefits such as awards for special occasions are paid out to the collective, i.e. simultaneously to all employees. The said benefits are paid out irrespective of performance (either individual, group or collective), due to which in the practice of activities in the public interest these benefits are considered more of employee entitlement under an employment contract than a factor motivating work quality and efficiency. Furthermore, the above benefits are largely fixed, not flexible.

6. RESULTS AND DISCUSSION

6.1. Employee Preferences concerning Individual Intangible Rewards

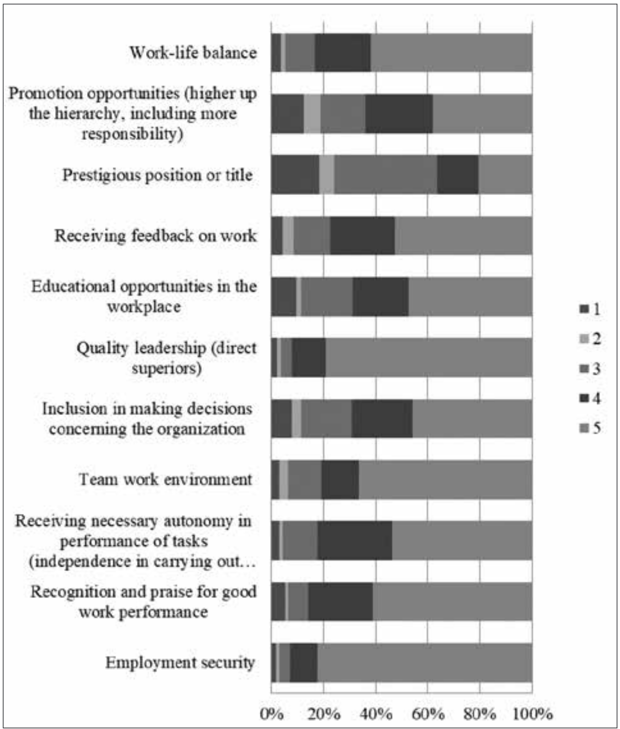
The survey explored employee preferences in 11 different aspects with an emphasis on intangible rewards. The indefinite term contract was reported as the most important aspect (χ=4.70) with the smallest standard deviation (δ=0.76). This aspect was rated highest by 82% of respondents. Ranked second in importance was sound leadership, which received the highest rating from 79% of respondents and totaled an average grade of 4.66. To the observed company management, this may be indicative of the significance of entrusting work duties and tasks, which among other matters includes managing subordinate employees. The aspect of a teamwork environment as rated highest by 67% of respondents (χ=4.38) supports the notion that employees hold in high regard to the working environment. This is further confirmed by the fact that 61% of respondents rated highest the aspect of recognition and commendation for good work performance (χ=4.35) as well as by the fact that 53% of respondents rated highest the aspect of receiving feedback on their work (χ=4.18). Work-life balance was rated highest by 62% of respondents while receiving a high average grade of 4.36. Intangible benefits such as annual leave and personal days above the legal minimum appear to be a valued practice of the observed employer that contributes to the attainment of the said aspect. The aspect of a prestigious position or title was rated lowest, receiving an average grade of 3.15. Respondents reported lesser importance of promotion opportunities (χ=3.71), educational opportunities in the workplace (χ=3.95) and being included in decision making (χ=3.96). The low rating of prestigious positions was expected given that the observed company carries out the activity that in itself is not prestigious. Regarding promotion and education, the low rating may be interpreted through the education level structure that demonstrates a predominance of secondary education-level employees that rarely prioritizes ambition and personal development. In interpreting the reported importance of inclusion in decision making, it seems meaningful to juxtapose the received grade with Y-generation attitudes toward intangible rewards. Namely, a 2017 study (Šandrk Nukić) on millennials in Croatia found that young people born between the mid-1980s and late 1990s attach relatively low importance (3.78) to inclusion in decision making. The aversion to decision making could be construed as an established national culture (Hofstede et al., 2010), which found in its Croatian counterpart a pronounced aversion to taking risks in general, which encompasses the risk of liability assumed by inclusion in decision making.

Table 2. Employee preference in individual intangible rewards

Employee preference in individual intangible rewards	Mean	Median	Min	Max	Std dev
Employment security	4.70	5	1	5	0.76
Recognition and praise for good work performance	4.35	5	1	5	1.04
Receiving necessary autonomy in performance of tasks	4.29	5	1	5	0.96
Teamwork environment	4.38	5	1	5	1.03
Inclusion in making decisions concerning the organization	3.96	4	1	5	1.23
Quality leadership (direct superiors)	4.66	5	1	5	0.81
educational opportunities in the workplace	3.95	4	1	5	1.27
Receiving feedback on work	4.18	5	1	5	1.09
Prestigious position or title	3.15	3	1	5	1.32
Promotion opportunities (higher up the hierarchy, including more responsibility)	3.71	4	1	5	1.36
Work-life balance	4.36	5	1	5	1.00

Source: authors' calculation

Figure 2. Employee preference in individual intangible rewards



Source: authors' calculation

6.2. Importance of Employer Reward Type

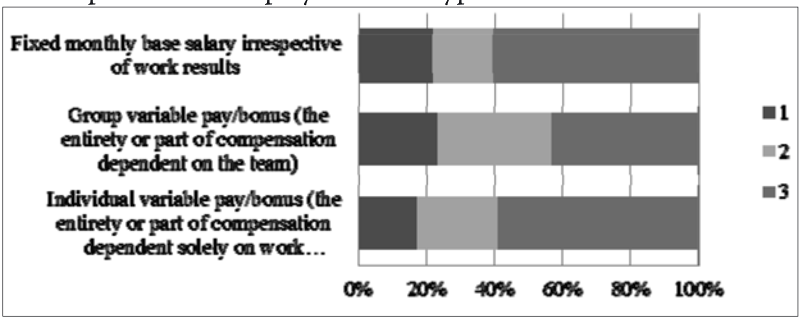
In rating type of reward on a scale from 1 (most important) to 3 (least important), fixed compensation that is independent of performance results was most important by 22% of respondents and rated least important by 60% (χ=2.39). Rating of variable group compensation in which fixed compensation is dependent on group results did not provide a prevailing result: 43% of respondents rated this aspect as least important, 33% as moderately important, and 23% as most important. The mean grade was 2.20, i.e. between highest and lowest importance as reported. Variable pay based on individual performance was rated least important by 59% of respondents, moderately important by 24%, and most important by 17%. This section of the questionnaire returned contradicting results. Namely, the majority of respondents rated fixed compensation that is non-dependent of performance as the least important. Though this might be interpreted as interest for either individual- or group-related variable pay, most respondents rated the notion of introducing such compensation as least important.

Table 3. Importance of employer reward type

Importance of employer reward type	Mean	Median	Min	Max	Std dev
Individual variable pay/bonus (the entirety or part of compensation dependent solely on work performance and results)	2.42	3	3	1	0.77
Group variable pay/bonus (the entirety or part of compensation dependent on the team)	2.20	2	3	1	0.79
Fixed monthly base salary irrespective of work results	2.39	3	3	1	0.82

Source: authors' calculation

Figure 3. Importance of employer reward type



Source: authors' calculation

6.3. Salary

Questions on the adequacy of monthly salary for the respective position were divided into two sections. The first, straightforward section asked to expand on dissatisfaction if reported. The fact that a majority of 75% of respondents stated not regarding their salary adequate indicates that the evident salary dissatisfaction is a further argument for implementing compensation measures that would allow workers to increase their income by better work performance. Of 192 respondents, a high of 79% (151) expanded on their negative answer, which further confirms their stand.

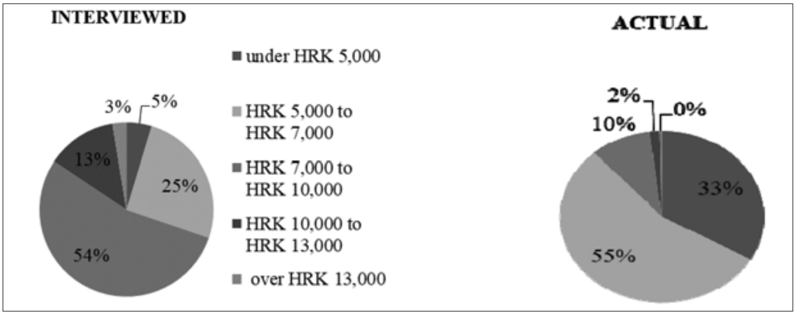
The second section offered several salary ranges classified into five categories. Obtained results were compared to actual data for the concurrent month, i.e. November 2019.

Table 4. Comparison of desired adequate salary (including all additional pay received at the working position) with paid salaries (including all additional pay received for the month in which the survey was conducted)

	INTERVIEWED			ACTUAL		
under HRK 5,000	9	192	**5%**	123	369	**33%**
HRK 5,000 to HRK 7,000	49	192	**26%**	203	369	**55%**
HRK 7,000 to HRK 10,000	104	192	**54%**	36	369	**10%**
HRK 10,000 to HRK 13,000	25	192	**13%**	6	369	**2%**
over HRK 13,000	5	192	**3%**	1	369	**0%**

Source: authors' calculation

Figure 4. Comparison of desired adequate salary (including all additional pay received at the working position) with paid salaries (including all additional pay received for the month in which the survey was conducted)



Source: authors' calculation

6.4. Importance of Benefits and Tax-Exempt Bonuses

In terms of benefits and tax-exempt bonuses, 64% of respondents rated as most important the concern for and security of retirement benefits (supplemental pension security, severance pay, etc.). It must be noted that the observed company practices severance pays in case of early retirement where termination of the respective employment relationship does not entail the establishment of a new one with either a future or existing employee.

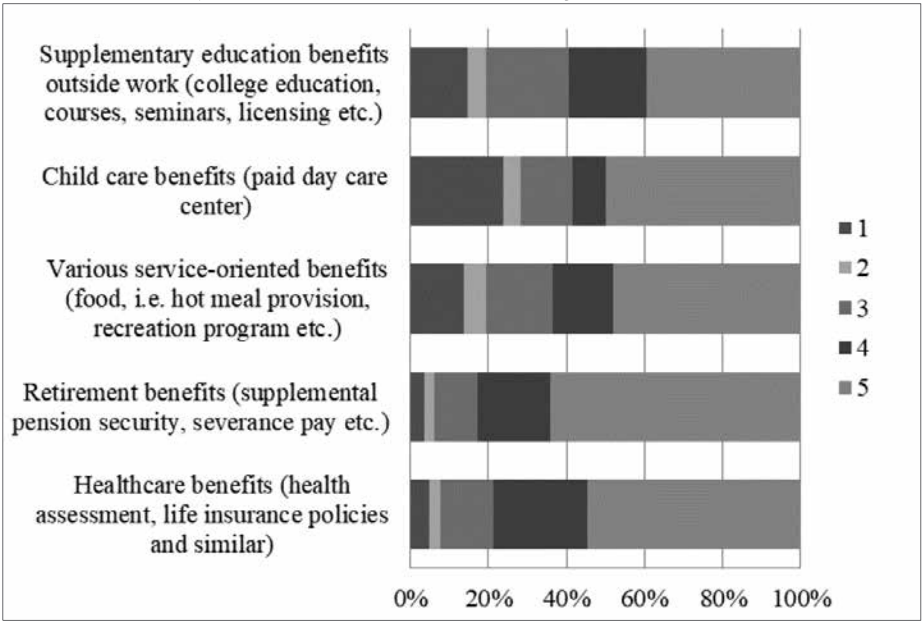
Benefits that include healthcare (health assessment, life insurance policies and similar) were rated most important by 55% of respondents. The observed company opened employee health assessment registration in December 2019. Paid child daycare centers were rated "most important" by 50% of respondents, while 24% rated it "least important", predictably due to this benefit type applying only to employees with pre-school children. Benefits such as food, i.e. hot meal provision, recreation programs and similar were rated a priority by 48% of respondents, while paid supplementary education (college education, courses, seminars, licensing, etc.) was rated a priority by 40% of respondents.

Table 5. Employee preference in individual tangible rewards

Employee preferences in individual tangible rewards	Mean	Median	Min	Max	Std dev
Healthcare benefits (health assessment, life insurance policies and similar)	4.21	5	1	5	1.09
Retirement benefits (supplemental pension security, severance pay etc.)	4.37	5	1	5	1.03
Various service-oriented benefits (food, i.e. hot meal provision, recreation program etc.)	3.79	4	1	5	1.44
Child care benefits (paid day care center)	3.56	4,5	1	5	1.67
Supplementary education benefits outside work (college education, courses, seminars, licensing, etc.)	3.65	4	1	5	1.41

Source: authors' calculation

Figure 5. Employee preference in individual tangible rewards



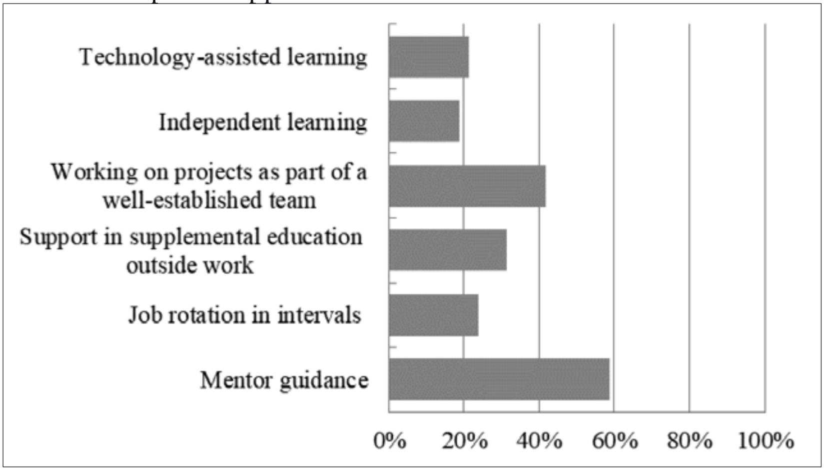
Source: authors' calculation

6.5. Importance of Development Opportunities

In rating development opportunities, 59% of respondents reported mentor guidance as most preferable. Working on projects as part of a well-established team was reported preferably by 42% of respondents. In terms of development opportunities, the above results indicate that the observed collective does tend to the improvement of human relations through the transfer of knowledge and experience, as well as toward cooperation and collective achievement of objectives.

Support in supplemental education outside work was reported most preferably by 31% and job rotation in intervals by 24% of respondents. Independent and technology-assisted learning was rated most preferable by 19% and 21% of respondents, respectively.

Figure 6. Development opportunities



Source: authors' calculation

6.6. Working Environment

That the working environment is of great importance to observed company's employees was confirmed through the survey section on the working environment: 64% of respondents rated highest (χ=4.27) the aspects that support a work-life balance, thereby confirming the results on employee preference in individual intangible rewards.

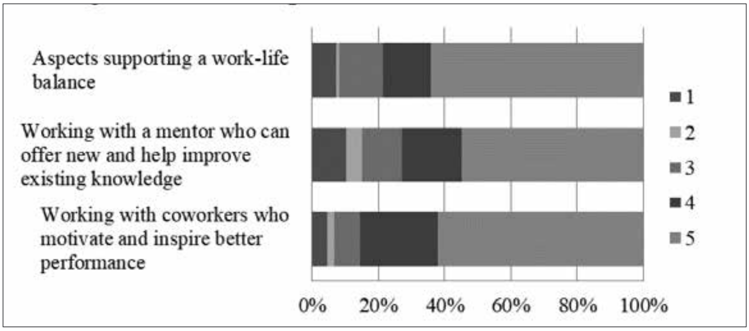
Working with coworkers who motivate and inspire better performance was rated highest by 62% of respondents (χ=4.26), while 52% rated highest mentor-guided work that allows great advances and improvement of existing knowledge (χ=4.02). The said aspect already received the highest grades in rating development opportunities.

Table 6. Importance of individual aspects of the working environment

Importance of individual aspects of the working environment	Mean	Median	Min	Max	Std dev
Working with coworkers who motivate and inspire better performance	4.36	5	1	5	1.04
Working with a mentor who can offer new and help improve existing knowledge	4.02	5	1	5	1.34
Aspects supporting a work-life balance	4.27	5	1	5	1.18

Source: authors' calculation

Figure 7. Working environment aspects



Source: authors' calculation

7. CONCLUSION

An assumption underlying the successful transformation of activities in the public interest is the recognition of the importance of public trust in the functioning of public services. Said functioning imposes requirements in terms of quality and timeliness of daily activities (that directly affect life quality and safety and health protection), but also in terms of public funding, by creating expectations on expenditure transparency. It is therefore important that all workers employed in said activities develop an awareness of the fact that the work they perform not only represents the company they are employed at, but also affects the degree of public trust in public services. The key to developing said awareness is how the management structures of the companies in the observed sector might generate motivation by implementing employee compensation measures to achieve better performance.

An essential precondition for achieving an optimal number of employees is high efficiency. Through potential organizational changes that may be effected by way of more frequent audits of internal organization, i.e. work tasks, responsibility and obligations of each position (such as merging of positions or employee rotation and transfer) offers the prospect of a gradual decrease in the number of required employees. This is further aided by the development of technological solutions that also decrease physical work needs, even in municipal industries.

The above creates a prerequisite for CPIs to distribute in the future their available tangible and intangible compensation over a lesser number of employees. Said compensation could thus automatically be discretionarily increased on a per-employee basis. Aside from achieving increased efficiency, the meeting of said precondition would also allow for rational spending that is intrinsic to public funding. The distribution of said budget through variable pay that would be paid out based on measured or evaluated employee performance would produce three key effects. Firstly, employees would no longer consider the benefits and entitlement deriving from the mere fact of employment at a company carrying out activities in the public interest. Secondly, employees would see a clear difference between legally mandated benefits and benefits provided by the employer's own accord and in communication with its employees. This would also result in increased employee loyalty and turn to allow the employer to recruit new and retain existing top-quality employees. Thirdly and lastly, the motivational effect would be far greater in comparison to previous practices in which salaries and benefits increased on a collective plane.

Own empirical research carried out for this paper revealed the significance of individual approach to employees to which the observed employer – given the public character of the company and number of employees – had not previously given weight. The reported importance of mentorship indicates that the expression of individual qualities and the recognition thereof (through citing positive examples of solid and responsible performance of duties and the subsequent rewarding) can exert a decisive influence on increasing employee motivation and efficiency even in public collectives such as the observed one.

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ANALYSIS OF EMPLOYMENT BY GENDER IN SELECTED COUNTRIES OF THE EUROPEAN UNION

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Abstract

The labor market is always dynamic. Employment and unemployment are a burning problem all over the world. Therefore, people need to understand how the labor market works and what happens when the job offer grows.

One of the main actors in the labor market is employed and unemployed. They are all different according to gender, age, education, etc. Many countries of the European Union struggle with the problem of unemployment. Croatia is one of them. The crisis appeared in 2008 and created an additional problem. Economies of the European Union were badly affected and negative trends in them led to a negative impact on Croatia. The economic crisis led to an even bigger gap between the employed and unemployed. Although some countries recovered through time, Croatia is still recovering. There are positive moves in the economy, but Croatian citizens are still not enough satisfied.

This paper aims to analyze employed, unemployed and unemployment rate according to gender and to show are there any differences between selected countries (Croatia, Austria, Bulgaria, and the Czech Republic). The data will be processed using the program support R 3.0.2 for Windows operating system. It will be made descriptive statistics and non-parametric statistical tests (adapted for small samples) which should show whether there is a significant statistical difference between the selected countries. Wilcoxon test for paired data will be used to test the difference between two groups of data. Friedman's test will be used to test the difference between the three groups of data. All tests were conducted at a significance level of $\alpha = 0.05$. Croatia will be compared to Austria, Bulgaria and the Czech Republic. The results should show is there a statistically significant difference in all categories.

Keywords: *employment, unemployment, unemployment rate*

JEL Classification: E24, J21

1. INTRODUCTION

Countries all over the world should try to improve the living standards of their citizens. The problem often lies in the distribution of employed and unemployed persons, especially in (un)employed men and women. Employed persons are persons who have signed a work contract with the employer. "Unemployed persons are all fully or partly capable person to work at the age of 15-65 years, who is not employed and who are regularly registered the Employment Service." (Kulaš, 2016, p. 460). "Gender is one of the key features used in the analysis of the labor market." (Pasternak-Malicka & Migata-Warchol, 2018, p. 375)

At the time of conjuncture, men find a job faster and get the job faster, while the process of hiring women is slower. The conventional wisdom is that more women are unemployed or those who are employed, they are underpaid. "Women – mothers are considered by employers to be less available and less devoted to work due to the burden of family duties. … In such a situation, the employers often prefer to hire a woman without a contract, without paying contributions during the absence period, and the conditions of such a contract are more convenient for him due to the flexibility of employment." (Pasternak-Malicka & Migata-Warchol, 2018: 377)

„Gender is a primary marker of social and economic stratification and, as a result, of exclusion. Regardless of one's socioeconomic class, there are systematic gender differences in material well-being, although the degree of inequality varies across countries and over time. As a result, gender inequality is a characteristic of most societies, with males on average better positioned in social, economic, and political hierarchies. For more than two decades, the goal of reducing gender inequality has held a prominent place in international organizations and national strategy statements." (UNDP, 2013: 162)

"Gender equality is not about transferring opportunities from men to women, but about realizing the rights of everyone, and creating conditions where both all have the right and ability to realize their full human potential." (UNDP, 2013: 35) Global Gender Gap Index (GGI) was introduced at The World Economic Forum in 2006 „as a framework for mapping gender-based disparities. (Honningdal Grytten & Koilo, 2019, p. 176) GGI ranks 149 countries. United Nations Development Programme in 2017 also introduced an index related to gender inequality called Gender Inequality Index (GII), which is a summary measure of gender disadvantage (UNDP, 2020).

Following previously stated facts, it is obvious why employment and unemployment according to gender are often the topic of various international conferences and research by scientists. Therefore, this paper aims to analyze the employment and the unemployment in the Republic of Croatia and selected European Union Member States in the period from 2001 to 2013. Therefore, before Croatian accession to the European Union. The analyzed countries will be the Republic of Croatia, the Republic of Austria, the Republic of Bulgaria and the Czech Republic. Future direction is to investigate what happened to employment in selected countries after 2013.

The data will be processed using the program support R 3.0.2 for Windows operating system. It will be made descriptive statistics and non-parametric statistical tests (adapted for small samples) which should show whether there is a significant statistical difference between the selected countries. Wilcoxon test for paired data will be used to test the difference between two groups of data. Friedman's test will be used to test the difference between the three groups of data. All tests will be conducted at a significance level of $\alpha = 0.05$.

2. ANALYSIS OF EMPLOYMENT IN SELECTED COUNTRIES

One might raise the question of why these countries were selected for analysis. It is extremely interesting to analyze the labor market each of these countries because they are not equally long member states. Austria became a member state of the European Union in 1995. Czech Republic became a member state of the EU in 2004 and Bulgaria became in 2007. Besides, as we know, Croatia became a member state of the EU in 2013.

Analysis of the labor market of selected countries consists of an analysis of unemployment, analysis of employment and analysis of unemployment rate according to the population by gender. Data are available for unemployment according to population (in %), employment according to population (in %) and unemployment rate according to the population by gender.

2.1. Analysis of employment in Croatia

Basic measures of middle and spread of unemployment are shown in Table 1, the employment in Table 2 and the unemployment rate in Table 3.

Table 1. Basic measures of the middle and spread of unemployment in Croatia (in %)

	min	max	med (25%-75%*)	M	SD
Total	4,10	7,90	6,20 (5,30 – 7,125)	6,09	1,28
Men	3,90	8,40	6,85 (5,35 - 7,575)	6,45	1,53
Women	4,20	7,60	5,65 (4,90 – 6,725)	5,75	1,16
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 1, the values of the median and the mean are very similar in unemployment. A higher standard deviation for unemployment indicates that the values are spread out over a wider range.

Table 2. Basic measures of the middle and spread of employment in Croatia (in %)

	min	max	med (25%-75%*)	M	SD
Total	38,10	44,40	43,35 (41,62 – 43,7)	42,50	1,98
Men	43,80	52,50	50,85 (49,10 – 51,35)	49,73	2,70
Women	33,00	37,50	36,70 (35,42 – 37,02)	36,10	1,44
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 2, values of the median and the mean are very similar in the employment. At the same time, a low standard deviation for employment indicates that the values tend to be close to the mean.

Table 3. Basic measures of the middle and spread of unemployment rate in Croatia

	min	max	med (25%-75%*)	M	SD
Total	8,40	15,80	13,00 (10,72 – 14,25)	12,50	2,53
Men	7,00	16,10	11,80 (9,425 – 13,325)	11,50	2,75
Women	10,00	17,90	13,50 (11,93 – 15,60)	13,70	2,55
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 3, the values of the median and the mean are very similar in the unemployment rate. A higher standard deviation for the unemployment rate indicates that the values are spread out over a wider range.

Distribution of unemployment according to population (in %) by gender is given in Table 4, distribution of employment according to population (in %) by gender is given in Table 5 and distribution of unemployment rate according to population (in %) by gender is given in Table 6.

Table 4. Distribution of unemployment in Croatia (in %)

	med (25%-75%*)	p
Men	6,85 (5,35 - 7,575)	< 0,05†
Women	5,65 (4,90 – 6,725)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 4 there were statistically significant differences in the distribution of unemployment according to the population by gender in Croatia (Wilcoxon test, $p < 0.05$).

Table 5. Distribution of employment in Croatia (in %)

	med (25%-75%*)	p
Men	50,85 (49,10 – 51,35)	< 0,05†
Women	36,70 (35,42 – 37,02)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 5 there was a statistically significant difference in the distribution of employment according to the population by gender in Croatia (Wilcoxon test, p <0.05).

Table 6. Distribution of unemployment rate in Croatia

	med (25%-75%*)	p
Men	11,80 (9,425 – 13,325)	< 0,05†
Women	13,50 (11,93 – 15,60)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 6 there were statistically significant differences in the distribution of unemployment rate according to the population by gender in Croatia (Wilcoxon test, p <0.05).

2.2. Analysis of employment in Austria

Basic measures of middle and spread of unemployment are shown in Table 7, the employment in Table 8 and the unemployment rate in Table 9.

Table 7. Basic measures of the middle and spread of unemployment in Austria (in %)

	min	max	med (25%-75%*)	M	SD
Total	2,30	3,30	2,80 (2,70 – 2,90)	2,78	0,29
Men	2,40	3,70	3,10 (2,70 – 3,50)	3,11	0,41
Women	2,00	2,80	2,40 (2,30 – 2,70)	2,46	0,26
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 7, the values of the median and the mean are very similar in unemployment. At the same time, a low standard deviation indicates that the values tend to be close to the mean.

Table 8. Basic measures of the middle and spread of employment in Austria (in %)

	min	max	med (25%-75%*)	M	SD
Total	54,50	58,80	57,50 (56,30 – 58,40)	57,32	1,38
Men	62,30	66,40	64,80 (64,60 – 65,30)	64,77	1,13
Women	47,30	53,00	50,80 (48,60 – 52,30)	50,45	2,11
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 8, values of the median and the mean are very similar in the employment. At the same time, a low standard deviation indicates that the values tend to be close to the mean.

Table 9. Basic measures of the middle and spread of unemployment rate in Austria

	min	max	med (25%-75%*)	M	SD
Total	3,80	5,40	4,70 (4,30 – 4,80)	4,16	0,50
Men	3,60	5,60	4,60 (4,00 – 5,10)	4,58	0,63
Women	4,10	5,50	4,50 (4,30 – 5,10)	4,65	0,50
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 9, the values of the median and the mean are very similar in the unemployment rate. At the same time, a low standard deviation indicates that the values tend to be close to the mean.

Distribution of unemployment according to population (in %) by gender is given in Table 10, distribution of employment according to population (in %) by gender is given in Table 11 and distribution of unemployment rate according to population (in %) by gender is given in Table 12.

Table 10. Distribution of unemployment in Austria (in %)

	med (25%-75%*)	p
Men	3,10 (2,70 – 3,50)	< 0,05†
Women	2,40 (2,30 – 2,70)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 10 there was a statistically significant difference in the distribution of unemployment according to the population by gender in Austria (Wilcoxon test, $p < 0.05$).

Table 11. Distribution of employment in Austria (in %)

	med (25%-75%*)	p
Men	64,80 (64,60 – 65,30)	< 0,05†
Women	50,80 (48,60 – 52,30)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 11 there was a statistically significant difference in the distribution of employment according to the population by gender in Austria (Wilcoxon test, $p < 0.05$).

Table 12. Distribution of the unemployment rate in Austria

	med (25%-75%*)	p
Men	4,60 (4,00 – 5,10)	0,7896*
Women	4,50 (4,30 – 5,10)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 12 there was no statistically significant difference in the distribution of unemployment rate according to the population by gender in Austria (Wilcoxon test, $p < 0.05$).

2.3. Analysis of employment in Bulgaria

Basic measures of middle and spread of unemployment are shown in Table 13, the employment in Table 14 and the unemployment rate in Table 15.

Table 13. Basic measures of the middle and spread of unemployment in Bulgaria (in %)

	min	max	med (25%-75%*)	M	SD
Total	3,00	10,20	5,90 (4,60 – 6,90)	5,94	2,13
Men	3,30	11,80	7,00 (4,90 – 7,90)	6,86	2,57
Women	2,80	8,80	4,80 (4,30 – 5,80)	5,11	1,75
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 13, the values of the median and the mean are very similar in unemployment. A higher standard deviation for unemployment indicates that the values are spread out over a wider range.

Table 14. Basic measures of the middle and spread of employment in Bulgaria (in %)

	min	max	med (25%-75%*)	M	SD
Total	41,10	50,80	46,60 (44,50 – 46,70)	45,88	2,90
Men	44,90	56,50	50,80 (49,10 – 51,80)	50,56	3,43
Women	37,70	45,50	42,00 (40,00 – 42,60)	41,52	2,44
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 14, values of the median and the mean are very similar in the employment. At the same time, a low standard deviation for employment indicates that the values tend to be close to the mean.

Table 15. Basic measures of the middle and spread of unemployment rate in Bulgaria

	min	max	med (25%-75%*)	M	SD
Total	5,60	19,90	11,30 (9,00 – 13,70)	11,52	4,21
Men	5,50	20,90	12,30 (8,60 – 14,20)	12,00	4,61
Women	5,80	18,90	10,10 (9,30 – 12,20)	10,96	3,85
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 15, the values of the median and the mean are very similar in the unemployment rate. A higher standard deviation for the unemployment rate indicates that the values are spread out over a wider range.

Distribution of unemployment according to population (in %) by gender is given in Table 16, distribution of employment according to population (in %) by gender is given in Table 17 and distribution of unemployment rate according to population (in %) by gender is given in Table 18.

Table 16. Distribution of unemployment in Bulgaria (in %)

	med (25%-75%*)	p
Men	7,00 (4,90 – 7,90)	< 0,05†
Women	4,80 (4,30 – 5,80)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 16 there was a statistically significant difference in the distribution of unemployment according to the population by gender in Bulgaria (Wilcoxon test, $p < 0.05$).

Table 17. Distribution of employment in Bulgaria (in %)

	med (25%-75%*)	p
Men	50,80 (49,10 – 51,80)	< 0,05†
Women	42,00 (40,00 – 42,60)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 17 there was a statistically significant difference in the distribution of employment according to the population by gender in Bulgaria (Wilcoxon test, p <0.05).

Table 18. Distribution of unemployment rate in Bulgaria

	med (25%-75%*)	p
Men	12,30 (8,60 – 14,20)	< 0,05†
Women	10,10 (9,30 – 12,20)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 18 there was a statistically significant difference in the distribution of unemployment rate according to the population by gender in Bulgaria (Wilcoxon test, p <0.05). Unlike Austria, the situation in Bulgaria is the same as in Croatia.

2.4. Analysis of employment in the Czech Republic

Basic measures of middle and spread of unemployment are shown in Table 19, the employment in Table 20 and the unemployment rate in Table 21.

Table 19. Basic measures of the middle and spread of unemployment in the Czech Republic (in %)

	min	max	med (25%-75%*)	M	SD
Total	2,60	4,80	4,20 (3,90 – 4,50)	4,11	0,64
Men	2,40	4,80	4,00 (4,00 – 4,40)	3,99	0,66
Women	2,80	5,00	4,30 (3,90 – 4,90)	4,23	0,65
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 19, the values of the median and the mean are very similar in unemployment. At the same time, a low standard deviation indicates that the values tend to be close to the mean.

Table 20. Basic measures of the middle and spread of employment in the Czech Republic (in %)

	min	max	med (25%-75%*)	M	SD
Total	54,10	55,90	54,80 (54,50 – 55,00)	54,82	0,53
Men	63,30	65,80	64,30 (63,70 – 64,60)	64,28	0,78
Women	45,10	46,60	46,00 (45,70 – 46,20)	45,96	0,42
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 20, values of the median and the mean are very similar in the employment. At the same time, a low standard deviation indicates that the values tend to be close to the mean.

Table 21. Basic measures of the middle and spread of unemployment rate in the Czech Republic

	min	max	med (25%-75%*)	M	SD
Total	4,40	8,20	7,10 (6,70 – 7,50)	6,96	1,06
Men	3,50	7,10	5,90 (5,80 – 6,50)	5,85	0,99
Women	5,60	9,80	8,50 (7,90 – 9,60)	8,40	1,23
med median, *interquartile range, *M* mean, *SD* standard deviation					

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 21, the values of the median and the mean are very similar in the unemployment rate. At the same time, a low standard deviation indicates that the values tend to be close to the mean.

Distribution of unemployment according to population (in %) by gender is given in Table 22, distribution of employment according to population (in %) by gender is given in Table 23 and distribution of unemployment rate according to population (in %) by gender is given in Table 24.

Table 22. Distribution of unemployment in the Czech Republic (in %)

	med (25%-75%*)	p
Men	4,00 (4,00 – 4,40)	< 0,05†
Women	4,30 (3,90 – 4,90)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 22 there was a statistically significant difference in the distribution of unemployment according to the population by gender in the Czech Republic (Wilcoxon test, $p < 0.05$).

Table 23. Distribution of employment in the Czech Republic (in %)

	med (25%-75%*)	p
Men	64,30 (63,70 – 64,60)	< 0,05†
Women	46,00 (45,70 – 46,20)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 23 there was a statistically significant difference in the distribution of employment according to the population by gender in the Czech Republic (Wilcoxon test, $p < 0.05$).

Table 24. Distribution of the unemployment rate in the Czech Republic

	med (25%-75%*)	p
Men	5,90 (5,80 – 6,50)	< 0,05†
Women	8,50 (7,90 – 9,60)	
†Wilcoxon test, *Friedman test		

Source: made by the author according to data of the International Labour Organization

As can be seen from Table 25 there were statistically significant differences in the distribution of unemployment rate according to the population by gender in the Czech Republic (Wilcoxon test, $p < 0.05$). The situation in the Czech Republic is the same as in Croatia.

3. COMPARISON OF EMPLOYMENT IN SELECTED COUNTRIES

A key part of the analysis of the labor market was the comparison of Croatia and selected European Union Member States according to the data for employment and unemployment, and unemployment rate.[1] The unemployment rate was determined in the usual way as the share of unemployed in the total labor force.

The analysis was made only on comparable data. It means that there were compared only relative values according to the number of unemployed and employed, and unemployment rates that are universally comparable because of its way of defining.

3.1. Comparison of employment of Croatia and Austria

Comparison of employment of Croatia and Austria consists of the analysis of unemployment, analysis of employment and analysis of unemployment rate according to gender. Comparison of unemployment by population in Croatia and Austria is given in Table 25, comparison of employment by population in Table 26 and the unemployment rate in Table 27.

Table 25. Comparison of unemployment in Croatia and Austria (in %)

	med (25%-75%*)		p†
	Croatia	Austria	
Total	6,20 (5,30 – 7,125)	2,80 (2,70 – 2,90)	< 0,05
men	6,85 (5,35 - 7,575)	3,10 (2,70 – 3,50)	< 0,05
women	5,65 (4,90 – 6,725)	2,40 (2,30 – 2,70)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 25 there was a statistically significant difference in unemployment by population according to gender between Croatia and Austria in all categories.

[1] Part of this research has been used in the paper: Comparative analysis of the labor market in the Republic of Croatia and selected European Union Member States by gender, Second international scientific conference EMAN 2018, Ljubljana, Slovenia, 22 March 2018, p. 68-74

Table 26. Comparison of employment in Croatia and Austria (in %)

	med (25%-75%*)		$p^{\dagger}$
	Croatia	Austria	
Total	43,35 (41,62 – 43,7)	57,50 (56,30 – 58,40)	< 0,05
men	50,85 (49,10 – 51,35)	64,80 (64,60 – 65,30)	< 0,05
women	36,70 (35,42 – 37,02)	50,80 (48,60 – 52,30)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 26 there was a statistically significant difference in employment by population according to gender between Croatia and Austria in all categories.

Table 27. Comparison of the unemployment rate in Croatia and Austria

	med (25%-75%*)		$p^{\dagger}$
	Croatia	Austria	
Total	13,00 (10,72 – 14,25)	4,70 (4,30 – 4,80)	< 0,05
men	11,80 (9,425 – 13,325)	4,60 (4,00 – 5,10)	< 0,05
women	13,50 (11,93 – 15,60)	4,50 (4,30 – 5,10)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 27 there was a statistically significant difference in unemployment rate according to gender between Croatia and Austria in all categories.

The comparison between Croatia and Austria showed that unemployment values are higher in all categories in Croatia. Employment also is higher in Austria and the unemployment rate is higher in Croatia.

3.2. Comparison of employment of Croatia and Bulgaria

Comparison of employment of Croatia and Bulgaria also consists of the analysis of unemployment, analysis of employment and analysis of unemployment rate according to gender.

Comparison of unemployment by population in Croatia and Bulgaria is given in Table 28, comparison of employment by population in Table 29 and the unemployment rate in Table 30.

Table 28. Comparison of unemployment in Croatia and Bulgaria (in %)

	med (25%-75%*)		p†
	Croatia	Bulgaria	
Total	6,20 (5,30 – 7,125)	5,90 (4,60 – 6,90)	0,2238
men	6,85 (5,35 - 7,575)	7,00 (4,90 – 7,90)	0,6563
women	5,65 (4,90 – 6,725)	4,80 (4,30 – 5,80)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 28 it should be noted here that unlike Austria, there is no statistically significant difference for some categories, more precisely for total unemployment and unemployment of men. In the category of unemployment of women, there are statistically significant differences between Croatia and Bulgaria.

Table 29. Comparison of employment in Croatia and Bulgaria (in %)

	med (25%-75%*)		p†
	Croatia	Bulgaria	
Total	43,35 (41,62 – 43,7)	46,60 (44,50 – 46,70)	< 0,05
men	50,85 (49,10 – 51,35)	50,80 (49,10 – 51,80)	0,5186
women	36,70 (35,42 – 37,02)	42,00 (40,00 – 42,60)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 29 if compared employment by population between Croatia and Bulgaria, it is noted that there are statistically significant differences in categories of total employment and employment of women. While there is no statistically significant difference in the category of employment of men.

Table 30. Comparison of the unemployment rate in Croatia and Bulgaria

	med (25%-75%*)		p†
	Croatia	Bulgaria	
Total	13,00 (10,72 – 14,25)	11,30 (9,00 – 13,70)	0,1954
men	11,80 (9,425 – 13,325)	12,30 (8,60 – 14,20)	0,5301
women	13,50 (11,93 – 15,60)	10,10 (9,30 – 12,20)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 30 there are no statistically significant differences in the total unemployment rate and an unemployment rate of men. The unemployment rate of women has a statistically significant difference.

A concrete comparison of Croatia and Bulgaria showed varied results. So it can be concluded that the unemployment (and thus the unemployment rate) of women in Croatia is higher than in Bulgaria.

3.3. COMPARISON OF EMPLOYMENT OF CROATIA AND THE CZECH REPUBLIC

Comparison of employment of Croatia and the Czech Republic also consists of the analysis of unemployment, analysis of employment and analysis of unemployment rate according to gender. Comparison of unemployment by population in Croatia and the Czech Republic is given in Table 31, comparison of employment in Table 32 and the unemployment rate in Table 33.

Table 31. Comparison of unemployment in Croatia and the Czech Republic (in %)

	med (25%-75%*)		p†
	Croatia	Czech Republic	
Total	6,20 (5,30 – 7,125)	4,20 (3,90 – 4,50)	< 0,05
men	6,85 (5,35 - 7,575)	4,00 (4,00 – 4,40)	< 0,05
women	5,65 (4,90 – 6,725)	4,30 (3,90 – 4,90)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 31 there is a statistically significant difference in unemployment by population according to gender between Croatia and the Czech Republic in all categories.

Table 32. Comparison of employment in Croatia and the Czech Republic (in %)

	med (25%-75%*)		$p^{\dagger}$
	Croatia	Czech Republic	
Total	43,35 (41,62 – 43,7)	54,80 (54,50 – 55,00)	< 0,05
men	50,85 (49,10 – 51,35)	64,30 (63,70 – 64,60)	< 0,05
women	36,70 (35,42 – 37,02)	46,00 (45,70 – 46,20)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 32 there is a statistically significant difference in unemployment by population according to gender between Croatia and the Czech Republic in all categories.

Table 33. Comparison of the unemployment rate in Croatia and the Czech Republic

	med (25%-75%*)		$p^{\dagger}$
	Croatia	Czech Republic	
Total	13,00 (10,72 – 14,25)	7,10 (6,70 – 7,50)	< 0,05
men	11,80 (9,425 – 13,325)	5,90 (5,80 – 6,50)	< 0,05
women	13,50 (11,93 – 15,60)	8,50 (7,90 – 9,60)	< 0,05

†Wilcoxon test
Source: made by the author according to data of the International Labour Organization

As can be seen from Table 33 there are statistically significant differences in the unemployment rate by population according to gender between Croatia and the Czech Republic in all categories.

Comparison of Croatia and the Czech Republic indicated that the unemployment rate in Croatia showed higher values than in the Czech Republic for all categories. Also, it can be concluded that employment in Croatia is lower in all categories compared to the Czech Republic.

4. CONCLUSION

Analysis of employment in Croatia showed the following. Unemployment is higher for women than for men, and therefore the unemployment rate is higher for women. Consequently, there is higher employment for men than for women.

Analysis of employment in Austria showed a similar pattern. Namely, there are differences between unemployment and employment of men and women, but there is no statistically significant difference between the unemployment rate of men and women.

As with Croatia, analysis of employment in Bulgaria showed that there are differences between men and women in all categories. Analysis of employment in the Czech Republic showed a similar situation.

Research has shown that:

- There were statistically significant differences in all categories in unemployment, employment and unemployment rate by population between Croatia and Austria. Unemployment and unemployment rate are higher in Croatia, and obviously, employment is higher in Austria.
- There were statistically significant differences in all categories in unemployment, employment and unemployment rate by population between Croatia and the Czech Republic. Again, unemployment and unemployment rate are higher in Croatia.
- There were no statistically significant differences in some categories in unemployment, employment and unemployment rate by population between Croatia and Bulgaria. There were no statistically significant differences in total unemployment and unemployed men between Croatia and Bulgaria. There was no statistically significant difference in employed men between Croatia and Bulgaria. There were no statistically significant differences in the unemployment rate of total unemployment and the unemployment rate of unemployed men between Croatia and Bulgaria. In all other categories, there were statistically significant differences. A concrete comparison of Croatia and Bulgaria showed varied results. So it can be concluded that the unemployment (and thus the unemployment rate) of women in Croatia is higher than in Bulgaria.

Overall analysis showed that there are statistically significant differences between Croatia and selected countries in all categories.

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AN AGING WORKFORCE IN THE AGING WORLD: OPEN MIND AND NEW APPROACHES

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Abstract

One of the greatest achievements in history has been the longevity of the people. Selected statistics of the World Bank, World Economic Forum and similar sources reveal the trend of the graying population: life expectancy has increased from 53 years in 1960 to 72 in 2015 and is still climbing. Birth rates are falling, which in turn increases the number of older people as a percentage of the population, as well as it reflects on the number of retirees per worker on a global scale, which will be declining from 8:1 today to 4:1 in the year of 2050. Organizations across the world are becoming increasingly aware of this unprecedented demographic trend, which significantly affects their workforce strategies and workplace policies, as the society is aging and the expectations and perception of an individual's career, as well as the retirement age and activities, are changing.

The purpose of this paper is to discuss the aging workforce in the aging world. By using a method of narrative review of the selected theoretical and empirical literature, the paper will try to evaluate the positive and negative aspects of an aging workforce as well as to identify several best practices of organizations that have found value in older workers. Using their examples, the paper will provide policy suggestions on how to rethink workforce strategies for organiza-

tions to shape their workforce and business strategies for an aging society and stay competitive using older talent as an untapped opportunity.

Keywords: *demographic trend, aging, older workers, aging workforce, workplace strategies and policies*

JEL Classification: O15

1. INTRODUCTION

The world we are living in is constantly changing at a pace that is hard to keep up with. One of the changes is related to the demographic transformations across the world which has been resulting in the graying of the population at such volume and rate that the terms like 'Silver Tsunami', 'Silver Economy', 'Ageism', 'Active Aging' or 'Gray Army' have been emerging in both academic and policy arena. According to the Aging Readiness and Competitiveness initiative (2018), there will be nearly one billion people by 2030 age 65 and older around the world, and that is a group that between 2015 and 2030 will grow at four times the rate of the overall global population.

The aging of the population has been a triumph of humankind due to the advancement in public health policies, medical and social care, technology or better say in social and economic development. The survival rate, i.e. longevity has been increased, people live longer in good health and are generally more active at the age perceived as the old. That has empowered (older) people to rethink and redesign the retirement age. This longer life should be connected to continuing opportunities for older people, something that the World Health Organization (WHO) labeled as "active aging". The term *active aging* is the process of optimizing opportunities for health, participation, and security to enhance the quality of life as people age. In another word, older people should be able to live their life in a way to achieve their potential for physical, mental and social well-being through the life course and to participate in the society in a way their needs, desires, and capacities allow them to. It is up to the policymakers to allow them to do so, while at the same time they need to ensure appropriate protection, security and care in case of the need (World Health Organization, 2002: 12)

One particularly important impact of active aging concerns the age and structure of the workforce. The aging workforce tends to be a consequence of many factors related to financial need, increased longevity and function, a talent shortage as well as the enjoyment of work and productivity (Tamburo, 2020). The attraction and retention of older workers have been an important issue and task for governments, managers, unions and all others to maximize their contribution and integration in the labor market (Connell et al., 2015). The particular concern for the business management is so-called *aging workforce management* since the aging workforce will affect organizations in various ways, from losing workers that will retire at traditional age to younger workers shortage, age diversity at the workplace, etc. (Streb et al., 2009: 2). Whether it is on a policy or business management level, the issue of older workers is particularly challenging since there is a bias of age involved, i.e. the emergence of ageism in society in general and workplace in particular.

Ageism represents stereotyping, prejudice and consequently discriminating against people based on their age. It has harmful effects on older people themselves, but equally, it can harm the economy (self-understandable society as well) when taking into consideration that older people are the fastest-growing cohort of workers almost everywhere in the world. Age discrimination is equally unacceptable as a race, gender or religion discrimination, yet many companies consider older age a competitive disadvantage as well as it is a quite popular belief that retaining older workers will only worsen the crisis of youth employment, which is on the agenda of many national governments. Still, there is a need for a change in perception if it is to be trusted by various researches, which proves that older workers can be a source of economic and organizational potential. For example, it is reported that enabling to work for the elderly population would raise GDP per person in the OECD countries by 19% by 2050 and this gain would be achieved if all OECD countries would raise the labor force participation rate for workers age 50+ (OECD, 2019). Similarly, researches are showing that retaining older workers does not hurt youth employment (Cheng *et al.* 2006, Kalwij *et al.* 2010, Eichhorst *et al.* 2014). Also, there are mixed findings on the perception of older employees, varying from negative to positive stereotypes (Duncan and Loreto, 2004).

Therefore, it is an emerging reality that governments across the world are facing an aging population at an unprecedented rate and managers across industries are facing a *five-generation workforce* that disrupts traditional workforce management practice (Rodin and Mendelson, 2013). Namely, many workplaces face coexistence of five distinct generations - traditionalists (born 1922-

1945), baby boomers (1946-1964), Gen X (1965-1980), Gen Y/Millennials (1981-1996) and Gen Z (1997-2012). (Workday, 2020). Even though these generational differences may be a source of differences, they can be beneficial if managed properly. Encouraging sounds the fact that, for example, in the USA the older workers are sometimes referred to as *'perennials'* and are perceived as influential in their way as millennials (Groom, 2019).

By embracing all of these demographic facts and translating them into adequate policies and business practices represents an important response to the rapid population aging and the challenges it brings to the workplace.

The purpose of this paper is to discuss the aging workforce in the aging world. By reviewing and synthesizing selected theoretical and empirical literature, the paper tries to shed a light on the positive and negative aspects of an aging workforce, as well as to identify case examples of organizations that have found value in older workers. Based on the research findings the paper provides a conclusion about implications that the aging population has on organizations and management, as well as provides selected policy suggestions on how to rethink workforce management strategies to (re)consider older talent as an untapped opportunity.

The rest of the paper is structured as follows. Section 2 provides a brief demographic aging profile as the context of the paper. In section 3, we discuss the ageism and misperceptions of older workers by reviewing relevant theoretical and empirical research findings. Section 4 provides selected cases of organizations that have found a way to extend their career models that are age considerate. Section 5 is a concluding section with selected future implications regarding the aging workforce.

2. DEMOGRAPHIC AGING PROFILE

There is no parallel in the history of humanity when it comes to the rate of people aging across the globe (United Nations, 2001: xxviii).

According to World Population Prospects issued by UN (2019), the number of older persons is increasing worldwide, hereby threshold of being old is considered to be aged 65 and over. It is projected that the number of older people will be increasing from 703 million in 2019 to 1.5 billion persons in 2050 (Table 1).

Table 1. Number of persons aged 65 years or over by geographic region, 2019 and 2050

Region	Number of persons aged 65 or over in 2019 (millions)	Number of persons aged 65 or over in 2050 (millions)	Percentage change between 2019 and 2050
World	**702.9**	**1548.9**	**120**
Sub-Saharan Africa	31.9	101.4	218
Northern Africa and Western Asia	29.4	95.8	226
Central and Southern Asia	119.0	328.1	176
Eastern and South-Eastern Asia	260.6	572.5	120
Latin America and the Caribbean	56.4	144.6	156
Australia and New Zealand	4.8	8.8	84
Oceania, excluding Australia and New Zealand	0.5	1.5	190
Europe and Northern America	200.4	296.2	48

Source: United Nations (2019: 5)

The survival rate is increasing worldwide. When it comes to life expectancy according to sex, women tend to live longer not only at birth but also at age 65. Namely, when reaching 65 years old women are expected to live approximately 18 years more while men additional 16 years (table 2). Projections are indicating that in the year 2050 women will be accounting 45% of the global population that is 65+. Taking into consideration that women tend to survive and live longer, the balance between sexes among persons that are aged 80 and over will be more equalized.

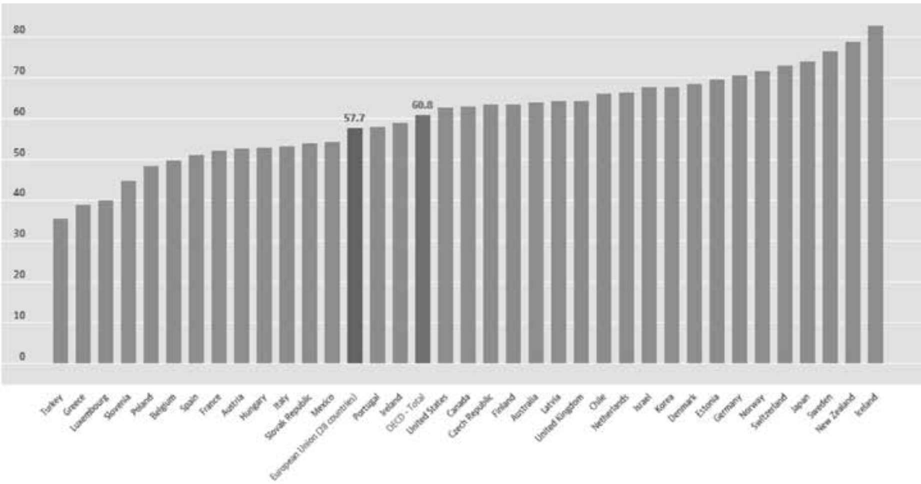
Table 2. Life expectancy at birth and age 65 by sex, world and regions, 2015-2020 (years)

	Life expectancy at birth (years)				Life expectancy at age 65 (years)			
Region	Both sexes	Female	Male	Difference between female and male	Both sexes	Female	Male	Difference between female and male
World	**72.3**	**74.7**	**69.9**	**4.8**	**17.0**	**18.3**	**15.6**	**2.7**
Sub-Saharan Africa	60.5	62.3	58.8	3.5	12.8	13.4	12.1	1.3
Northern Africa and Western Asia	73.5	75.7	71.3	4.4	16.0	17.1	14.8	2.3
Central and Southern Asia	69.5	70.9	68.2	2.7	14.7	15.2	14.1	1.1
Eastern and South-Eastern Asia	76.3	79.0	73.7	5.3	17.2	18.9	15.5	3.4
Latin America and the Caribbean	75.2	78.5	72.0	6.5	18.2	19.5	16.7	2.8
Australia and New Zealand	83.0	85.0	81.1	3.9	21.2	22.6	19.9	2.7
Oceania, excluding Australia and New Zealand	66.3	67.8	64.9	3.0	12.6	12.9	12.3	0.6
Europe and Northern America	78.5	81.6	75.4	6.1	19.1	20.5	17.4	3.1

Source: United Nations (2019: 9)

Data on aging and employment reveal that the shares of working-age (25 to 64 years) and older (65+ years) persons rise, while shares of children (0 to 14 years) and youth (15 to 24 years) fall. Between 1990 and 2050, the share of the older, as well as the working age population, will increase to 16% and 49 % of the world's population respectively. At the same time, the share of children and youth will drop to 21% and 14% respectively (Figure 1).

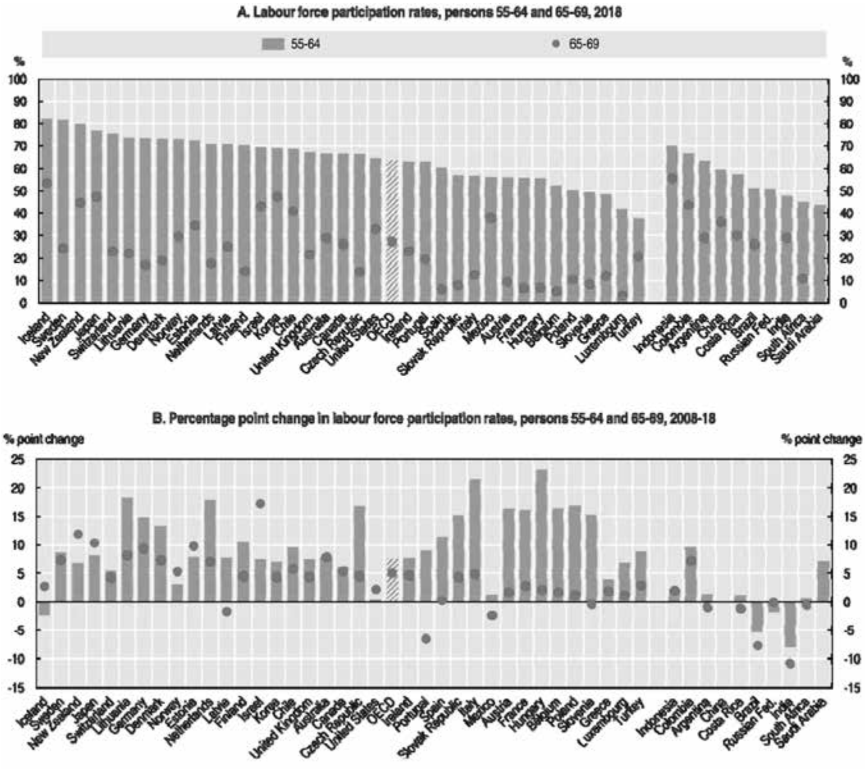
Figure 1 Employment rate by age group (55-64 years-old, percentage in the same age group, Q4, 2017)



Source: OECD (2019)

Most OECD countries have experienced a rise in the labor force participation rate of people age 55-64. In the period from 2008 to 2018, it rose from 56% to 64% (Figure 2, Panel A), whereby gains have been most notable in the countries where the rates were high before the world financial crises, such as Japan, Germany, United Kingdom, Australia, as well as In several countries where the participation remains comparatively low, such as Italy, Hungary, the Netherlands. Contrary to the OECD area, little improvement has been observed in most emerging G20 economies and is deteriorating in Brazil, Russia, and India (Figure 2, Panel B).

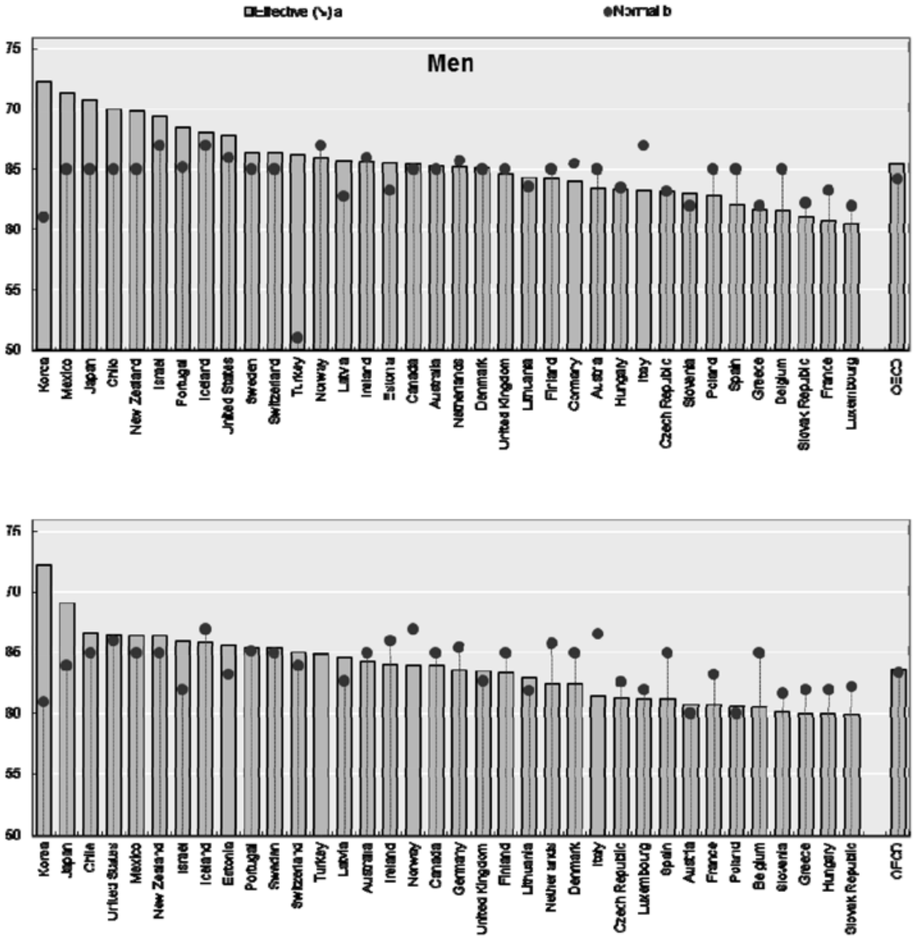
Figure 2. Labor force participation rates for persons 55-64



Source: OECD (2019)

The number of older workers in the workforce is increasing largely due to the delayed exit from the market. In the last twenty years, the average effective retirement increased by 2.3 years and form man 2.7 years in the OECD area (Figure 3). That is, the normal retirement age at 67 in 2018 was about three years above the OECD average. (OECD, 2019)

Figure 3. Labor force participation rates for persons 55-64



Source: OECD (2019)

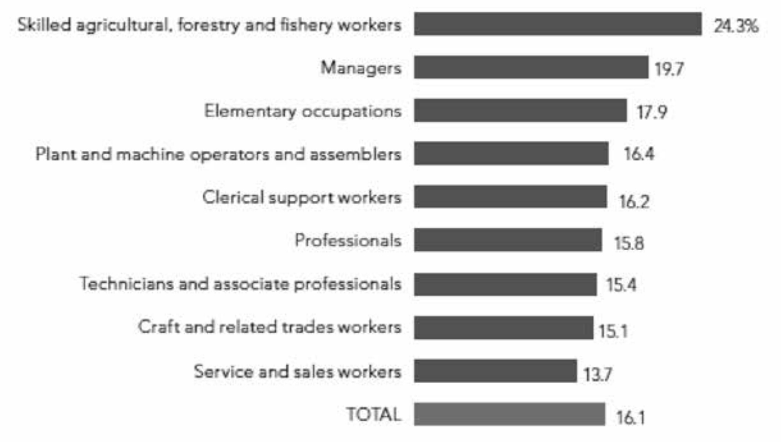
Several factors are affecting the effective retirement age: e.g. closing or tightening of early retirement schemes and other benefits that were earlier discouraging people to work longer; healthier and longer life etc. Still, in all countries, the effective retirement age is lower today than it was 30 years ago, which means there is a lot of room for improvement, i.e. reforms to make work for older people more rewarding. Many countries across the OECD have already started to reduce incentives to retire early as well as to reward employment at an older age. The mandatory retirement age has been changing from 65 to 67 and some countries go beyond that number. Yet, one has to bear in mind that incentives themselves are not enough if there are no opportunities to do so. Thus, it is a mutual challenge for policymakers and employers to hire and retain older workers making jobs age-considerate.

3. AGE, AGING AND AGEISM IN THE WORKPLACE: POSITIVE AND NEGATIVE STEREOTYPES

Aging workforce is an inevitable part of the demographic transformation that is taking a place worldwide and it will have a significant, long-lasting impact economy, culture, and business. In another word, it will affect all spheres of life.

Workplace demographics are changing worldwide. Various sources are reporting that the share of workers aged 55 is expected to substantially increase in time to come. For example, according to the data from the European Labor Force Survey (2015), 55+ workers are currently 16% of the total in the EU and one predicts that this percentage will increase in the next years. Also, countries such as Germany, Finland, Sweden, and the Baltic countries, have the share of mature workers already very close to 1 in five. One interesting statistic is that there are 20% of mature workers among managers (Figure 3).

Figure 4. Older workers 55-64 as a percent of the total in the EU 28 by occupation in 2015

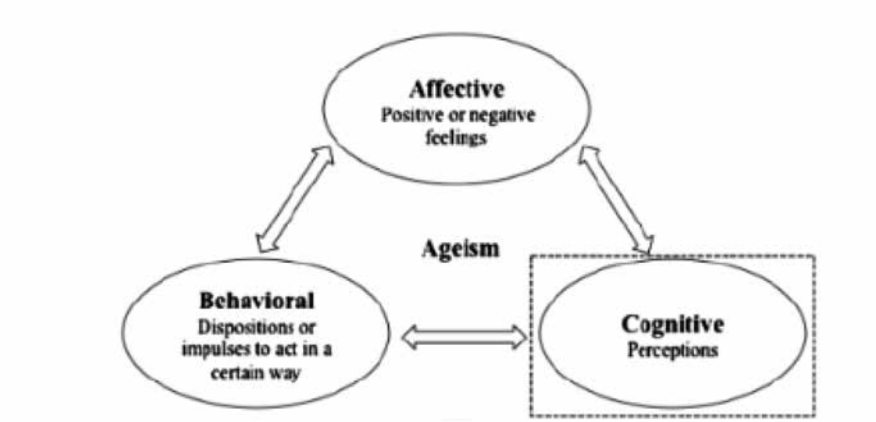


Source: Eurostat, European Labour Force Survey (2015)

These statistics indicate the importance of understanding in what way age and older people are viewed in the labor market, as well as to discuss some of the myths and misperceptions that are related to this demographic issue.

The age is a salient base upon which many social judgments are made, including those that are related to employment (Perry and Parlamis, 2006). The bias found in the researches that younger and older employees have been treated differently (e.g. Posthuma and Campion, 2009), brought to research attention the impact of age on the workforce. Observed ageism is often represented by the *tripartite model*, which suggests in what way the age affects the workplace and workforce.

Figure 5 Tripatriate model



Source: Bal et al. (2011: 688)

As Figure 4 suggests, the nature and impact of ageism have to be considered from the three perspectives: *affective* – related to positive and negative feelings, *behavioral* – related to disposition or impulses to act in a certain way and *cognitive* – related to perceptions (Ball et al. 2011: 687). This model can be found in research done, for example, by Fiske (2004) and Kite and Wagner (2002)

The body of research points out that findings are mixed when it comes to age in the workplace. Namely, perceptions of older workers in study findings show both negative and positive stereotypes (Duncan and Loreto, 2004, Ball et al. 2011). Stereotypes in the workplace reflect the stereotypes in society when it comes to older people (see for example McCann and Giles, 2002, Rožman *et al.* 2016).

Most common ***negative stereotypes*** of older employees include lower productivity, lower ability, and motivation, resistant to change, stubborn and opinionated, slow learners, PC illiterate, as not interested in additional training, and yearning for retirement (e.g. Kite and Johnosson, 1988, Taylor and Walker, 1988, Simon, 1996).

However, recent researches tend to be more optimistic towards older workers claiming that job performances may improve with age, older workers have good work ethics, organizational commitment, social skills towards colleagues and customers. The list can be prolonged with additional characteristics such as maturity, experience, responsibility, loyalty, etc. (Posthuma and Campion, 2009, Ng and Feldman, 2008, Kite et al., 2005, Van Dalen et al., 2010, Bal et al., 2011, Mailmen and Johnson, 2013). Further, Avery *et al.* (2007) and Van Veldhoven and Dorenbosch (2008) have shown that older workers can learn faster in the workplace and training situations than younger workers. Mental abilities tend to improve with aging such as strategic thinking. Wit, courtesy, prudence, wisdom, ability to think logically, holistic perception as well as language skills (Bures and Simon, 2015: 607).

Sites like Money Crashers or media houses such as BBC news and many more continuously report on older employees as latent opportunities for companies that are increasingly experiencing an aging challenge in terms of "brain drain" as job vacancies are outnumbering unemployed job seekers. Similar to scholarly findings, more and more (daily) journal articles focus on breaking the myths on older employees by emphasizing positive characteristics of older employees such as reliability, valuable work experience, no hectic social lives, less absenteeism due, for example, no young kids to take care of at the expense of work, etc. All these ***positive stereotypes*** suggest that older employees may be considered as a valuable asset to the organization. Vasconcelos (2018) rightly suggests that the knowledge and expertise of older employees constitutes an authentic source of organizational wisdom capital that deserves careful attention from organizations to maintain using suitable incentives and training.

One has to bear in mind one important fact when it comes to researching the impact of age in the workplace and that is that aging is a social construct as much as it is a biological thing. Name, aging as the process that changes biological, psychological and social functioning is the inevitable process for humankind yet there is no homogeneity in it. In another word, older workers are the not homogenous group (Bal, 2015). That is, there are individual differences when it comes to age-related changes in functioning capacity and these changes are profoundly influenced by the context in which the experience of aging occurs. For example, differences in lifestyle, nutrition, educational level, genetics and other factors stemming from social context. Thus, the conceptualization of age should be considered when discussing workforce aging (Schwall, 2012). When talking about age, we primarily think of *chronological age*, which is the time passed since birth. The chronological age is important because it impacts the workforce in terms it defines mandatory retirement age in some countries or may determine the limits to certain occupations (e.g. to be a pilot). Still, age is a more complex and dynamic concept. There are different versions of age conceptualization such as biological, functional psychological, subjective, organizational (Stern and Doverspike, 1989, Dikker et al. 2017). To describe a few: *biological age* refers to biological and psychological capability, i.e. the result of physical deterioration of the individual as a biological system; *social age* reflects a person's development change over time concerning his or her social role or social lifestyle; *psychological age* reflects one's ability to adapt to changing environmental demands through self-regulatory processes; *functional age* reflects the observation that individuals age at different rates concerning certain developmental dimensions (Hedge and Broman, 2017: 172-174). Also, there is an *organizational age* that refers to the aging of individuals in jobs and organizations (Dikkers et al. 2017: 74).

One cannot omit that this chronological age has its alternatives such as functional, subjective, cognitive, contextual or organizational age. Each type can have a profound impact on the working life of a person as people can evaluate or perceive themselves as older, younger or the same to their chronological age. A valuable research overview is provided by Truxillo et al. (2015), which can provide guidelines for future studies that are age-related.

4. MANAGING AGING WORKFORCE: GOOD PRACTICES OF SELECTED COMPANIES

The empirical evidence and practical experience from the business world suggest that older workers in some cases *want to* stay longer active in the workforce, while others *need to* due to the economics reasons. In both cases, companies across the world are facing an aging challenge. Some are more aware of this trend and have already addressed this issue by rethinking the work organization, adapting practices that respect the fact of five-year generation workplace. The following are selected companies that are combating the age barriers by changing work conditions and working policies to utilize the latent skills of existing (mature) workforce.

BMW

Well-known German car manufacturer BMW has been changing policies and practices to facilitate work to aging employees, particularly manual workers who are making 6000 employees. The mind shift occurred in 2007 when management noticed that the plant workers' age would be rising from 39 to 47 by 2017, which puts the productivity in jeopardy. By focusing on biological age rather than chronological age, as well as embracing the value-added production system in which every employee needs to add value, the BMW developed various policies and practices to retain its valued mature workers and to maintain their productivity level. The solution has been, among else, in the ergonomic changes of the workplace as well as in job rotations. Following policies and practices have been used (Government Office for Science, 2015):

- *Job rotation* that enables sharing the workload and lessening the physical strain
- *Ergonomics* – facilities in the company have to be designed to be ergonomically friendly; Barbershop-style chairs were installed to allow workers to work sitting down or to relax for short periods during breaks; Each workstation was fitted with vertically adjustable tables which adapted to each worker's height, reducing back strain; Rubber flooring to ease joints
- *Health and fitness*: The workers learned and practiced strength and stretching exercises regular health checks; on-site physiotherapist and Occupational Health help manage injuries – for example, if a worker hurt a shoulder he/she can be put on a station that does not strain this part of the body.
- *Shorter working patterns* – got rid of four longer days
- *Buddy arrangements* for shift work - people can work the shift patterns that suit them.

- *Retirement plan* - bridging pension until state pension kicking in as well as pre-retirement courses.

SSVAB Tunnplant

Swedish still company SSVAB Tunnplant had begun to show an increase in the aging workforce some 15 years ago based upon research findings which had suggested that early retired workers had much better physical and health conditions than those still working. The company started to focus on older workers trying to improve their health and well-being. The initiative addressed three main areas (European Monitoring Centre on Change, 2015):

- **Improvements in the work environment and individual check-ups**: various changes to the workplace have been made such as improving lighting, providing sight examinations and ensuring spectacles for specialized work. Conference rooms were equipped with hearing loops for those with impair heating as well as ergonomically unfitted working places were reconstructed. Special devices for packaging steel coins and sheers were introduced as well as driving overhead cranes. Job rotation had been organized to provide physical relief to workers. Initiatives also targeted the improvement of the general health of employees with regular check-ups and necessary rehabilitation when necessary.
- **The age-dependent ability for shift work**: employers tried to understand the difference in attitudes towards work in shifts between older and younger employees. The research showed that older employees prefer to work fewer night shifts, while younger had no problem with working in night shifts. Age does make a difference and it was of importance for younger workers to understand the biological difference between being young and old as they will be facing the same situation in time to come.
- **Union initiatives**: Unions and workers organized several working teams to make a good shift schedule taking into consideration older workers. The schedule was decided through a democratic process as well as it had a trial run of each proposed schedule whereby employees were offered questionnaires and later voted.
- **Union initiatives**: The unions and the workers introduced several working teams aimed at constructing a good shift schedule taking into con-

sideration older workers. The schedule was ultimately decided through a democratic process, including a trial run of each proposed schedule, an employee questionnaire, and an employee vote.

Siemens and its subsidiaries

Two subsidiary companies of German Siemens AG had been age-sensitive to their employees by providing various initiatives to maintain their employability.

- **Siemens Netherland** is the Dutch branch of a large German electronics company based in the Hague. It is a network and service provider for electronics and telecommunications to consumer and B2B sector. Their human resources policy can be described as 'age-independent' meaning that it is an integrated policy that aims at all employees, no matter their age. The effort of the company to value the older workers had been recognized by winning the LABOR prize for age-aware policies. The company is promoting employability by various measures, including a job rotation program, as well as institutionalizing a social dialogue in a way that management is meeting with workers regularly discussing the issue of aging. Also, health is an important issue so the company introduced staff welfare policies that included periodic health examinations and assessments of the social work aspects (for more see (EurWork, 2005).
- **Siemens Norway** had introduced various programs oriented toward older employees, particularly focus on the company's leaders. One of the programs is called „*Constructive Management Mobility*". It was established following advice from organizational psychologists and employee input. Mainly leaders in the 55-64 age group enrolled in the program. It consists of three two-day meetings over eight months, with a mixture of plenary sessions, group work and individual work (European Monitoring Centre on Change, 2015).

There are many miscellaneous examples of good practices across industries that have been taking into consideration the reality of an aging workforce. Particularly interested in this challenge are manufacturing industries since the health and efficiency of the workers are often the result of the concrete work process. To mitigate potential negative consequences, here are two interesting examples (Bures and Simon, 2015: 607): one manufacturing company introduced the program called "Master of aging" which allows older workers more days off. This enables them more time to take a rest and regenerate after they had performed demanding manual work. Another example is coming from an energy company that introduced a program called "80-90-100", which allows workers to reduce their working hours by 20%, their salary is then reduced by 10% and their retirement benefits remain at 100%.

5. IN LIEU OF CONCLUSION: POLICY IMPLICATIONS

The number of older people is rising and they are becoming the largest part of the population across the globe. This demographic shift does not occur as a single trajectory but in a systematic manner. Also, to increase the number, older people nowadays are healthier, better educated, more active than in the past. Thus, they are significantly changing the perception of "being old" and the repercussions it has on society in general and the economy and labor market in particular. Naturally, the aging of the workforce is inevitable.

Very often in the lay public, the older workers represent a burden as aging is related to diminishing capacity for physical and mental work. While it is true that age does affect the health and physical fitness of people, some other abilities are improving such as wisdom, strategic thinking, holistic perception as well as older workers tend to have accumulated work experience and wisdom. Also, many employers praise older workers in terms of their loyalty towards the firm, good work ethics, social skills towards customers, etc. Thus, retaining older workers may be quite rewarding if managed properly. There are companies– such as BMW, Siemens and the like, that have taken seriously this changing demographics and tried to find a solution for it. Work ergonometric, job design, job rotation, and proper tools and equipment and other workplace adjustments have been made as a concrete response to the challenges of the aging workforce. Age management as a part of human resource management is increasingly important in companies today since it has to define human resource retention policies and practices that will remedy and utilize the consequences of increasingly older workers (Marcaletti and Garavaglia, 2014). Naturally, policymakers need to be active partners in developing a legal and institutional framework that will enable employers to stimulate and enable workers to remain an employable member of the workforce.

Bearing this in mind, *what can be done about the aging workforce?*

This question proves to be relevant to the public sector and policymakers as much as it is to the business sector. We may add that the academia and media should not be left behind in this debate. All four domains represent an arena that can contribute to searching and fining an adequate answer, which implies the need to address this challenge in the manner of the quadruple helix model. As a reminder, the concept of *Quadruple Helix* often applies to innovation issues and in this case means the interaction of academia (university), industry (business), government and civil society (media- and culture-based public) to innovate the policies and programs that should make aging at the workplace successful. The interpretation of the Quadruple Helix in this context follows.

The government's role is to provide support to all – workers, business sector and universities in age-related matters. Policy areas should be focusing on providing incentives to workers to continue to work even at an older age. Employers should be adequately supported to retain, retrain and reinvigorate existing employees who will be retiring soon. Various opportunities should be promoted for people at an older age, which would enable them to maintain active, as well as physically and mentally fit.

University can significantly contribute by developing scientific knowledge on aging as well as providing empirical evidence on the aging population in general or aging workers in particular and their characteristics, preferences, etc. This is of great importance since it has been proven that older people/workers are not a homogenous group and they have great diversity in their potentials, interests, and needs. University research - theoretical, empirical or technical- can contribute to business efforts to develop and/or innovate processes and services to better serve the needs of older workers.

Industry or business sector should focus on reinventing the workplace by various age-benefiting policies and programs. This can be in terms of creating various policies regarding working hours, work ergonometric, job design, job rotation, proper tools and equipment, and other workplace adjustments. By cooperating closely with the University, new age-friendly inventions can be made by integrating scientific knowledge and empirical evidence into business practice, such as using industry 4.0 smart solutions in redesigning workspace at the affordable cost.

Civil society, particularly media, is an important source of support in taking sufficient actions to handle the (global) aging as it constructs and confirms images of groups in the society. Media has an important role in fighting stereotypes and developing awareness that older people are not liabilities but assets to the economy and society if understood and treated properly. By using its power, the media should be working on changing people's mindset to accommodate aging. Actions that can be done include increasing the visibility of older workers in news media and fighting the stereotypes of older workers by providing information and facts. To lessen stereotypical portraying of older workers, examples of good practices in various companies and positive examples of individuals should be more present in the public.

The workplace represents a microcosm of the society in which one can recognize all values, norms, trends, and biases one has towards people, particularly old(er). Age does have a profound impact of workplaces today, it will have even more profound tomorrow, thus we need cooperation among policymakers, HR management, academia, and media to ensure employability, empowerment, capability, and choice for older workers who see themselves active in the labor market despite their chronological age. Let us conclude with P. Drucker quote:

"We need to develop a management style that treats older workers as resources, as wisdom-keepers of a company. If we start to broaden our mindset of what the aging workforce brings back as the intellectual capital, we'll get the best of the best!"

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PATIENTS RELATIONSHIP MANAGEMENT: THE ROLE OF PATIENT KNOWLEDGE

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Abstract

Patients relationship management is rightly considered the basis of management in healthcare institutions. The role of patient knowledge is irreplaceable and indispensable in the construction of this system. The aim of the paper is to try to gain an understanding of the structure and role of patient knowledge and how this knowledge is used by healthcare institutions in building relationships with patients? Six components of this knowledge were included in the study: (1) a pool of knowledge available to patients about their illness; (2) ways of acquiring this knowledge; (3) transfer of knowledge to others; (4) self-motivation to acquire knowledge; (5) the benefits that patients gain from their acquired knowledge; (6) motivation of patients by physicians to acquire knowledge. Also included are physicians 'opinions on patients' knowledge of their disease and treatment and disease prevention. The survey was conducted during 2019 on two quota samples. The first size of 90 subjects (patients) from the area of central Croatia. Another size 30 family medicine doctors from the same area. Patient knowledge components were determined using 12 statements and five levels of agreement on the Likert scale, and physician opinion components using six statements on the same test instrument. The reliability of the scales was tested by Cronbach alpha indicators. The multiple regression analysis methods were applied. The results indicate that the positive opinions of physicians encourage patients most to self-motivate in acquiring knowledge, then to use that knowledge, and least to transfer knowledge to others. These opinions reinforce patients' interest in expanding their knowledge base and their health literacy. The research seeks to contribute to the management of patient relationships and patient satisfaction. Efforts are being made to point out *the need and meaning of a systematic approach of actively involving patients in treating patients in rationalizing health care expenditures.*

Keywords: *patients, knowledge, rationalization, health system*

JEL Classification: D83, I11

1. INTRODUCTION

Patient relationship management can rightly be considered the foundation of healthcare management. In the last two decades, a great many papers and research results have been published that confirm the above statement. What may be considered at this point unresolved or insufficiently addressed is the definition of the content of that management, and in particular the indicators that characterize those contents. Patient knowledge management has so far been included by all authors as an indispensable element of patient relationship management. What makes the contribution of this paper is an attempt to indicate the state of knowledge of patients in transition conditions. It wasn't too long ago when doctors and other healthcare professionals persistently considered, thought and argued that a cured patient was also always a satisfied patient. A cured patient today is not always a satisfied patient. Instead of the facility, patients seek to be active participants in their health care from planning to realization. They want their family, friends and relatives, the community in which they live and work, to be involved in the process. The quality of health services can be excellent and validated through the successful outcome of patients' treatment and the fulfillment of their expectations. However, it should always be viewed through the ways that quality is experienced by patients. Patients are becoming increasingly organized and vocal today seeking better and more effective healthcare. They are accumulating more and more knowledge about themselves, their health and protecting their health. They are becoming more literate in health terms. Almost everyone involved in healthcare management today understands how well patient relationship management systems can play in improving healthcare. Namely, there is still no broad consensus and consensus among scientists that all has to do with managing patient relationships and managing patients' knowledge.

2. PATIENTS RELATIONSHIP MANAGEMENT

The need to build patient relationships was only noticed three decades ago. This need seems to have arisen as perceptions have evolved that no society will be able to monitor and satisfy the explosive growth of health care needs in the previous, classic way of exclusively budgeting them. Chi-Yun Chiang was among the first scientists to spot this, and on this occasion offered a model for managing patient relationships (Chi-Yun Chiang, 1994,7). His model was understandably general in nature and as such does not differentiate between the specificities of particular patient groups, which is his greatest disadvantage. Patient satisfaction should not be generalized. It depends on a number of situational factors and is generally specific to each healthcare facility.

One general, universal model for patient relationship management cannot be established since patients are extremely heterogeneous in structure. Thus, there are models of managing chronic patients, emergency patients, patients in outpatient treatment, hospitalized patients, psychiatric patients, management models in pediatrics, gynecology, infectious diseases, etc. Each of these models has its own requirements arising from the specificity of the disease.

The point of managing patient relationships is:

a) identify and then anticipate and plan all necessary elements to reduce the risk of treatment failure,

b) increase the efficiency of health care in such a way that all capital and human resources in health care facilities are optimally used,

c) active and meaningful inclusion of patient knowledge in improving the health care system,

d) increase patients' satisfaction and satisfaction of healthcare professionals in healthcare facilities.

Patient relationship management includes multiple areas: patient confidence management, patient satisfaction management, therapy management, patient admissions, hospitalization, and discharge management, patient complaints, suggestions and complaints, patient partnership management, etc. Patient knowledge management is accepted by almost all authors as an indispensable area of that management.

3. PATIENTS KNOWLEDGE MANAGEMENT

3.1. Meaning and contents

The education and educational level of patients with medical knowledge are now generally considered to be one of the basic preconditions for the survival and development of health care in the future. This is especially emphasized in chronic patients. The WHO states that around 7.7 million new patients are diagnosed with dementia every year worldwide. In the UK, for example, two-thirds of all patients in general hospitals are over 70 years of age, half of whom have dementia or delirium, or both. Knowledge about the care of these patients within health care and within the families of these patients is very modest and unsatisfactory (Griffits, et al., 2014,241).

Patients' knowledge of their illnesses is of great importance and value in the modern approach to healthcare. Particular emphasis is placed on the need to educate patients in the field of chronic diseases that arise as a reflection of the modern way of life of people, infectious diseases and sexually transmitted diseases (STD). Numerous studies confirm that people's knowledge of these diseases can effectively prevent the spread of these diseases and the health care of the sick. Diabetes management, for example, depends a great deal on the knowledge of patients who themselves have to deal most with their illness. Glycemic control and self-control by patients have been shown to reduce the complication rate of diabetes and improve long-term health in diabetics. A study conducted in the United Arab Emirates (UAE), where the incidence of diabetes is very high among the population, found that patients lacked knowledge about diabetes and the knowledge and skills to participate more actively in their treatment. In a sample of 575 patients, these results related to patients' knowledge of their disease showed that as many as 76% of patients could not distinguish at all (lacked knowledge) about the amount of carbohydrate (high and low glucose) in their blood. And 46% of patients were without basic health literacy. 87% of patients thought it was doctors who should have knowledge about diabetes, not patients. (Al-Maskari. F., et al., 2013,317).

In infectious diseases, tuberculosis (TB) patients have been shown to be a very vulnerable group to various infections, such as HIV (human immunodeficiency virus) infection, and such patients should have the necessary knowledge to secure themselves from HIV infection. In 2011 8.7 million TB patients were registered, of which about 13% were also infected with HIV. This is alarming data if it is known that only (by global estimates) 40% of TB patients have been tested for HIV. Data from a larger study conducted on TB patients in Peru showed that only 33% of respondents had accurate answers about their knowledge of HIV transmission and infection with this virus. (Ugarte-Gil, C. et al., 2013,91). Sexually transmitted diseases are a major threat to public health today. WHO predicts that there will be a dramatic increase in the number of people unless there are a significant education and acquisition of people's knowledge about these diseases. Changes in human behavior, especially the perception of risk and knowledge of these diseases in general, are the cornerstone of public health activities.

3.2. Elements of managing

Six elements of patient knowledge management were included in this study. The contents of these are shown in table 1.

Table 1. Patient knowledge management elements

Number	Patient knowledge management elements	Contents and meanings of patient knowledge management
1.	A pool of knowledge that patients have about their illness	Building positive attitudes in patients Monitoring the effects of patient education A plan and strategies for engaging patients in healthcare
2.	A way to gain knowledge	Building a model of continuous patient education Ongoing patient education Education on chronic and infectious diseases Patients' motivation to cooperate with a healthcare institution
3.	Transferring acquired knowledge to others	Involvement of patients in health care facilities to support and develop a system of self-care, that is, self-help Patient involvement in primary care redesign and reengineering in the care of chronic patients Patients in virtual networks receive, monitor, and create primary care information and participate in surveys of that network
4.	Self-motivation in acquiring knowledge	A collaboration of patients in joint, team-based clinical decision-making produces good health outcomes (Kaplan, S. et al., 1989, 114)

5.	It benefits from the knowledge gained	Patients as active participants in their own health care and better outcomes of their treatment (Bodenheimer, T., et al., 2002,118) The savings achieved by patient involvement in healthcare settings are large and measurable (Glasgow, R.E., 2002,93)
6.	Motivation by physicians to acquire knowledge	Patients who participate in the management of their illnesses reduce their pain, and especially the cost of health care, in the very short term (Lorig, K.R. et al, 1999,8) The positive outcome between self-efficacy, prevention and health outcomes (Bodenheimer, T., et al., 2002,117)

source: author

4. RESEARCH OBJECT

The aim of this research is to determine how much knowledge and health care that patients have in their recovery and how much that knowledge influences the level and structure of the opinion of their family physicians. Patients' knowledge is not only used by them, but also by their doctors, their families, friends, society as a whole. Doctors should use this knowledge to set up a treatment plan and treatment success. They allow them to communicate with patients more easily and effectively. They reduce many risks in treatment and also reduce unnecessary healthcare expenditures for treatment. They also rationalize expenditures on health care spending, as well as the burden on healthcare professionals. Patients who, in addition to basic health literacy, are constantly increasing their knowledge base about their illness become active participants in health care. They should also be preventively involved in health care by acting in their living and working environments to improve the health of the population.

5. RESEARCH GOALS AND HYPOTHESES

Two goals are set to be achieved in this research. They are contained in these two questions. The first is: do patients have sufficient knowledge (in their assessment and opinion) about their health and do they use it effectively? Second: Do doctors participate in generating this knowledge and what opinions do they have about patients? While these are very complex questions that certainly require more extensive research, it is believed that this research will also provide satisfactory answers.

According to these goals, two hypotheses are put forward.

H_1 - Patients do not have sufficient knowledge of their health, or how to use them more effectively.

H_2 - Doctors with their opinions about patient knowledge influence patients to expand and use that knowledge.

6. LIMITATIONS

The inability to compare the results of this study with other studies in a similar population is a significant limitation. Namely, so far (to the authors' knowledge) there has been no research on the same content in the Republic of Croatia, nor in other, similar transition countries. Published research is mostly realized in developed countries and it is not realistic to compare the results of this research with those studies. It is believed (notwithstanding the above) that this fact will not significantly affect the value and results of this research.

7. METHODOLOGY

7.1. Research design and ethics

Different secondary and primary data were used for the purposes of the research: textbooks, manuals, professional and scientific papers. MEDLINE, PubMed, Science Direct, CINAHL, ProQuest, and Ovid were used from the databases. The primacy has been given to papers published in the last ten years. The primary source of data was structured questionnaires designed for the purposes of this research. The constructs were derived from multiple survey questionnaires used in the research: Kaplan, S. et al., 1989,114; Bodenheimer, T., et al ., 2002,122; Glasgow, R.E., 2002.93; Lorig, K.R. at al., 1999, 8; Greenwood, B., 2013,114.

This study did not present significant risks for participants (patients) or physicians since it was not primarily focused on providing ethical decisions for clinical trials involving new drugs, experimental studies, and studies requiring human biological samples. The survey was completely anonymous. Verbal consent was obtained from each participant. All participants were provided with information about the research goals and process. In order to protect participants from the risk of the survey, participants' names, identification numbers, and names of health care institutions and doctors were not recorded. The interviewer interviewed interviewees on premises that were not part of health facilities or premises. It was performed between March and June 2019.

7.2. Population and sample

The study population consisted of patients and family physicians from the following health centers: the City of Zagreb-East, Zagreb County, Krapina Zagorje County, Sisak Moslavina County, Karlovac County, Koprivnica-Križevci County. When selecting patients in the sample, they were not differentiated according to their diagnoses and were not taken into account or included in the questionnaire. Random patient selection was used based on data collected from different clubs and patient associations. Unfortunately, healthcare institutions have not shown the understanding and understanding to allow access to this information under the most common excuse that it is their professional secret. We also included doctors in the survey by random selection. The surveys included 90 patients and 30 family physicians, which was more than 10% of the estimated total population of the population surveyed.

7.3. Test instrument

The survey was conducted through two structured questionnaires, which were modeled on a five-stage Likert scale. They had two parts each. The first questionnaire was intended for patients and the second for physicians. There were two parts to the patient questionnaire. The first one included four demographic characteristics of the respondents. A lifetime of three groups: first to 30 years, second from 31 to 50 and third to 51 and over. Gender: female, male. Vocational education: high school, university, college. Disease duration: up to 5 years, 6 to 10 years, 11 years and older. The second survey questionnaire concerned physicians and contained two characteristics: age and gender in the same groups as inpatients.

The second part of the patient questionnaire contained 12 items in the form of statements that sought to arrive at the form, level, and structure of patients' knowledge regarding the health problems they have. Respondents were offered five levels of agreement with these claims. The levels are always (1), quite often (2), sometimes (3), rarely (4), never (5). Claims were constructed on the basis of previously used and successfully validated instruments of published papers and research as shown in Table 1. In the second part of the questionnaire intended for physicians, there were the same levels of agreement with the statements as for the questionnaire intended for patients. These claims were 6. These are summarized in Table 2.

Table 2. Patients knowledge assertions

Patients knowledge	Claims	Sources used
A pool of knowledge that patients have about their illness	I always try to learn more about my health	Greenwood, B., 2013,114 Steleffson, M., et al, 2013, 271
	Every day I read and learn something new about my health	
A way to gain knowledge	I primarily learn about my health from my doctor	Cunningham, T.R. & Geller, E.S., 2011, 93 Brent C.J.,2007,42
	I learn most about my health from various magazines, TV shows, and the internet	
Transferring acquired knowledge to others	I keep the acquired knowledge of my health to myself	Dougdale, D.C.et al, 1999,29 Hibbard, J.H., et al., 2004, 1005
	I pass on my health knowledge to my family members and friends	
Self-motivation in acquiring knowledge	I find the impetus for learning about health in my health difficulties	(Wofford, M.M., et al., 2004, 58 (McQuillen, K. et al. 2013, 411
	I find the impetus for greater knowledge about health to help myself and other people in need	
It benefits from the knowledge gained	I find the impetus for greater knowledge about health to help myself and other people in need	Berry, L.L., et al., 2008,65 Brent C.J.,2007,44
	The knowledge I have of people in my area is appreciated	
Motivation by physicians to acquire knowledge	My doctor encourages me to constantly learn about my health	Greenwood, B., 2013,114 Steleffson, M., et al, 2013, 271
	My doctor appreciates my acquired knowledge and takes it into account in therapy	

source: author

Table 3. Statements to determine physicians' opinions toward patient knowledge

	Claims	Sources used
The opinion of family medicine physicians according to patients' knowledge	Patient knowledge helps me determine the diagnosis	Wang, L. & Alexander, C.A.,2013,34 Parand, A., et al.,2014,722 Steleffson, M., et al, 2013, 271 (McQuillen, K. et al., 2013, 411
	Patient knowledge helps me plan therapy	
	Patient knowledge helps me to predict the course of treatment	
	I appreciate the knowledge that patients have about their health	
	I encourage all my patients to constantly rise	
	I talk to patients about the knowledge they have about their health	

source: author

7.4. Variables

The dependent variable is the opinion of family physicians on the knowledge and value of patients' knowledge. There are six independent variables. (1) A fund of knowledge available to patients about their illness. (2) Method of acquiring knowledge. (3) Transfer of acquired knowledge to others. (4) Self-motivation to acquire knowledge. (5) Personal benefits from the knowledge gained. (6) Motivation by physicians to acquire knowledge.

7.5. Research method

The statistical analysis method with emphasis on multiple regression analysis was applied. Cronbach alpha indicators were used to determine the reliability of the scales (Cronbach, L.J., 1951,314). Microsoft Excel and SPSS (Statistical Package for Social Sciences, 21.0) software were used in the data processing.

8. RESEARCH RESULTS

Table 4. Demographic characteristics of respondents (patients)

Characteristics of the group and subgroup of subjects (patients)	Number of respondents	Percentage participation
1. Age (years)	90	100,00
1.1. to 30	29	32,22
1.2. 31 -50	37	41,11
1.3. 51 or more	24	26,67
2. Sex	90	100,00
2.1. female	58	64,44
2.2. male	32	35,56
3. Qualifications	90	100,00
3.1. median	51	56,67
3.2.. high	22	24,45
3.3. university degree or more	17	18,88
4. Duration of illness (in years)	90	100,00
4.1. to 5	19	21,11
4.2. 6 - 10	51	56,66
4.3. 11 or more	20	22,23

On average, the most represented patient is a woman between 31 and 50 years of age, with secondary education with a chronic illness lasting between 6 and 10 years.

Table 5. Demographic characteristics of respondents (physicians)

Characteristics of the group and subgroup of subjects (physicians)	Number of respondents	Percentage participation
1. Age (years)	30	100,00
1.1. to 30	5	16.67
1.2. 31 -50	18	60,00
1.3. 51 or more	7	23,33
2. Sex	30	100,00
2.1. female	17	56,66
2.2. male	13	43,34

According to the presented data, the most represented in the percentage is the respondent family physicians in the age range from 31 to 50 years.

Table 6. Determining the reliability of patient test scales

Patients knowledge	Claims	Average value	Standard deviation	Cronbach alfa
A pool of knowledge that patients have about their illness	I always try to learn more about my health	2,47	2,0384	0,8361
	Every day I read and learn something new about my health	3,04	1,0529	
A way to gain knowledge	I primarily learn about my health from my doctor	3,58	1,7933	0,7943
	I learn most about my health from various magazines, TV shows, and the internet	2,03	3,0184	
Transferring acquired knowledge to others	I keep the acquired knowledge of my health to myself	1,36	1,6835	0,8759
	I pass on my health knowledge to my family members and friends	4,21	3,0447	
Self-motivation in acquiring knowledge	I find the impetus for learning about health in my health difficulties	1,53	2,5106	0,9250
	I find the impetus for greater knowledge about health to help myself and other people in need	2,79	2,2744	
It benefits from the knowledge gained	I find the impetus for greater knowledge about health to help myself and other people in need	4,02	7,0513	0,7351
	The knowledge I have of people in my area is appreciated	4,27	2,9102	
Motivation by physicians to acquire knowledge	My doctor encourages me to constantly learn about my health	4,05	1,5528	0,8022
	My doctor appreciates my acquired knowledge and takes it into account in therapy	3,28	2,7037	

According to the mean values, patients showed a significant interest in learning about their own health. They declare that they always keep their acquired knowledge of health to themselves and find the impetus for learning about health in their health difficulties. Very rarely, they learn from their doctor about their health, although he encourages them to do so, and they pass on their knowledge to their family members and friends, and this knowledge helps them a lot in healing.

Table 7. Evaluation of the determined Cronbach alpha values

Patients knowledge	Calculated alfa	Reference alfa	Reliability
A pool of knowledge that patients have about their illness	0,8361	0,8 to 0,9	good
A way to gain knowledge	0,7943	0,7 to 0,8	acceptable
Transferring acquired knowledge to others	0,8759	0,8 to 0,9	good
Self-motivation in acquiring knowledge	0,9250	0,9 to 1,0	excellent
It benefits from the knowledge gained	0,7351	0,7 to 0,8	acceptable
Motivation by physicians to acquire knowledge	0,8022	0,8 to 0,9	good

All patient knowledge variables are acceptable given that their calculated Cronbach algae values are greater than 0.7. It should be noted that of the six variables, four are good and excellent and that the reliability of all six variables included is suitable for further statistical analysis.

Table 8. Determining the reliability of the scales of the physician respondents

	Claims	Average value	Standard deviation	Cronbach alfa
The opinion of family medicine physicians according to patients' knowledge	Patient knowledge helps me determine the diagnosis	2,51	2,8411	0,8603
	Patient knowledge helps me plan therapy	3,14	1,5903	
	Patient knowledge helps me to predict the course of treatment	2,37	2,2755	
	I appreciate the knowledge that patients have about their health	1,30	3,0662	
	I encourage all my patients to constantly rise	1,59	3,1743	
	I talk to patients about the knowledge they have about their health	2,26	2,0794	

Doctors expressed a positive opinion of the knowledge their patients generate about their health. They stated that they always value their patients' knowledge of health and encourage them to increase that knowledge. This knowledge often helps them make diagnoses and sometimes plan their therapy.

Cronbach's alpha value of the opinion of a doctor according to the knowledge of patients is 0.8603 and is rated as high. This makes it reliable and can be used for further statistical analysis.

Table 9. Correlation matrix of independent variables

	1	2	3	4	5	6
1. A pool of knowledge that patients have about their illness	1,0000					
2. A way to gain knowledge	0,3802	1,0000				
3.Transferring acquired knowledge to others	0,5169	0,2955	1,0000			
4. Self-motivation in acquiring knowledge	0,2715	0,4192	0,5583	1,0000		
5. It benefits from the knowledge gained	0,5768	0,6214	0,4295	0,2106	1,0000	
6. Motivation by physicians to acquire knowledge	0,2940	0,2751	0,3810	0,3024	0,6801	1,0000

To determine whether there was a statistically significant relationship between the independent variables, degrees of linear dependence were determined. The Pearson coefficients are shown (Table 9) indicate that all values obtained are statistically significant at a significance level of 0.01. The correlation is strongest between personal benefits from acquired knowledge and how physicians acquire and motivate them to gain knowledge and personal benefits from acquired knowledge. A strong correlation was found between the knowledge pool available to patients about their illness and the personal benefit of the acquired knowledge, but also in self-motivation to acquire knowledge and transfer the acquired knowledge to others. The weakest correlation was found between personal benefit from acquired knowledge and self-motivation to acquire knowledge.

Table 10. Multicollinearity of independent variables

	A pool of knowledge that patients have about their illness	**A way to gain knowledge**	**Transferring acquired knowledge to others**	**Self-motivation in acquiring knowledge**	**It benefits from the knowledge gained**	**Motivation by physicians to acquire knowledge**
VIF	3,0714	2,5176	4,2108	1,9633	4,1175	2,3071

The values of the VIF coefficients (variance inflation factor) were calculated based on the approach and procedure outlined by Field A. and Yoo, W et al (Field, A., 2000,216; Yoo, W. et al., 2014,12). The calculated values for all six independent variables are less than 5.00 which means that the calculated data are suitable for applying multiple regression analysis and that there is no multicollinearity problem among the included variables.

Table 11. Results of multiple regression analysis

Independent variables	β	t	p
A pool of knowledge that patients have about their illness	0,14	1,273	<0,05
A way to gain knowledge	0,08	0,7041	<0,05
Transferring acquired knowledge to others	0,02	- 0,4296	>0,05
Self-motivation in acquiring knowledge	0,39	2,1973	<0,05
It benefits from the knowledge gained	0,26	1,0588	<0,05
Motivation by physicians to acquire knowledge	0,04	0,6105	>0,05

The coefficient of determination indicates that the six included independent variables in this study influence the opinion of family physicians on patients' knowledge with 35.24% of the variance of the total formed an opinion. This percentage of the sum of the total squares of deviations was interpreted by the relationship between the included variables of patient knowledge and the opinion of family physicians about that knowledge, which can be accepted as a significant result.

Among the variables included, the most significant correlation with physicians 'opinions is the patients' self-motivation to acquire knowledge (= 0.39; t = 2.1973; p <0.05). Patients 'personal benefits from the acquired knowledge also have a significant correlation with physicians' opinions of that knowledge (= 0.26, t = 1.0588, p <0.05). In the third place of this interconnection is the knowledge pool available to patients (= 0.14, t = 1.273, p <0.05). 0.05). A weak correlation was found between the transfer of patients' acquired knowledge to others and physicians' opinions (= 0.02, T = -0.4296, p> 0.05) and physicians' motivation to acquire knowledge and opinions about them (= 0.04, t = 0.6105, p> 0.05).

Four independent variables: patient knowledge fund, mode of knowledge acquisition, self-motivation for knowledge acquisition, and personal benefit from acquired knowledge have a statistically significant effect on family physicians' opinion of patient knowledge (since $p < 0.05$), whereas the other two variables (knowledge transfer and motivation by physicians to acquire knowledge) did not have a statistically significant effect ($p > 0.05$).

None of the three statistical demographic characteristics of the patients showed significant statistical differences, so they are omitted in presenting these results.

9. DISCUSSION

Patients' self-motivation in acquiring and expanding a health knowledge fund is the most significant variable in this study, which is interrelated with the formation of physicians' opinions about the need and meaning of patients' knowledge in their treatment. The possibility of comparing this knowledge with the results of the research obtained by Kaplan, S. et al are limited, since the sample in this study was much smaller, but also because the research they conducted was in the area of the Arab population, and this research in the transition health system. But despite this fact, self-motivation proved to be the most influential factor in contrast to the aforementioned research and research presented by Wofford M.M. and associates where self-motivation was a much lower influential variable. The similarity of the results of this study is confirmed by the results obtained by McQuillen et al. The patients' emphasis on the claim that they find an incentive to learn about health lies in their health difficulties and in the desire to help themselves and other people in need, is reaffirmed. In assessing the agreement with these statements, the respondents positioned the incentive to acquire the knowledge needed for their health problems as a constant need and to transfer the acquired knowledge to others in their environment as an occasional readiness.

Patients also significantly positioned the personal benefits of the acquired knowledge pool as a second-ranked variable that correlates with their physicians' opinions. et al. The aim of this research was to determine whether patients have sufficient knowledge (in their assessment and opinion) about their health and whether they use it effectively. The very fact that the personal benefits of knowledge are highly positioned indicates that this research goal has been achieved. The measurable savings achieved by the inclusion of patients in healthcare settings indicated by Glasgow were not found in this study. What is at stake in evaluating the personal benefits of the knowledge available to respondents is a debatable assessment of how much those personal benefits are actually achieved during treatment. Specifically, respondents rated them as rarely realized. This confirmed the second part of the first hypothesis, ie that the respondents did not know how to use this knowledge as effectively as possible. This can certainly be an impetus for new research, as it may indicate a lack of affirmation of patients' knowledge in the healthcare system and insufficient involvement of patients in their treatment plans, as well as in health education and prevention. This claim can be substantiated by the fact that the opinion of the examined physicians about the patients' knowledge and the need to increase the fund of this knowledge is positive and that there is a willingness of the doctors to actively use this knowledge. to the well-being of patients. Obviously, there are no elaborate approaches in the healthcare system to encourage patients to become more actively involved in healthcare.

The respondents' health knowledge pool and the way they acquired this knowledge ranked third and fourth in the regression analysis of variables that correlated with the physician's opinion of that knowledge. They only sometimes (therefore not constantly) struggle to learn more about their health. They rarely learn about their health from their doctor, and quite often from various magazines, TV shows, and the Internet. This confirms the first part of the hypothesis that patients do not have sufficient knowledge of their health.

The transfer of patients 'acquired knowledge to other people in their environment has not been confirmed as a significant variable in physicians' opinion. Respondents pass the acquired knowledge about health to their family members and friends according to the average rating of this claim very rarely. The results of this study with those of Dougdale and Hibbard et al have not been confirmed. This was probably not to be expected since these studies were performed on completely different samples of the patient population, which are not comparable to those in transitional health care settings. It remains debatable for possible further research: does this mean that doctors think that knowledge is still insufficient to be effectively transferred to other people in their environment? It may also be relevant in traditional attitudes of physicians that health knowledge is primarily their care and responsibility, and that patients should not participate significantly but use their knowledge base mainly for their treatment and recovery. He pointed out that Al-Maskari and his colleagues cited already, noting that as many as 87% of patients surveyed claimed that doctors, not patients, should have knowledge of their illnesses. This is also indicated by the fact that the motivation of patients to acquire additional knowledge and thus increase the pool of knowledge by physicians in this research is the lowest valued factor in the process of physicians' opinion on this knowledge. The second goal set in this study, ie whether physicians are involved in generating patient knowledge and what opinions they have according to patients' knowledge, has not been fully achieved. The fact that they do not motivate patients sufficiently to increase the pool of their knowledge but allow them to achieve it with self-motivation does not, on the whole, confirm the second goal. Therefore, it is not possible to confirm that the second hypothesis is accepted that physicians with their opinions about patient knowledge influence patients to expand and use that knowledge better. However, the opinions of physicians regarding this knowledge pool and the role of patients' knowledge in treatment are positive, which also remains debatable and open to new research. It is also possible that physicians, in addition to their overload, do not simply have the time to devote themselves to the motivation of their patients, in spite of their opinion on the need to constantly increase the knowledge base of patients.

10. CONCLUSION

Patient knowledge management can be considered not only a central point in patient relationship management but also in healthcare management. It is not possible to effectively implement the knowledge of contemporary management of health care institutions without neglecting and excluding the knowledge that patients as users of health services possess. People with their health needs as primary human needs are no longer passive, but active participants in improving their health, treatment, and rehabilitation. Healthcare management and all healthcare professionals, not just physicians, should strive to motivate users of their services to constantly expand their knowledge of health and the fund. This should not be left to patients through self-motivation, although self-motivation is also an essential and indispensable factor in acquiring this knowledge. Equally important is the involvement of patients in transferring the acquired knowledge to other people in their environment. These are all important and important activities that have been confirmed in numerous published studies leading to the rationalization of health expenditure, health expenditure and better use of human resources in health care institutions. With greater knowledge, patients are expected to care more about their health and that of their family members, thus reducing the often-unnecessary workload of healthcare professionals and doctor visits. More importantly, through a larger pool of knowledge, the pressures for hospital treatments are becoming less expensive. It is a significant contribution to rationalization in health care if it is known that there are insufficient health workers and that the content of patient self-medication and increasing care for personal health is increasingly given worldwide attention today. By enriching the pool of their knowledge, patients make more effective use of prescribed therapy, most often reducing the cost of additional medications, unnecessary and expensive diagnostic examinations and treatment procedures. Knowledge of patients makes it easier for doctors to diagnose, thereby reducing the hours lost by doctors and other healthcare professionals. The transfer of acquired knowledge to others contributes to the prevention of community health, which is directly reflected in the incidence and health expenditure. Patients with a larger pool of health knowledge are longer in work, less likely to come into disability and early retirement. In this study, important factors of patient knowledge were identified that lead to the positive opinions of family physicians towards this knowledge. Physicians, as the primary generators of patient knowledge, with their positive opinions, can create a completely new and different atmosphere for human health and health consumption, which is extremely important in healthcare institutions in transition countries. The results that came out in this one. the research will need to be deepened in content and larger sample to give more attention to the role of patient knowledge, as well as to other elements of patient relationship management. This would encourage health care providers to motivate patients more and more decisively to continually increase the pool of health knowledge and health care.

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THE IMPORTANCE OF ENTREPRENEURIAL MINDSET FOR GRADUATE EMPLOYABILITY

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Abstract

Increasingly individuals are encouraged to think of themselves as self-employed (even when they are employed by an organization), to assume responsibility for career self-management (rather than relying on the organization for career planning and job security) and to look for ways to maintain and enhance their attractiveness in the labor market. Therefore, graduate employability as a concept has received considerable attention within Higher Education. The purpose of this paper is to analyze the perceptions of senior students, their teachers and employers regarding attributes of an entrepreneurial mindset, which graduates in Croatia need to increase their employability. The empirical research, which included 625 surveys from Croatia, has shown some agreement in perceptions of the three subgroups. The results indicate that problem solving is considered the most important skill for employment. Other typical entrepreneurial attributes such as opportunity recognition, making judgments based on limited information, taking initiative, thinking out of the box, determination to be an independent, strong orientation to achievement, work under pressure, critical thinking and positive attitude towards change are considered moderately important for employment. These results are not surprising as earlier research found that entrepreneurial attributes have become critical for hiring and promoting employees, and entrepreneurial, innovative, creative and adaptable employees are widely considered valuable for any organization. The findings provide valuable insights for university teachers, graduates, and employers and may inform decisions to education, employability, and recruitment of future graduates in Croatia.

Keywords: *(labor market, behavior, problem-solving, hiring and promoting, attributes)*

JEL Classification: E24, J21

1. INTRODUCTION

The expansion of business and management education and the growing interest in these programs among students over the last decades has promoted the Higher education (HE) role in contributing to national competitiveness through the development of graduate 'employability', the lack of which can be seen as a possible inhibitor of the economic performance of a country. Since around the year 2000, increasing focus has been put on improving personal skills as part of the social and employability agenda. The report "Fostering Entrepreneurial Mindsets" (2006) of the EU commission focused on developing personal behaviors as well as innovative capabilities. The development of a workforce capable of responding flexibly to the challenges of innovation, strategic change and renewal was seen as an essential, entrepreneurial form of human capital. Although previous discussions on employability have emphasized the supply side of the labor market (i.e. graduates and employees), the views of employers (i.e. the demand side of the labor market) are extremely important. Furthermore, there are questions over the degree to which HE can adequately prepare graduates for jobs. Employer lobby groups in Croatia have often voiced criticism of the graduate 'work-readiness', their business awareness, and employability skills required for graduate-entry level employees.

Potential employees are required to gather a wide range of transferable competencies beyond the knowledge of their subject area of study. Therefore, previous research has often discussed that HE programs have to be based on learning outcomes which should be defined in terms of competencies that will, in conditions of complexity and uncertainty, assist students in their employment, in making changes to the environment and in taking advantage of opportunities. Efforts to increase the employability of students should be an important component of HE. Although they cannot guarantee outcomes, Higher education institutions (HEIs) can increase the chances of certain outcomes occurring and contribute to the employability of their students. Although the employability agenda has been researched in-depth internationally, in the Croatian context such research is lacking, especially one that focuses on the role of an entrepreneurial mindset in employability. Furthermore, employer perceptions are well documented but there is considerably less research of other stakeholder perceptions, in particular university teachers and senior students.

This paper examines senior students', university teachers' and employers' views on whether graduates in Croatia need an entrepreneurial mindset in graduate-entry level jobs. It is based on the notion that an entrepreneurial mindset could be a valuable asset in a constantly changing world of work. The first part of the paper reviews current literature on employability skills and entrepreneurial mindset. After that, research methodology is presented, followed by research results and discussion. In the end, recommendations are put forward.

2. GRADUATE EMPLOYABILITY IN HIGHER EDUCATION

Previously, authors have defined employability as a capacity of getting and keeping fulfilling jobs, (Hillage and Pollard, 1998), as a set of achievements, skills, understanding and personal attributes that make graduates more likely to gain employment. (Yorke, 2006), or as a set of attributes, skills, and knowledge that all labor market participants should possess. (CBI 2009). However, employability is not just about getting a job or developing attributes, techniques or experience to enable a graduate to get a job or to progress within a career. Harvey (2003) states that it is about learning, whereby he puts less emphasis on 'employ' and more on 'ability'. In essence, the emphasis is on developing critical, reflective abilities, intending to empower and enhance the students. Furthermore, employability skills are conceptualized as those transferable skills that are expected to be developed during, HE and are broadly applicable in the workplace, i.e. they are easily transferable from HE into employment (Wilton, 2008). Because of greater employer involvement in HE curriculum development (as advocated in numerous reports), the inclusion of explicit employability skills training in HE is increasing. Nevertheless, according to several authors (Starkey and Madan, 2001) HEIs need to engage more greatly with employers to determine employability strategies and practices to aid the transition of graduates from HE to employment. Mason et al. (2009) suggest that current strategies to incorporate employability skills development in HE programs rest on three assumptions: that there is a consensus about which employability skills should be developed; that employability skills can be effectively developed in HE; and, that once developed, employability skills can readily be transferred into employment.

While HE promotes and supports the development of individuals who can contribute more readily to the ' Big Society, the argument for HE employability training is far from simple and direct, and the questions are raised whether it is HEI's role to provide such training and if HEIs are capable of producing work-ready graduates (Grugulis, 2003). Alongside some acknowledgment of the limits of HE in preparing graduates for the workplace, there are also concerns whether HE provides a foundation for subsequent skills development. At the same time, HEIs are under increasing pressure from the government, employers, and students to prepare more graduates with employability skills that can be utilized productively (Naidoo and Jamieson, 2004). As a result, substantial resources have been invested at universities in efforts to develop students' employability skills, either by 'embedding' skills within existing courses or by offering students 'parallel' or 'stand-alone' courses (Mason et al., 2003).

Wilton (2008) assures that there is a mismatch between skills developed and used among graduates working in managerial occupations and several business and management graduates reported that their degree provided limited preparation for entering the labor market. The situation in other fields of study is very similar. This suggests that business programs do not contribute as significantly as they could to ensure graduates' immediate effectiveness in employment. The data from that survey suggest that graduates who intend to pursue managerial careers are not necessarily best served by programs of study that place as much emphasis on the development of academic skills, such as research and written communication, as skills that are more useful in the workplace, such as spoken communication and management skills.

Employers' criticism of the quality of the graduates, and the demand for pre-employment training on behalf of employers are often rejected by educators as unrealistic, and employers are often accused of wanting to pass on the costs of initial employee training to HEIs.

3. SIGNIFICANCE OF ATTRIBUTES OF ENTREPRENEURIAL MINDSET FOR EMPLOYABILITY

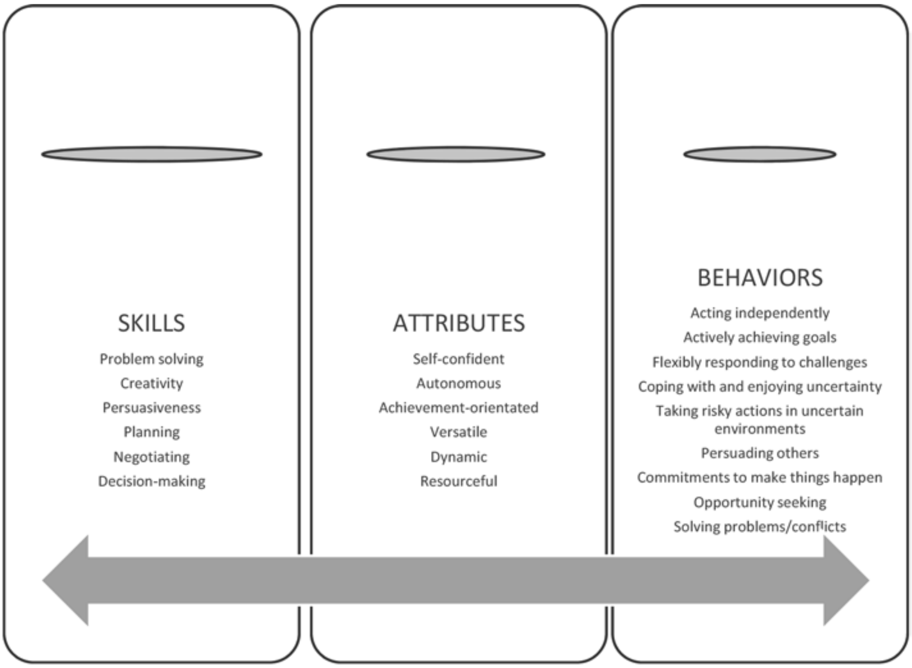
Based on the definitions of entrepreneurship and entrepreneurs (Bygrave and Hofer, 1991; Herron and Robinson, 1993), it can be concluded that entrepreneurial behavior consists of the actions and reactions of an individual that respond to external and internal incentives. They are needed to create and discover opportunities, to make changes, and to build organizations that aim to create added value by taking advantage of opportunities and cope with greater levels of uncertainty and complexity. If entrepreneurship as understood as a way of thinking and doing, seven elements: personality (demographic factors and personal characteristics), attitudes and beliefs, intentions, environment, education, and competencies distinguish entrepreneurial behavior. Other authors (Misra and Kumar, 2000; Ajzen, 1991; Krueger, 2003; Barbosa et.al., 2006; Boyd and Vozikis, 1994; Shapero, 1982) have identified and documented the role of attitudes, intentions, and environments for entrepreneurship. However, earlier models of entrepreneurial behavior did not recognize the key role of education and competencies in the development of entrepreneurial behavior, although some studies (Gorman et al., 1997; Gibb, 2002) showed a positive correlation between education and the development of entrepreneurial behavior. Entrepreneurial behavior is not only the result of personality traits, the environment or situation but also the result of entrepreneurial competencies that can be taught and learned (Sarasvathy et al., 2008).

The entrepreneurial mindset of employees helps organizations innovate and succeed (Crayford et al., 2012). Therefore, the objectives of HE should include the development of entrepreneurial competence, as one of the outcomes. Competence influences the sense of performance, the perception of risk, as well as the activities that an individual will undertake. For this reason, university teachers should focus their efforts not only on the acquisition of competencies but also on increasing students' self-efficacy. This will increase students' willingness to act entrepreneurially and thus their employability. Also, persons who possess entrepreneurial competence process, store, retrieve and use information from the environment better than persons who lack that competence and are therefore more prone to engage in entrepreneurial behavior.

Several qualities are characteristic for the entrepreneurial mindset: capitalization of uncertainty, creation of simplicity where others see complexity, learning from taking calculated risks, quick response to fleeting opportunities (McGrath and McMillan, 2000). Additionally, people who are enriched with an entrepreneurial mindset seek and pursue the very best new opportunities with enormous energy, focus on execution and engage and inspire other people, and all of these behaviors can considerably benefit any organization. In various surveys, employers have been recorded talking about the sort of person they want for example, proactive, self-starter, confident, enthusiastic and so on (these are all characteristics for entrepreneurial mindset). According to Taatila (2010), key attributes of an entrepreneurial mindset include perseverance, trust, determination, risk management, a positive attitude towards change, tolerance of uncertainties, initiative, the need to achieve, understanding of timeframes, creativity, and understanding of a big picture.

Gibb's model of entrepreneurial mindset distinguishes between enterprising behaviors, skills, and attributes (Figure 1).

Figure 1. Behaviors, skills and attributes of enterprising people



Source: Gibb (1993, p.14)

A recent shift in the labor market from employment security to 'employability security' (Kanter, 1995; Opengart and Short, 2002) implies that employees must constantly adapt to rapidly changing work environments and requirements, including emerging technologies (Butterwick and Benjamin, 2006) and suggests a fundamental change in what employees expect from their employers. Furthermore, employability involves far more than possession of transferable skills listed by graduate employers as attractive. Rather, for optimal economic and social outcomes, graduates must be able to proactively navigate the world of work and self-manage the career-building process (Bridgstock, 2009).

Claims have been made earlier that transferable skills development is an inadequate answer to the question of graduate employability and there have been calls elsewhere (Hartshorn and Sear, 2005) that students will be employable within a competitive economy only if they develop and possess entrepreneurial skills and competencies. There is an emerging body of evidence (see for example Pavis et al., 2000; Allen and De Weert, 2007; Pitan and Adedeji, 2012) that entrepreneurial mindset provides better opportunities in the labor market for the unemployed, school leavers and graduates. Several authors (Gibb, 1993; Curran and Blackburn, 2001; Rae, 2007) have observed that the possession of entrepreneurial skills positively influences self-employment opportunities of individuals.

4. METHODOLOGY

This paper is based on a research in which the perspectives of three distinct groups of shareholders in HE on attributes of entrepreneurial mindset that increase graduate employability were studied: educators who design and teach the courses at the University of Josip Juraj Strossmayer University in Osijek, senior students of the University and employers from companies of all sizes from Croatia. A triangular design approach (Senge, 2000) permitted studying the problem from multiple points of view, providing a more useful way of addressing the issue. This approach allows us to contrast three respondent groups and to determine whether any critical gaps exist in perspectives. The main objective of the empirical research was to determine what attributes of entrepreneurial mindset senior students, university teachers, and employers in Croatia think employees in the entry-level jobs need.

The questionnaire, which was disseminated electronically, employed open and closed questions, as well as seven-point Likert scales as answers. Participation was voluntary and anonymous. Data was collected using a self-administered questionnaire. Three surveys (one for each category of respondents: senior students, university teachers, and employers) included 11, 12, and 22 demographic/background questions, respectively, and measured fifteen attributes of entrepreneurial behavior (Table 1) which have been selected for inclusion based on their occurrence in other surveys. The employment questionnaire produced 625 responses, gathered from 419 senior students, 72 university teachers, and 134 employers. Concerning demographics, 61.1% of the students were female; the majority (54.7%) studied at the Faculty of economics and 88.3% were full-time students. This is so because the Faculty of economics is the biggest faculty of the university, and a majority of students at the University are female, full-time students. On average, their GPA was 3.54. Similar to students, the majority of teachers were from the Faculty of Economics (38.9%) but other faculties of the university were represented, too. The responses were equally distributed between male and female teachers and they had on average 14 years of teaching experience. About 20% were teaching assistants, 36% were assistant professors and 26% were full professors. More or less, this reflects the situation at the University. Of the companies surveyed, 34% were micro-companies, 36% small, 13% came from medium companies, and 17% were large organizations. Hence, the research captures the views of employers from both large and small companies. A high number of micro and small companies participating in the research highlight the importance of recruitment to these businesses. Although the sample is not representative of all enterprises employing graduates in Croatia, it does cover a wide range of branches of economic activity and different sizes (by several employees) of enterprises. It, therefore, provides useful information that can be used for taking action to improve graduate employability in Croatia.

One-way between groups ANOVA was used as the main procedure in the analysis. Independent-samples t-test was used for the comparison of perceptions between groups of shareholders in HE. In analyzing data, descriptive statistics and hypotheses testing are presented.

5. RESULTS AND DISCUSSION

Existing literature shows that a relationship exists between entrepreneurialism and employability. For example, proactivity and achievement motivation have been found to influence the likelihood of graduates being employed. Drawing upon the Lumpkin and Dess (1996) notion of organizational entrepreneurial orientation (which includes: autonomy, innovativeness, risk-taking, proactiveness and competing intensively), the hypothesis could be made that employers would be interested in entrepreneurial graduates who would add value to their organization, and that entrepreneurial graduates would more effortlessly gain employment. The second hypothesis is put forward that university teachers acknowledge the importance of attributes of an entrepreneurial mindset in senior students. Additionally, the third hypothesis is made that senior students are aware that the entrepreneurial mindset is important for increasing their employability. Finally, the research aims to test the assumption that employers, senior students, and university teachers have similar perceptions of attributes of an entrepreneurial mindset and their importance for employability.

Tables 1, 2 and 3 summarize the median and mean scores assigned to each of the attributes of entrepreneurial mindset by the respondent's subgroups (senior students, university teachers, and employers respectively), in ascending order by the mean score.

Table 1. The relative importance of attributes of an entrepreneurial mindset for senior students

The attribute of an entrepreneurial mindset – senior students	Mean	Median	Std. Deviation
Problem-solving skills	6.23	7.00	1.008
Positive attitude to change	6.05	6.00	.961
Desire for achievement	5.99	6.00	1.155
Thinking outside the box and innovativeness	5.96	6.00	1.239
Teamwork	5.95	6.00	1.137
Negotiation skills	5.89	6.00	1.048
Enthusiasm and motivation	5.86	6.00	1.119
Opportunity recognition	5.74	6.00	1.209
Persuasion	5.70	6.00	1.159
Independence	5.66	6.00	1.141
Making judgments based on limited information	5.64	6.00	1.135
Taking initiative	5.52	6.00	1.079
Work under pressure	5.47	6.00	1.409
Strong orientation to achievement	5.31	5.00	1.138
Critical thinking	5.25	5.00	1.261

Source: (author)

Table 2. The relative importance of attributes of an entrepreneurial mindset for <u>university teachers</u>

The attribute of an entrepreneurial mindset – university teachers	Mean	Median	Std. Deviation
Problem solving skills	6.17	6.00	.949
Enthusiasm and motivation	5.85	6.00	1.070
Thinking outside the box and innovativeness	5.76	6.00	1.169
Positive attitude to change	5.75	6.00	1.168
Critical thinking	5.72	6.00	1.165
Desire for achievement	5.71	6.00	1.144
Negotiation skills	5.67	6.00	1.138
Teamwork	5.65	6.00	1.258
Making judgments based on limited information	5.63	6.00	1.156
Opportunity recognition	5.61	6.00	1.120
Taking initiative	5.47	6.00	1.138
Persuasion	5.35	5.50	1.258
Work under pressure	5.32	6.00	1.519
Independence	5.18	5.00	1.334
Strong orientation to achievement	5.13	5.50	1.463

Source: (author)

Table 3. The relative importance of attributes of an entrepreneurial mindset for <u>employers</u>

The attribute of an entrepreneurial mindset - employers	Mean	Median	Std. Deviation
Problem-solving skills	6.28	7.00	1.007
Enthusiasm and motivation	6.26	7.00	1.012
Teamwork	6.10	6.00	.976
Desire for achievement	5.98	6.00	1.083
Thinking outside the box and innovativeness	5.95	6.00	1.043
Positive attitude to change	5.93	6.00	1.016
Opportunity recognition	5.70	6.00	1.304
Taking initiative	5.67	6.00	1.146
Independence	5.66	6.00	1.104
Negotiation skills	5.58	6.00	1.322
Work under pressure	5.58	6.00	1.214
Making judgments based on limited information	5.46	6.00	1.347
Critical thinking	5.37	6.00	1.242
Persuasion	5.34	6.00	1.205
Strong orientation to achievement	5.30	5.00	1.190

Source: (author)

Results indicate agreement in perceptions of the three subgroups. For senior students, university teachers and employers, ratings of the importance of entrepreneurial mindset generated a mean of 5.75, 5.59 and 5.74 respectively. This signals that they rate attributes of entrepreneurial mindset moderately important for employability, and partially prove Hypothesis 1, that employers are interested in hiring entrepreneurial graduates who more effortlessly gain employment. Also, Hypothesis 2 that university teachers acknowledge the importance of attributes of an entrepreneurial mindset in senior students, and Hypothesis 3, that senior students are aware that entrepreneurial mindset is important for increasing their employability are supported to some extent. The three subgroups agree that problem-solving skill is the most important entrepreneurial skill for employability. All respondent groups rate desire for achievement and thinking out of the box/innovativeness among the most important attributes of entrepreneurial mindset for employability, but slight differences in the ranking have been detected. This is encouraging because three shareholder groups must share the opinion on what attributes of entrepreneurial behavior are crucial for employment. Consequently, the results confirm Hypothesis 4 that employers, senior students, and university teachers have similar perceptions of attributes of an entrepreneurial mindset and their importance for employability.

The findings also show that senior students, university teachers, and employers' value other attributes of an entrepreneurial mindset, i.e. making a judgment based on limited information, opportunity recognition, a strong orientation to achievement, taking initiative and work under pressure moderately important for employability. No significant difference has been found regarding the variations in perceptions of the above-mentioned attributes, which indicates that respondents share similar views on that. Moderate importance given to attributes of entrepreneurial mindset for employability in this sample is surprising because literature (Audibert and Jones, 2002) asserts that entrepreneurial attributes have become critical for hiring and promoting employees, and entrepreneurial, innovative, creative and adaptable employees are widely considered valuable for any organization. The results are disturbing also because the EU Parliament (2006) recognizes entrepreneurship as one of the key competences for life-long learning.

Variations in perceptions have been observed, too. Statistically significant differences have been observed in the following variables: students consider negotiation skills more important than employers do ($F_{2, 622} = 4.531$, $p < 0,05$). The reason for this might be the fact that employers do not expect employees at the entry-level to engage in business negotiation situations daily. Students also rate teamwork ($F_{2, 621}$ = 3.659, p < 0,05) and positive attitude towards change ($F_{2, 621}$ = 3.280, p < 0,05) significantly higher in importance than university teachers. In addition, senior students regard persuasion more important than other two sub-groups do ($F_{2, 621}$ = 6.406, p < 0,05). This indicates that teachers and employers think that persuasiveness in employees at the entry-level is disadvantageous. On the other hand, university teachers estimate critical thinking more relevant for employment than students do ($F_{2, 621}$ = 4.405, p < 0,05). Also, enthusiasm and motivation are attributes far more appreciated among employers than among senior students ($F_{2, 617}$ = 6.995, p < 0,05). Mean for students is 5.86 and for employers 6.26. This is probably the most important difference in perceptions of senior students and teachers because the prerequisite for meeting employers' expected standards is the awareness. Finally, university teachers experience independence significantly less important for employability than employers or students do ($F_{2, 621}$ = 5.351, p < 0,05). This is interesting because employers have shown that they expect new employees to work independently, but university teachers who are not aware of the importance of this attribute, are very unlikely to employ teaching methods that will foster the development of independence in students.

In most attributes of an entrepreneurial mindset (in 11 of total 15) statistically, significant differences have been found between male and female students, whereby female students gave a significantly higher mean rating to attributes than their male counterparts (Table 4). These results align with Jackson (2013).

Table 4. Comparison of perceptions of students based on their sex

	t	df	sig.	Mean		St Dev	
				Male	Female	Male	Female
Teamwork	-4.052	252.489	.000	5.64	6.14	1.334	.956
Persuasion	-5.572	266.751	.000	5.28	5.95	1.293	.999
Critical thinking	-2.541	409	.011	5.06	5.38	1.378	1.176
Negotiation skills	-5.152	270.773	.000	5.54	6.11	1.166	.918
Opportunity recognition	-1.979	378	.048	5.59	5.84	1.285	1.163
Enthusiasm and motivation	-3.670	289.382	.000	5.59	6.02	1.210	1.042
Desire for achievement	-2.374	400	.018	5.81	6.09	1.246	1.093
Taking initiative	-2.815	410	.005	5.33	5.64	1.086	1.068
Strong orientation to achievement	-3.288	408	.001	5.08	5.45	1.137	1.121
Independence	-3.073	410	.002	5.44	5.79	1.192	1.093
Positive attitude to change	-3.405	293.010	.001	5.85	6.19	1.036	.901

Source: (author)

Regarding the course of studies, the t-test results have shown significant differences in persuasion, negotiation skills and strong orientation to achievement.

Table 5. Comparison of perceptions of students based on their course of studies

	t	df	sig.	Mean		St Dev	
				Business	Non-business	Business	Non-business
persuasion	3.328	412	.001	5.86	5.49	1.213	1.069
negotiation skills	2.298	412	.022	6.00	5.76	1.060	1.031
strong orientation to achievement	2.290	412	.037	5.42	5.18	1.127	1.141

Source: (author)

As in Table 5, students who study at the Faculty of economics have rated the three above-mentioned attributes higher in importance for employability than students from other faculties of the university. On the other hand, no significant differences have been found regarding the faculty where university teachers work. But, similar to female students, the t-test results show that female university teachers attach higher value persuasion, negotiation, problem-solving and opportunity recognition than their male colleagues (Table 6).

Table 6. Comparison of perceptions of teachers based on their sex

	t	df	sig.	Mean		St Dev	
				Male	Female	Male	Female
persuasion	-2.875	67	.005	4.95	5.78	1.298	1.124
negotiation skills	-2.752	67	.008	5.27	6.00	1.206	.986
Problem solving skills	-2.726	67	.008	5.85	6.44	1.064	.735
	-2.057	67	.044	5.36	5.89	.929	1.166

Source: (author)

Except for problem-solving skills, mean ratings (for values 1-7) are average for all attributes of an entrepreneurial mindset in all subgroups which can lead to a conclusion that senior students, university teachers, and employers place a moderate significance to attributes of entrepreneurial mindset for employability. These results explain the partial commitment to the entrepreneurial mindset agenda in HE by senior students, university teachers and employers. Also, the awareness of (moderate) importance of entrepreneurial mindset for employability among students, university teachers, and employers in this study is reassuring but the questions about graduates' skill gap continue to exist.

One might expect that the skills most valued by students (in this research: problem-solving skills, a positive attitude to change, desire for achievement and thinking out of the box/ innovativeness) would be the areas in which they put most of their efforts and perform the best, yet there is evidence that suggests the opposite.

Senior students, university teachers, and employers seem to agree in assigning the lowest importance to strong orientation to achievement (mean values are 5.31, 5.12 and 5.30, respectively). Besides, senior students and employers ranked critical thinking rather low in importance and employers and teachers agree regarding the low importance of persuasion for employability. These results are somewhat surprising.

Regarding other factors that are believed to increase employability, employers and students give little importance to grade point average (GPA) during studies, as well as to subject knowledge, whereas teachers provide much higher values for these. The fact that as many as 98% of employers would rather employ a candidate with poorer GPA if he /she had good communication skills, intelligence, discipline, the desire for achievement and work ethics, is in line with this. The results of this study complement previous research, which established that for performance in an employment environment, application of knowledge, non-technical skills, and certain personal attributes are more important than subject knowledge. Practical experience is not assigned a high value either. Employers value the application of knowledge and learning skills.

6. CONCLUSION

In this paper, an attempt has been made to reinforce the notion that attributes of entrepreneurial mindset should be considered among the employability skills set, as a demonstration of attributes such as problem-solving, enthusiasm and motivation, teamwork, desire for achievement, thinking out of the box/innovativeness and positive attitude towards change might help graduates find and retain a job, and move between jobs.

This study highlights the growing need that faculties put emphasis upon the development of attributes of an entrepreneurial mindset, as well as monitor the effects of teaching at HEI in increasing the employability of graduates. Education and labor market are closely interconnected because, from the systems perspective, the output of higher education presents the intake of the employment environment. While students have expectations that their university education will prepare them for their future career, they should recognize the need to develop strong curriculum vitae, based on a blend of subject knowledge, skills, and attributes of an entrepreneurial mindset. On the other hand, HEIs need to ensure that their graduates possess skills that employers expect them to have. Employability skills are desired to be taught during degree programs and therefore curriculum change is needed. Where, to what extent and how they are to be included in the curriculum is beyond the scope of this study. It is true, though, that they are quite rare in course descriptions. It is also unrealistic to expect HEI to provide graduates with a developed entrepreneurial mindset because its attributes are not specific to a business or academic field. To develop skills that employer's value highly, students need practical work training through internships, and to assist their students in that and build their competitiveness, universities should develop strong partnerships with employers. Students should additionally be encouraged to participate in tasks in HE that can improve their employability skills by encouraging proactivity and participation in extra-curricular activities. Senior students should take care of their skills levels and employers' priorities well in advance (during senior years of studying) to develop them in time, i.e. before looking for the job.

Concerning the limitations of this research, combining quantitative methodology with a qualitative exploration of which employability skills are important for graduate employability could enrich this study. Further research is suggested into how entrepreneurial skills teaching is embedded into curricula in HE in Croatia, and with what outcomes.

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MEASURING THE EFFECTIVENESS OF TRAINING

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Abstract

Employee training management is an under-researched area in human resources management. Ineffective training not only has a bad financial side and often leads to frustration and stress of employees, declining job interest, creating negative employee attitudes towards acquiring new knowledge, etc. The research focuses on identifying elements that affect the effectiveness of knowledge acquisition by training trainees. It was conducted on a quota sample of 130 respondents from several medium-sized organizations from different industries in the three counties of north-western Croatia. The questionnaire as a measuring instrument included seven measurement scales: trainee self-awareness (1), trainee's ability to monitor training content (2), the effectiveness of training content acceptance (3), trainee orientation when adopting content (4), personal self-valorization of trainees (5), motivation to adopt training content (6), evaluation of the chosen strategy for training content adoption (7). These are five-level Likert scales taken from the field of pedagogy and adapted for training management needs in organizations. Multiple regression analysis methods were applied. Trainees 'ability to monitor training content was the primary factor participating with 36%. This was followed by the orientation of the participants in content adoption (22%). The motivation for adopting training content was only ranked third with (14%). The personal self-valorization of students was the lowest-ranked at 2%. These results indicate to managers that when planning training, they should include these individual elements of potential trainees, as this will optimize the relationship between investment and expected effects from training.

Keywords: *employees. training. effectiveness*

JEL Classification: O15

1. INTRODUCTION

Employee knowledge management is one of the key levers in human resource management. Employee training represents one of the most common forms of acquiring this knowledge. Managers have spent most of their resources, energy, and time on various content aspects of training implementation, as well as employees' motivation to participate in training. Very little and almost negligible attention was paid to activities involving considering a range of individual employee characteristics as potential trainees (Petridou & Spathis, 2001: 187). Employees differ in several traits: character, temperament, intelligence, attitudes, perceptual abilities, empathetic values, etc. All this affects their objective ability and willingness to engage in training and significantly determines the effectiveness of understanding, accepting, and retaining the content of the training.

An interdisciplinary approach needs to be implemented to improve the existing state of the art of knowledge management through training. This research points to the value of the lessons learned from pedagogy, which is very valuable and can be applied effectively in creating training programs and monitoring their effectiveness.

The paper does not include considerations of different approaches to training effectiveness and what this efficiency entails. It starts from already accepted points of view and seeks to highlight the individual factors that determine the effectiveness of training. There are indeed many factors and it is not realistic to see them all in this study because of the limited time and space. Factors pointed out by several authors in their earlier studies will be listed as highly ranked.

This research aims to determine the effectiveness of the seven briefly exposed individual factors involved in creating training effectiveness. Efficiency is not positioned here through actual, measured, and determined quantitative and qualitative shifts in the work performance and organizational behavior of the training participants resulting from it. Effectiveness focuses on accepting, remembering (memorizing), and acquiring knowledge from training and through the verbalized willingness of participants to use that knowledge in their work to the best of their ability. Whether or not this knowledge applies depends not only on the employees as participants in the training but also on the range of organizational performance that is not the subject of this research.

2. TRAINING EFFICIENCY

Many of the most successful organizations today realize that their employees are the largest capital. Investing in human capital in various forms of knowledge and skills has been found to produce the highest returns and ensure stable long-term growth. Training is a form of acquiring knowledge, skills, and competences. Traditional training in which manager roles have been reduced to identifying training organization needs, planning training, selecting trainees, and selecting coaches are a thing of the past. Organizations are increasingly recognizing that these traditional approaches to training do not deliver the expected performance. There is more and more research being done in different segments where one is trying to find a new formula for greater efficiency than training. Training can be quite expensive, but the most expensive time is lost, which brings disappointment and trainees and managers.

The vast majority of both managers and researchers today agree that classical management activities and performance training have secondary and tertiary significance and that the primary place is placed on people - the trainees. The motivations given to them by the organizations and the quality of the implementation programs and training content are no guarantee that the training will bring the expected benefits to the organization. Activities and attention should be paid to the trainees' performance, the quantity and quality of their psychological capital. Managers need to modernize the human resource management function from which a completely new approach to knowledge management will emerge. In this new approach, the efficiency of training should be expected to increase.

3. INDIVIDUAL TRAINING EFFICIENCY FACTORS

In the last decade, there has been an increasing number of published papers indicating that among the critical factors of training effectiveness, various individual factors of training trainees are increasingly participating. Until recently, this effectiveness was thought to depend on the mentors, coaches, and the quality of the material used in the training. Among the individual factors that determine the effectiveness of training should include:

1. self-awareness of students,
2. the ability of the trainees to monitor the content of the training,

3. the effectiveness of accepting the training content,
4. the orientation of the trainees in adopting the training content,
5. employee's self-evaluation of training,
6. the motivation of the trainees to adopt the training content,
7. evaluation of the chosen strategy for adopting the training content.

Given that the categories presented have an extraordinary breadth in terms, and even more meaning and content, they really cannot be broadly explained. Therefore, the shortest possible indications will indicate the meaning and meaning of the same in employee training so that they can be understood in the research conducted and the research results.

3.1. Self-awareness of the trainees

Self-awareness is one of the key factors in understanding the internal energy of the training participants. She participates in his overall behavior and responds to the various situations he encounters during training. It involves the processes of self-actualization and self-realization about how the knowledge and skills acquired through training can be incorporated into a job that the employee performs better. Hardening as we become self-aware of our emotions, strengths, and weaknesses, we can begin to think about how to manage and apply them to help us achieve our goals (Zeidner et al., 2004: 385).

It is well known that people who focus mainly on themselves and lack empathetic preferences and values, do not have enough self-awareness. The egoistic orientation of the individual impedes the processes of self-actualization and self-realization and the strengthening of self-awareness. Self-aware trainees understand that they constantly need new knowledge to increase their organizational contribution. This self-awareness is expressed in self-esteem, but also in respecting others in their work environment as equally capable and valuable. Thus, self-awareness does not participate in the creation of a knowledge pool for employees, but also for the transfer of acquired knowledge to other employees. High self-awareness allows people to know their strengths and weaknesses, values , and motives. To know exactly their moods, feelings and understand how their moods affect others. They are always open to the feedback of others and can make healthy decisions despite the daily uncertainty and pressures (Cummings & Worley, 2007: 271).

3.2. Trainee's ability to monitor training content

Attendees may physically attend some of the training that managers are instructing them to do, but their attention and focus on the content being exposed may be lacking. I can watch, not see, and listen, and not hear the presentation. They can, furthermore, hear, and see it in a completely different way from what their managers and coaches wanted. The ability of trainees to monitor training content is above all a highly selective perception process (Aguinis & Kraiger, 2009: 467). It is influenced not only by the individual and actual needs of the trainees and motivational incentives but also by several known and unknown factors that need to be known before decisions are made to instruct trainees. Several authors point to the need to emphasize the perception of the usefulness of training and its research, on which the extent to which the trainees will be able to monitor the content of the training depends (Burke & Hutchins, 2007: 268).

The ability for employees to understand, and thus monitor, the content of the training depends on the heterogeneity of the group, the learning experience, intelligence, the need for learning, the actuality of the subject being exposed, etc. (Tharenou, 2010: 163).

3.3. Effectiveness of accepting training content

If trainees perceive the usefulness of monitoring the content of the training as expected by their managers, this is still not a guarantee that they will accept the content of the training at the same time. They can see the benefits that training provides them, but during that training, they can interpret its content as not attractive, appropriate, not well designed, poorly executed, etc.

Acceptance of the training content also depends on the learning styles of the trainees adopted. These styles are mostly individual, which then requires extra effort on the part of the trainer. Some authors especially emphasize the importance of learning style in the acceptance of training content and indicate that in management activities of human resources management should intensively work on adopting organizational models and learning styles. This will reduce the possible risks in accepting training content and implementing it more effectively in work (Tharenou, 2010)

In assessing the effectiveness of the training content acceptance, it is necessary to consider the reactions of the trainees to the training programs and to identify possible discrepancies between their expectations and experiences with the proposed program. It is important in this assessment to understand the students' opinions on how they evaluate and relate the related training program with their time, effort, and energy spent (Dessler, 2008: 83).

3.4. The orientation of trainees in the acquisition of training content

When learning the content of the training, it is necessary to know the orientation of the students. The results of previous research confirmed that the effectiveness of training content adoption is highly correlated with certain employee dimensions that come from characteristics of their personality such as conscientiousness, extroversion, self-control, sympathetic empathetic orientation (Burke & Hutchins, 2007: 285).

This orientation also has additional meaning and value. It determines the willingness to transfer the acquired knowledge during training to other employees - team members. It has been observed that introverted training participants who do not possess empathetic preferences, abilities, and values are not inclined to transfer the acquired knowledge to their co-workers and team members (Tharenou, 2010: 156).

3.5. Personal self-evaluation of training

Self-evaluation by the trainees is considered to be one of the best and most reliable methods for engaging employees in training, participating in training, adopting training content, and generally assessing the realization of an employee's career plan. There are no longitudinal studies on the self-evaluation of training participants so far, or they are still in hints. One of the few studies in this field points to the unquestionable predictive value of training self-evaluation, and it has been argued that the results obtained can be very useful to managers in making decisions when engaging trainees for future training (Obach, 2003: 327).

The emphasis on self-evaluation should be on the formative use of one's learning or achievement based on a nomothetic or group comparison. This comparison rests on an ipsative or idiographic approach. It implies that the trainees are compared with several potential achievements themselves (Klein & Buckingham, 2002: 56).

3.6. Motivation to adopt training content

The motivation of the trainees as a factor of the effectiveness of the training is also significant in all stages: planning and preparation of training, implementation of training, application of post-training knowledge and transfer of acquired knowledge to other employees.

Contrary to the most commonly held opinions and the notion that material motivators influence the greater motivation of employees to adopt training content, various internal, psychological motives are increasingly being pointed out. Pride as a positive trait within a workgroup or, in turn, avoiding feelings of guilt or less value in a workgroup that is strengthened through the acquired knowledge in training, have proven to be good motives for adopting training content (Ryan & Deci 2000: 73). The relative position of the employee in the continuity of his / her self-determination through the satisfaction of his / her basic psychological needs such as competencies, autonomy in work, advancement in the organization, etc. has been confirmed to be excellent incentives in acquiring knowledge in training (Ryan, 1995: 416).

3.7. Evaluation of the chosen strategy for adopting training content

Although evaluations of the chosen training strategy are made by managers in terms of organizational performance, it should be emphasized that the trainees also often self-evaluate the applied strategy of adopting the training content. There are several strategies by which training participants adopt their contents. Most commonly mentioned (Cohen & Chi, 2004: 18):

1. active strategy - involves the active approach of the training participants,
2. experimental strategy - a methodical and yet flexible approach,
3. empathetic strategy - tolerant and focused on empathy with other participants,
4. formal strategy - access to training without a visible goal of participation,

5. implementation strategy - readiness to participate only if you can see the application of training content in the work,
6. monitoring strategy - Critical Sensitivity to Content. methods and presentation of training content,
7. internalization strategy - seeking broader meaning and opportunities to apply training content beyond the content of an existing job.

The effectiveness of the training thus depends on the degree of identification of the training content with the strategy chosen by the trainee to adopt the content. The higher the degree of identification, the more likely it is that training will be more effective and vice versa.

4. OBJECTIVES OF THE RESEARCH

Two research goals are set out to determine:

1. What is the impact of the selected individual factors of the trainees on the perception of the effectiveness of the training?
2. Are there differences in rank, intensity, and significance among the individual factors investigated?

5. HYPOTHESES

Following the set goals, the following two hypotheses are defined:

H_1 - Individual trainee factors influence the perception of training effectiveness.

H_2 - The individual factors of the trainees do not have the same rank and significance to the perception of the effectiveness of the training.

6. METHODOLOGY

6.1. Research design

The primary source of research data was a questionnaire designed for the content of this research. The secondary source is from textbooks and published scientific papers in journals and on the following databases: Internet, Ovid, Proquest, Wiley, Emerald, PsycNet, CAPE, and Scielo. The emphasis on the use of secondary sources has been on those generated in the last ten years. The questioning was through a structured questionnaire directly. It was done in the third quarter of 2019 and was completely anonymous. To protect participants from risk, the survey did not record the names of the participants and the names of the companies in which they worked. Verbal consent was obtained from each respondent before the start of the interview. All participants were provided with information on the research objectives. The survey was conducted outside the premises of the survey participants.

6.2. Area and population of research

Several medium-sized organizations (employing between 20 and 100 workers) from various activities in the three counties of northwestern Croatia were included in the survey. A total of 1,070 workers were involved. Among the respondents were 68.40% men and 31.60% women. The respondents were heterogeneous in terms of work experience, level of education, and age. Most of them were with secondary school education (72.65%), work experience of ten or more years (81.78%), and life expectancy between 30 and 50 years (69.03%).

6.3. Determination of sample size and structure

A random selection of respondents was used based on the alphabetical lists of full-time employees in the enterprises covered. The survey included 130 respondents, which represented more than 10% of the total number of employees of the surveyed population. It was a quota sample of 130 respondents. The sample size was determined by Yamane's statistical formula and obtained from the formula (Yamane, 1967, 136):

$$n = \frac{N}{(1+N(e)^2}$$

where n is the sample size; N total population; 1 is a constant and "e" is the degree of significance (0.05).

Only those respondents who have participated at least twice in the type of training organized by the company in the last three years of their enterprises are included in the sample.

6.4. Research instrument and its reliability

The research instrument was a questionnaire consisting of three parts. The first was the statistical characteristics of the respondents: gender, age, qualifications, and seniority. In the second part, 21 statements with the levels of agreement of the respondents were presented. This part of the questionnaire was constructed using existing, previously published, research that has emerged and has been used in the field of pedagogy. The concepts from the original instruments are adapted to the terminology and thematic needs of the content of this research. Of the respondents' statistical characteristics, the questionnaire contained: gender. age, total work experience, qualifications. For each of the seven exhibited factors of training effectiveness, they were extracted from the original scales and included three key items according to the personal judgment of the author of this paper, and according to the following downloaded and adapted original instruments:

1. Scales for determining the self-awareness of trainees (Poncheri & Ward, 2008: 87; Bisconti & Bergeman, 1999: 96).
2. Scales for determining trainees' ability to monitor training content (Woolnough, 2000: 58; Graham et al., 2005: 224).
3. Scales for Determining the Effectiveness of Accepting Training Content (Montalvo & Torres, 2004: 17; Postholm, 2011: 368).
4. Scales for orientation of trainees when adopting training content (Bransford et al, 1999: 224).
5. Scales for personal self-evaluation of training (Pintrich, 2004: 391).
6. Scales of motivation to adopt training content (Perry et al., 2006: 244; Winne et al., 2010: 787; Cheng, 2011: 8).
7. Scales for evaluating the chosen strategy for adopting training content (Cheng, 2011: 157).

The entire questionnaire contained 21 items (assertion), that is, three items each of the training effectiveness factors. The items in the scale are designed using a five-point Likert scale model with levels of agreement with the statements: (1) I completely disagree; (2) I disagree; (3) and I agree and disagree; (4) I agree; (5) I totally agree. The third part of the questionnaire was about determining the effect of training through the personal experience of respondents' satisfaction with training. It consisted of five statements with five levels of agreement as in the second part of the questionnaire.

Testing the reliability of the statements in the rankings was confirmed by the Alfa Cronbach method: for the self-awareness of the trainees (0,542), the ability of the trainees to monitor the content (0,615), the efficiency of accepting the content (0,580), the orientation of the trainees in adopting the content (0,803), personal self-evaluation (0,739), motivation content adoption (0.771), evaluation of the content adoption strategy chosen (0.594).

6.5. Research Method

The multiple regression analysis methods were used (Hox & Roberts, 2011: 274). The dependent variable is the personal experience of respondents' satisfaction with the effects of training. Independent variables (seven of them) are trainee self-awareness (1), trainee's ability to monitor training content (2), acceptance of training content (3), trainee orientation (4), personal training self-evaluation (5), content acquisition motivation training (6) and evaluation of the training content strategy (7).

7. LIMITATIONS

In this study, individual factors were used, which in the studies of numerous authors cited in the paper were confirmed as high ranked in the valorization of training effectiveness. However, it would be advisable to include other factors besides the individual, especially those from the trainees' organizations, but also factors related to the performance of the trainers and the training organizations, through layered multiple regression analysis. It would also be good to constantly monitor the effectiveness of training and the factors that influence it to determine the intensity and degree of persistence of these impacts over time.

The examination of some of the employees has been conducted with a considerable lapse of time since the last participation in the training, so the results of the agreement with the individual statements in the questionnaire must be taken with appropriate reserve. Namely, it can be doubted how much the satisfaction or dissatisfaction of the respondents with the effectiveness of the training is the result of their factors, and how much the actual application of the learned knowledge in the training at work and the opportunities that these employees had to use that knowledge and application. However, it is believed that these limitations will not significantly affect the achievement of the objectives set out in the research.

8. RESULTS OF THE RESEARCH

The results are presented in the summary table shown below.

Table 1. Aggregated presentation of results of multiple regression analysis of the influence of individual factors of trainees on perceived satisfaction as analogous training effectiveness

	Independent variables	β	t	p	R^2	F	DW
Dependent variable: effects of training as a reflection of participants 'perceived personal satisfaction	Self-awareness of the trainees	0,11	0,62	>0,05			
	Trainee's ability to monitor training content	0,36	4,80	<0,05	0,42	6,21	1,67
	Acceptance of training content	0,09	-0,48	>0,05			
	Orientation of trainees	0,22	2,64	>0,05			
	Personal self-evaluation of training	0,02	- 0,06	>0,05			
	Motivation to adopt training content	0,14	1,05	<0,05			
	Assessment of training content strategy	0,08	0,22	>0,05			

The results presented in the table indicate that the individual factors of the training participants account for 42% of the variance in training effectiveness. That is, this percentage of the sum of the total squares of deviations was interpreted by the relationship between the individual factors of the training participants and the perceived satisfaction of those participants as an analogy to the effectiveness of the training.

The F value confirms that the coefficient of determination is significant and that, based on this value, we can determine that all regression coefficients are significantly different from zero. Durbin-Watson (DW) value indicates that there is no first-order autocorrelation among the observed variables.

Among the included independent variables in the analysis, trainees' ability to monitor the training content has the most significant place in the perceived satisfaction of the training participants, ie their effectiveness (= 0.36, t = 4.80, p> 0.05) with participation of 36%. Orientation of trainees is the second ranked variable participating with 22% (= 0.22, t = 2.64, p> 0.05). The third rank (14%) among the individual factors in training effectiveness was motivation for adopting training content (= 0.14, t = 1.05, $p < 0.05$). The fourth place (11%) is the self-awareness of the trainees (= 0.11, t = 0.62, $p > 0.05$). Acceptance of training knowledge is in fifth place (= 0.09. T = -0.48, $p > 0.05$). The penultimate place is the evaluation of the training content strategy (= 0.08, t = 0.22, $p > 0.05$). In the last place is personal self-evaluation of training (= 0.02, t = -0.06; $p > 0.05$).

Of the included four statistical characteristics of the respondents, the age, gender, and education of the respondents did not show statistically significant differences, while in the work experience only slightly in the first size class (from 10 to 20 years) are different from those with longer work experience.

9. DISCUSSION

The ability of trainees to monitor the content of the training as a top-ranked factor in the success of training primarily points to the conclusion that a highly selective perception process was not observed in the trainees as trainees. They demonstrated sufficient ability and willingness to follow the training. They experienced training following their expectations and expectations. Contrary to the knowledge of the high selectivity of the perception of the ability to monitor the training content obtained in their Aguinis and Kraiger studies, this study has not been confirmed. Respondents have developed skills to monitor the content of training and have not distorted it in different forms during their experience. It is the responsibility of management to continue to develop this ability because, without it, the training effectiveness would certainly be low. However, it remains doubtful how much this ability alone may be sufficient for an individual variable that can compensate for the low ranked results of some of the other variables included in this research.

Since the trainees have a well-developed ability to monitor the content of the training, their orientation in adopting the training content is in some sense the expected sequence of second-ranked factors. This study did not include the personality traits of the respondents such as conscientiousness, extroversion, self-control, sympathetic empathetic orientation indicated by Burke and Hutchins. However, the significant correlation between the existence of orientation in adopting the training content and the effectiveness of the training may realistically suggest a possible conclusion that the trainees as trainees had these positive personal characteristics. If it were the opposite - introverted, lack of self-control and empathic values would certainly not assign this individual factor a second-ranked place. at training, they transfer to other employees in the organization. This is important information because knowledge transfer is just as valuable as acquiring knowledge in knowledge management in the organization and management of human resources.

The self-motivation of the trainees is, perhaps unexpectedly, the third-ranked individual variable in creating training effectiveness. There are two possible answers. The first is that the respondents did not intensify their identification with the suggested statements, which were a reflection of their self-motivation in the questionnaire. Others - to consider that the external motivation, the one created and realized by the management is sufficient and that personal motivation is of no importance. Managers can deduct from this that they are working more to enhance the continuity of employees' self-determination by meeting their basic psychological needs such as competencies, autonomy in work, advancement in the organization, etc., as confirmed by Ryan's research findings that can be excellent incentives in acquiring knowledge in training.

The self-awareness and self-awareness of the trainees as orientation carriers were identified as the fourth-ranked individual factor in the effectiveness of the training. As the self-awareness reflects the internal energy of the employees, it is understandable that it is in the fourth rank, because the self-motivation of the students was underdeveloped. Self-awareness is like self-motivation, a reflection of the actualization of the psychological needs of employees. If it were the opposite - that is, the self-motivation of the trainees was higher ranked, and self-awareness at odds with it, then one might suspect that the respondents may not have been able to identify and express the result of their self-awareness. Insufficiently developed employee self-awareness should encourage management to undertake appropriate activities primarily in the field of organizational support for employee career management. When employees become aware of their emotions, strengths, and weaknesses, they can be expected to begin to think more intensely about how to manage and apply them to help them achieve their own, and therefore the organizational goals pointed out by Zeidner, Mathews, and Roberts. By developing self-awareness, employees develop self-motivation to acquire new knowledge through training and other forms.

In the fifth place in creating the effects of training is the acceptance of the content that is exhibited at the training. Thanerou pointed out the importance and significance of learning styles in embracing the content of the training the built-in styles in accepting knowledge will reduce the possible risks in more effective implementation of the lessons learned. Since the participation of this individual factor is low ranked in the research, it is expected that the trainees will not even be highly ranked in the implementation of this knowledge in the work, much less in the transfer to other employees. Therefore, more intensive work is needed to build employee learning styles.

Likely, respondents do not have a strategy for adopting training content since they do not even have (previously exposed) models for accepting training content. The effectiveness of the training depends on the degree of identification of the training content with the strategy chosen to adopt that content. Since this has not been confirmed in this research, there may be no major results in the implementation of the adopted content of in-service training.

It can be safely stated that there was no self-evaluation of the trainees. Self-evaluation is considered to be one of the best and most reliable methods when making managerial decisions about which employee to engage in training and participation in training. Some of the answers were provided in the results of their research by Klein and Buckingham, pointing to managers that they should compare trainees with a range of potential achievements they can achieve by acquiring knowledge and applying that knowledge to their work. In reality, the consequences of the lack of self-evaluation of the respondents can be related to the previous statements, which pointed out the possible difficulties associated with the realization of employee career plans and the role of organizations in this realization.

10. GUIDELINES FOR FURTHER RESEARCH

This research opens up some new but also unfinished content that may be worth pursuing in future research. It would be good to try to examine the interrelation of individual factors in the effectiveness of training with the results of applying the knowledge learned as well as transferring that knowledge to other employees in the organization. Likewise, the interrelation of the individual factors of the employees with the factors of the organization and factors of the type and quality of the training itself. In this way, more complex insights into the effectiveness of the training could be gained and more comprehensive decisions made.

It would also be very useful to investigate the extent to which managers in the field of research, and beyond, can proactively take on the roles and content identified as insufficient in this research, and how much they consider it necessary. In any case, it will be necessary to undertake more extensive interdisciplinary research in this segment, in which it will be necessary to involve psychologists and educators and the learning and implementation insights that they have been effectively performing for decades.

11. CONCLUSION

The findings of this study undoubtedly indicate the value and role of multiple individual factors involved in creating training effectiveness in organizations. They indicate that the goals were met and both hypotheses were confirmed. Highly ranked factors not only show managers how to go about strengthening them, but also reflect on how much these factors in themselves can contribute to increasing the effectiveness of training. It is suggested that the ranking and significance of all seven factors need to be considered as a whole, rather than concluding individually. Some of the low-ranking factors, which can be argued to have no relevance or impact on learning effectiveness, in their meaning and content may be a threat in the application of learned knowledge.

Human resources management in the vast majority of today's organizations in Croatia, and this is confirmed by the area and population of this research is at an unsatisfactory level and structure. Most of these organizations do not even have an organized human resource management function, and only a small part has it formally. The content that management deals with that management approaches very little or superficially the assessment of efficiency and acquisition of knowledge, as well as the application and transfer of knowledge acquired in training. Managers need to understand that their role in managing employee knowledge is not only in making decisions to train and organize but is much broader and more complex. Their responsibility is for the effectiveness of the training, and the results of this research indicate that the role of managers cannot be excluded in the creation of individual factors on which these efficiencies significantly depend. Such a situation is crushingly unacceptable, and, certainly, it will not bring any quality shifts in the management of human capital as the most valuable capital of modern organizations. So far, there has been no reflection on the individual factors of employees as potential trainees and their research. It is believed that the insights and results presented in this research will at least encourage managers to think about it. It is believed that it would be useful to adopt these insights both in the preparation and implementation of the training and in the construction and redefinition of the human resources strategy.

This research, both in terms of its subject matter and content, and the results that have emerged, indicating that it is necessary to take a more determined turn in human resources management in an interdisciplinary approach. The place and role of psychologists and educators cannot be excluded, and without their participation, not only in researching these contents, but also applying them will not bring significant shifts in the much-needed redefinition and redesign of the overall approach to human resources management in our organizations.

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Operations management

EXAMPLE OF GOOD CLINICAL PRACTICE AT NATIONAL MEMORIAL HOSPITAL IN VUKOVAR

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Abstract

The aim of the paper is to present an example of good clinical practice at the Department of Orthopaedics and Traumatology through invoice realization according to the Diagnostic-therapeutic group (DTG) and satisfaction with the overall quality that we monitored during hospitalization.

The medical documentation of Hospital Information System (HIS) and the documentation from the Quality Control Unit of the National Memorial Hospital in Vukovar were used.

Out of the total number of operated patients admitted to hospitalization and 109 operated in the period from October 15 to November 15, 2019, 39 were selected for analysis according to the criterion for the most demanding surgical procedures on patients at that Department. Hospitalization of the selected patients at the Department of Orthopaedics and Traumatology lasted for seven days on average, patients' average age was 69, and according to sex, 30 were women and nine were men.

This retrospective study monitored and analyzed all incoming DTG patients: I04Z – Knee replacement or reconstruction, 17 patients, I03C, I03B – Hip replacement without very severe or severe clinical complications, 19 patients, *I08B – Other hip and femur procedures without very severe or severe clinical complications, 4 patients. Of the 39 selected invoices of the most demanding surgical procedures performed at the Department, the analysis everything speaks in favor of DTG groups that have a set expense, which we have justified to the Croatian Health Insurance Fund (CHIF) for each of the selected 39 patients. The result of the analysis through the invoice realization resulted in the presentation of expense amount by comparing expenses for an individual DTG prescribed by the CHIF with the final overall invoice. Each calculation points towards profits.*

Along with the invoice realization, we also controlled the quality from the aspect of patients operated at the said Department. The patients received forms for reporting their compliments and complaints, created by the Quality Control Unit, which indicated satisfaction with the overall service at the Department of Orthopaedics and Traumatology.

It can be concluded that the staff at the Department of Orthopaedics and Traumatology at the National Memorial Hospital in Vukovar use resources efficiently in order to achieve the stated goal of improving the quality of services while simultaneously following the principle of financial sustainability and cost-effectiveness.

Keywords: *patients, Department of Orthopaedics and Traumatology, Diagnostic-Therapeutic Groups (DTG), invoice realization, Quality Control Unit forms*

JEL Classification: I18, M10

1. INTRODUCTION

The Republic of Croatia has achieved progress in improving the health status of its population; however, investments need to be made into public health protection measures due to the declining rates of life expectancy at birth and mortality rate from cardiovascular diseases and lung, breast and colon cancers. The aforementioned is a sign of a lacking health care provision and of lacking public health protection measures. Smoking and obesity rates are high and efforts should be invested into lowering them, which will greatly benefit the results. Health care services and health baskets are extensive and are financed from public sources, but accessibility remains a problem for some groups. "Although it is not common for citizens to directly pay for health care costs, which could significantly impact their living standard (4%), 17% of low-income households struggle under the unbearable financial burdens because of such costs." Fiscal surroundings and high unemployment rates are causes for concern regarding the sustainability of the health care financing system, and additional financial pressures are expected in the future because of the aging population (European Commission, 2017:16).

Hospital system is the most demanding part of the public health care system, regardless of whether hospitals are owned by the state or by municipalities. "The focus of the economic perspective is always on seeking a rational and cost-effective activity of every business entity. In the economic sense, hospitals can be treated as business entities with atypical business characteristics. Their business operations are of a hybrid type since they combine the logic of business with the legally required logic of social availability. All input costs have a market value, but the prices of hospital services are determined by a non-market estimation." Guaranteed widely available health care according to the "all rights to all" model does not contribute to the economically efficient business regarding sources of financing. "The hybridity of desires and possibilities is based on soft budget financing, which makes the entire public hospital system economically unsustainable" (Vehovec, Rašić Bakarić, and Slijepčević, 2014:167).

In the context of the aforementioned, it would be desirable to research financial effects and outcomes of hospitals according to individual departments and thus justify the existence of contracted health care services with the Croatian Health Insurance Fund (CHIF). The vision of the CHIF is that the citizens enjoy quality health care available to all according to principles of inclusiveness, accessibility, and solidarity. The other mission advocates rational investment of citizens' funds into "…quality and efficient health care services and programs that will bring them to yield in the form of adding years of life and years of health." (Croatian Health Insurance Fund, 2020)

In this study, on an example of the Department of Orthopaedics and Traumatology at the National Memorial Hospital, we will discover and measure work outcomes in a certain period, considering that the professional health care public lacks such research. The aim is to determine invoice realization of the Department using DTG (diagnostic-therapeutic groups) for the most demanding diagnoses and the most numerous surgical procedures and to determine how business can be conducted at a profit with good management.

2. LITERATURE OVERVIEW

Diagnostic-Therapeutic Groups (DTG)

Resulting from health care reform in Germany that was implemented in 2003–2004, a new medical classification system called the "Diagnosis Related Groups" (DRGs) was introduced in hospitals. According to the media, social scientists, and a few physicians interviewed in this study the policy negatively transformed the German health care system by allowing the privatization of the hospital sector consistent with the neoliberal health care model. Allegedly, this privileged economic values over the quality of health care and introduced competition between hospitals (Rajtar, 2017:57).

In 2012, Switzerland has introduced a diagnosis-related group (DRG) system for hospital financing to increase the efficiency and transparency of hospital services and to reduce costs. However, little is known about the efficiency of specific processes within hospitals. The objective of this study is to describe the relationship between the timing of radiological interventions, in particular scan and treatment day, and the length of stay (LOS) compliance in a hospital (Napierala, Boes, 2017:1).

In 2012, Kazakhstan introduced Diagnosis-Related Groups (DRGs), as part of a package of reforms that sought to contain costs and to improve efficiency and transparency in the health system; but the main challenge was to design and implement a DRG system in just one year. DRGs are now the key payment mechanism for hospitals. However, the reforms are not fully institutionalized: the DRG structure is continuously being refined in a context of data limitations, and the revision of cost weights is most affected by insufficient data and the lack of standardized reporting mechanisms. Capacity around DRG coding is also still being developed. Countries planning to introduce DRG systems should be aware of the challenges in moving too quickly to implement DRGs as the main hospital reimbursement mechanism (Chanturidze et al., 2016:987).

Historically, Israel paid its non-profit hospitals on a perdiem (PD) basis. Israel has moved to activity-based payments. While most countries have adopted a diagnostic related group (DRG) payment system, Israel has chosen a Procedure-Related Group (PRG) system. This differs from the DRG system because it classifies patients by procedure rather than diagnosis. In Israel, the PRG system was found to be more feasible given the lack of data and information needed in the DRG classification system. (Bramlli-Greenberg et al., 2016:1171).

Diagnosis-related group (DRG) system is a classification system widely used in health management, the foundation of which lies in the medical information system. Developing countries with relatively weak information infrastructure should strengthen their medical information system before the introduction of the DRG system (Weiyan et al., 2016:58).

Total hip arthroplasty (THA) and total knee arthroplasty (TKA)

Total hip arthroplasty (THA) and total knee arthroplasty (TKA) have been recently heralded as the operations of the Century. Large improvements in mobility and patient-reported outcomes are typically observed compared with the small-to-moderate effects experienced with non-surgical interventions. Following surgery, physiotherapy-led exercise-based rehabilitation is often prescribed to yield better gait-related outcomes. Nevertheless, outpatient rehabilitation is expensive and heavily burdens the national health service. (Rizzi, (2019:696)

The number of hip and knee arthroplasty replacement surgeries is increasing steadily. In combination with demographic aging and the number of periprosthetic complications, this development has lead to the phenomenon where the need for revision surgery is rising. The problem is, that, while implantation procedures of hip arthroplasties are more or less standardized, explantation is a non-standardized task for experienced specialists, due to the unpredictability of the adequate loosening method (Kohlhof et al., 2019:243).

Total hip arthroplasty (THA) and total knee arthroplasty (TKA) are currently grouped under the same Diagnosis-Related Group (DRG). With the introduction of bundled payments, providers are accountable for all the costs incurred during the episode of care, including the costs of readmissions and management of complications (George, 2018:655).

More than 300 000 joint replacement operations are performed in Germany every year, and the number is rising. In this article, we consider the question of simultaneous bilateral joint replacement at the hips or knees. Such procedures are indicated in patients suffering from bilateral, symptomatic arthrosis. Simultaneous bilateral hip arthroplasty is safer for the patient and facilitates rehabilitation, regardless of the patient's age and ASA status (ASA, American Society of Anesthesiologists). With regard to the knees, there are two additional issues, namely the more frequent need for transfusion and somewhat higher mortality of a simultaneous bilateral procedure. Therefore, we recommend simultaneous bilateral knee arthroplasty only for patients in ASA classes 1 and 2. Simultaneous bilateral arthroplasty of either the hip or knee incurs lower costs than two separate operations (Pfeil, et al., 2011:463).

Total hip arthroplasty (THA) is an effective and durable treatment option for hip osteoarthritis (OA). As life expectancy continues to increase, so too will the demand for joint arthroplasty in the 10th decade of life, frequently in cases involving osteoarthritis of both hips. Simultaneous bilateral total hip arthroplasty (SBTHA) is a valuable therapeutic option in appropriately selected patients with bilateral degenerative hip disease, although its use in the very elderly is poorly reported on in the literature. A case of bilateral hip OA successfully treated with SBTHA in a nonagenarian is presented and the literature is reviewed. © 2017, Royal Academy of Medicine in Ireland (Power, 2017:947).

Proximal Femoral Nail Antirotation (PFNA)

The PFNA is an excellent implant for stabilization of both trochanteric and complex combination fractures as well as an exceptional device for reosteosynthesis. It is easily inserted with few intra- and postoperative complications and allows early weight bearing on the affected limb as well as quicker rehabilitation of patients (Kristek et al., (2010:937).

Rotational and angular stability achieved with one single element Compaction of cancellous bone Inserting the PFNA blade compacts the cancellous bone providing additional anchoring, which is especially important in osteoporotic bone. Large surface and increasing core diameter guarantee maximum compaction and optimal hold in bone Increased stability caused by bone compaction around the PFNA blade has been biomechanically proven to retard rotation and varus collapse (Johnson&Johnson, 2015:4).

„The root cause of intertrochanteric femoral fracture in elderly patients is osteoporosis manifested by reduced bone strength, decreased bone mineral density, and subsequently decreased anchoring between the internal fixator and bone. This is also a major cause of ineffective internal fixation and leads to surgical failure. Because of the special anatomical structure and biomechanical requirements of the proximal femur, internal fixation must have two basic functions, to prevent inversion and rotation of the proximal fractured femur. Reducing the incidence of coxa vara is also one of the treatment objectives" (Xu, J. J., et al., 2016:6472).

3. HEALTH CARE FINANCING IN THE REPUBLIC OF CROATIA

"The health care system of the Republic of Croatia does not function according to one exclusive financing model, but is a combination of the Bismarck model (based on social insurance, i.e. on contributions paid by the citizens through payroll taxes) and the Beveridge model based on budge revenues, due to lack of revenue on the basis of using the Beveridge financing model exclusively" (Croatian Health Insurance Fund).

Kovač explains that increasing health care expenditures and lack of funds are problems that are difficult to solve. Technological advancement, demographic aging and "increasing health care expenditures relate to increasing income of the population, which allowed higher health care expenditures, especially expenditures considered as cost-intensive (hospital health care)" (Kovač, 2013: 552).

"At this moment, in the Republic of Croatia, there are several ways of financing health care, depending on the level of health care and activities. Primary health care is funded via amounts per insured/citizen, through standard team and diagnostic-therapeutic procedures, while in general family medicine and dental health care additional funds can be achieved through participation in the work of general medicine/dental medicines centers. Outpatient specialist-conciliar health care is paid on the basis of the List of Diagnostic and Therapeutic Procedures in Health Care Activities (Blue Book) and diagnostic-therapeutic procedures (DTP). Hospital health care is paid on the basis of Diagnostic-Therapeutic Groups (DTG) and on the basis of the length of stay (LOS) for inpatient treatment, and on the basis of the List of Diagnostic and Therapeutic Procedures in Health Care Activities (Blue Book) and diagnostic-therapeutic procedures (DTP) for specialist-conciliar health care (Croatian Health Insurance Fund).

The same author claims that the health care sector is "a serious consumer of public funds" and that with its size it influences the sustainability of public finances. Public expenditures for health care and a share of expenditures for health care "mark" the quality of public health care and the users expect a high level of health care. Health care expenditures are increasing due to technological advancement in the health care industry and population aging, thus it is necessary to, using microeconomic evaluation, evaluate how sustainable are public expenditures and whether is business of health care institutions efficient and how are health care activity expenditures financially monitored and evaluated. "In public health policy, the politics make decisions, and the state of public finances allows the choice of public health care model. Adaptation of the domestic health system to foreign good practices often fails to result in equally successful solutions. Specificities of the institutional environment create the need for adaptation, which we often tend to dub as innovative, but that does not mean that such solutions are economically efficient at the same time" (Vehovec, 2014:18).

Health care reforms had the task of reducing health care expenditures, increase efficiency and health outcomes. Despite efforts, public health care expenditures are "constantly increasing". Analyses of the financial state of the health care system show that the Croatian health care system is healthy, regardless of financial difficulties with an emphasis on the need to "stop expenditure growth and to efficiently monitor cash flow in the system (Broz, Švaljek, 2014:51-71).

Croatian Health Insurance Fund (CHIF) is the only purchaser of health care services and the only national insurer. "It is the primary provider of additional voluntary health insurance that covers the costs of participation in expenditures (in Croatia it is called "supplementary insurance")". The CHIF determines service prices, monitors work standards, sickness and maternity benefits, parental benefits and other forms of benefits (European Commission, 2017:6).

"Croatia is among the EU member states with the lowest expenditures for health services per capita and as a percentage of the gross domestic product (GDP). The percentage of expenditures for health care is 7.4% of the GDP at the moment, which is significantly lower than the EU average of 9.9%. With calculation, we get an amount of EUR 1,241 per capita (adjusted for purchasing power differences) for 2015, which is the fourth-lowest amount in the EU (Figure 1). The share of direct expenditures (out of "pockets" of the citizens) was only 15%, which is equal to the EU average. In the last few years, significant fluctuations are observed in the representation of health care expenditures per capita, which is linked to the current economic crisis" (European Commission, 2017:6).

Despite economic problems and budgetary pressures on expenditures for health care, the Republic of Croatia ensures its citizens access to health care services financed from public sources despite "being at the bottom of the EU in regard to health care expenditures per capita" (European Commission, 2017:16).

4. DIAGNOSTIC-THERAPEUTIC GROUPS (DTG)

Acute disease patients are grouped according to the system of Diagnostic-Therapeutic Groups (DTG), which are in use since January 1, 2009. The classification model of acute hospital patients ensures equality for all hospitals and patients organized in groups that demand similar resource consumption, and have similar clinical features. Such a payment method allows us to compare hospitals by taking into consideration the complexity of cases treated in those hospitals. On the CHIF website, we can monitor comparable data. Payments according to DTG are payments for a treatment episode from hospital admission until discharge. All expenses are included in the price. It is important to group patients into DTGs according to diagnosis code and procedure code. The primary diagnosis is the most important data, and the same caused the hospital treatment episode. Furthermore, understanding the difference between comorbidity and complications is also highly significant. Comorbidity is a state that exists at the time of admission, while complication is a state that is developed during hospitalization.

In order to group treatment episodes into an appropriate DTG category, it is mandatory to record all significant procedures performed since admission until discharge. Furthermore, used consumables and implantable medical supplies and medicines with quantities and unit prices need to be recorded (Strizrep, 2009).

"Payment according to DTG fulfills all the characteristics of a good payment system for hospital work, and those are:

- encouraging and rewarding effective work of health care providers,
- ensuring equality for all hospitals and patients,
- the system is easy to manage and improve,
- the system uses the acceptable classification of procedures,
- payment is based on the best available data,
- the system ensures transparency in contracting health care" (Strizrep, 2007:4).

The most widely used method of classification of acute hospital patients into groups that require similar expenditures of hospital resources and that have similar clinical features in the world is classification called Diagnosis Related Groups (DRG), which in Croatia, as it has been previously stated, is called Diagnostic-Therapeutic Groups (DTG) (Strizrep, 2007:5).

A DRG, or diagnostic related grouping, is how Medicare and some health insurance companies categorize hospitalization costs and determine how much to pay for a patient›s hospital stay. Rather than paying the hospital for what it spent caring for a hospitalized patient, Medicare pays the hospital a fixed amount based on the patient's DRG or diagnosis. If the hospital treats the patient while spending less than the DRG payment, it makes a profit. If the hospital spends more than the DRG payment treating the patient, it loses money (Davis, 2020).

Section 1886(d) of the Act specifies that the Secretary shall establish a classification system (referred to as DRGs) for inpatient discharges and adjust payments under the IPPS based on appropriate weighting factors assigned to each DRG. Therefore, under the IPPS, we pay for inpatient hospital services on a rate per discharge basis that varies according to the DRG to which a beneficiary's stay is assigned. The formula used to calculate the payment for a specific case multiplies an individual hospital's payment rate per case by the weight of the DRG to which the case is assigned. Each DRG weight represents the average resources required to care for cases in that particular DRG, relative to the average resources used to treat cases in all DRGs (Centers for Medicare & Medicaid Services, 2020).

5. METHODOLOGY

Vukovar - Srijem County cares for 179,521 citizens according to the latest census from 2011. Comparison index with 2001 speaks of a significant decrease in the overall number of inhabitants of 12.3% when the County had 204.768 inhabitants. Negative migration flows, a decrease in the number of births and an increase in the mortality of younger groups during the Croatian War of Independence in 1991 influenced population trends. Demographic aging is seen through a decrease in the number of the young and an increase in the number of the elderly in the population, which results in an increase of life expectancy in the

Republic of Croatia in 2018 for both sexes to 78.2 years, 81.4 years for women and 74.9 for men (Croatian Bureau of Statistics, Republic of Croatia, 2019)

In Table 1 we see morbidity of individuals 65 years of age and older in 2018 from which we emphasize hip fractures, 7,000 cases, and knee gonarthrosis/arthrosis, 2,858 cases (Croatian Institute for Public Health, Croatian Health Statistics Yearbook for 2018).

Table 1. Diagnosis rankings – hospital morbidity of the elderly in the infirmary part of the hospital in 2018.

5	ICD 10 Code	Diagnosis	65-74 yr	Rate per 1000 population	75-84 yr	Rate per 1000 population	85 yr and above	Rate per 1000 population	65 yr and above	Rate per 1000 population
6	ICD 10 Code	SVEUKUPNO - *Total*	119.442	267,03	96.915	324,96	30.527	350,59	246.884	296,52
7	I63	**Cerebralni infarkt**	2.549	5,70	3.644	12,22	1.761	20,22	7.954	9,55
8		- Cerebral infarction								
9	S72	**Prijelom bedrene kosti (femura)**	1.422	3,18	3.185	10,68	2.393	27,48	7.000	8,41
10		- Fracture of femur								
11	I21	**Akutni infarkt miokarda**	2.637	5,90	2.449	8,21	821	9,43	5.907	7,09
12		- *Acute myocardial infarction*								
13	J18	**Pneumonija, nespecificiranog uzročnika**	1.678	3,75	2.627	8,81	1.520	17,46	5.825	7,00
14		- Pneumonia, organism unspecified								
15	I50	**Insuficijencija srca**	1.293	2,89	2.779	9,32	1.444	16,58	5.516	6,62
16		Heart failure								
17	H25	**Senilna katarakta**	2.038	4,56	2.748	9,21	515	5,91	5.301	6,37
18		- Senile cataract								
19	Z96	**Prisutnost drugih funkcionalnih usadaka (implantata)**	2.725	6,09	1.725	5,78	200	2,30	4.650	5,58
20		*Presence of other functional implants*								
21	M96	**Poremećaj mišićno-koštanog sustava koji se pojavljuju nakon određenih postupaka, nesvrstani drugamo**	2.881	6,44	1.500	5,03	226	2,60	4.607	5,53
22		*Postprocedural musculoskeletal disorders, not elsewhere classified*								
23	I20	**Angina pektoris**	2.967	6,63	1.513	5,07	120	1,38	4.600	5,52
24		- Angina pectoris								
25	Z51	**Ostala medicinska skrb**	1.541	3,45	1.853	6,21	1.139	13,08	4.533	5,44
26		*Other medical care*								
27	A41	**Ostale sepse**	1.330	2,97	2.073	6,95	1.079	12,39	4.482	5,38
28		- *Other sepsis*								
29	K80	**Žučni kamenci (kolelitijaza)**	1.827	4,08	1.356	4,55	330	3,79	3.513	4,22
30		*Cholelithiasis*								
31	I25	**Kronična ishemična bolest srca**	2.036	4,55	1.202	4,03	219	2,52	3.457	4,15
32		Chronic ischaemic Heart disease								
33	C78	**Sekundarna zloćudna novotvorina dišnih i probavnih organa**	2.490	5,57	798	2,68	65	0,75	3.353	4,03
34		*Secondary malignant neoplasm of respiratory and digestive organs*								
35	C18	**Zloćudna novotvorina debeloga crijeva**	1.917	4,29	1.149	3,85	217	2,49	3.283	3,94
36		Malignant neoplasm of colon								
37	I48	**Fibrilacija atrija i undulacija**	1.685	3,77	1.251	4,19	297	3,41	3.233	3,88
38		*Atrial fibrillation and flutter*								
39	N18	**Kronično bubrežno zatajenje (insuficijencija)**	1.261	2,82	1.456	4,88	435	5,00	3.152	3,79
40		Chronic kidney disease								
41	I42	**Kardiomiopatija**	1.233	2,76	1.286	4,31	527	6,05	3.046	3,66
42		*Cardiomyopathy*								
43	C34	**Zloćudna novotvorina dušnica i pluća**	2.020	4,52	800	2,68	95	1,09	2.915	3,50
44		*Malignant neoplasm of bronchus and lung*								
45	M17	**Gonartroza/artroza koljena**	1.903	4,25	881	2,95	74	0,85	2.858	3,43
46		*Gonarthrosis [arthrosis of knee]*								

Source: Croatian Institute for Public Health, Croatian Health Statistics Yearbook for 2018 – tabulated data, https://www.hzjz.hr/hrvatski-zdravstveno-statisticki-ljetopis/hrvatski-zdravstveno-statisticki-ljetopis-za-2018-tablicni-podaci/ [7.12 2019]

Diagnosis fracture of femur and gonarthrosis (arthrosis) of the knee are significant for this descriptive study in which we monitored, over a period of one month, operational care and financial outcomes of the same. According to Table 1, 1,442 patients with a diagnosis of Fracture of the femur in the 65-74 age group and 1,903 with diagnosis gonarthrosis (arthrosis) of the knee had been cared for in 2018.

According to rankings in Croatia in 2018, most individuals died of ischemic heart disease (10,195) and cerebrovascular diseases (6,137), followed by bronchial and lung cancer (2,957) and diabetes (2,855). Hypertension was the fifth leading cause of death (2,247), followed by colon cancer (2,240). The seventh place is held by bronchitis, emphysema, and asthma (1,845). The eight places are held by chronic diseases and cirrhosis (984), while heart insufficiency (914) holds the ninth place. The tenth place is held by fracture of the femur (831) (Croatian Institute for Public Health, 2018).

On the basis of invoice realization and billing created in Hospital Information System (HIS), we will research specificities of the same and the existing way of work at the Department of Orthopaedics and Traumatology during the defined time period.

5.1. Materials and Methods

The research was conducted at the National Memorial Hospital in Vukovar at the Department of Orthopaedics and Traumatology. We used medical documentation from Hospital Information System (HIS) and documentation from the Quality Control Unit in Vukovar with the approval of the Ethics Committee of the National Memorial Hospital in Vukovar, the right to access invoices of the Department of Surgery.

Of the total number of operated patients admitted to hospitalization and 109 operated during the period from October 15 to November 15, 2019, 39 of them were selected for analysis according to a criterion of the most demanding surgery on patients at the said Department. Regarding the selected hospitalized patients at the Department, their average length of stay was 7 days, the average age was 69, and regarding sex, the participants were predominantly women, 30 of them with only nine men.

This retrospective study followed and analyzed invoice realization for all admitted DTG patients: I04Z – Knee replacement or reconstruction, 17 patients, I03C, I03B – Hip replacement without very severe or severe clinical complications, 19 patients, I08B – Other hip and femur procedures without very severe or severe clinical complications, 4 patients.

Along with the invoice realization, we also controlled the quality from the aspect of patients operated at the said Department. The patients received forms for reporting their compliments and complaints, created by the Quality Control Unit, which indicated satisfaction with the overall service at the Department of Orthopaedics and Traumatology.

5.2. Results and Discussion

Operations were performed at the Department of Orthopaedics and Traumatology at the National Memorial Hospital in Vukovar whose vision is the improvement of specialist conciliar activities and whose mission is diagnostics and treatment of patients focused on protection and improvement of the health of the citizens.

At the Department of Orthopaedics and Traumatology in 2019, 120 Cementless hip prostheses (CHP) were implanted, 110 total knee prostheses (TKP), 31 partial hip prostheses (PHP) and Proximal Femoral Nail Antirotation (PFNA) 21. During the period between October 15, 2019, and November 15, 2019, a total of 109 patients had been operated. Of that number, 39 patients and their invoices (bills) were selected as the most demanding (most expensive) performed surgical procedures at the Department, for the purposes of this analysis and study, and every invoice (bill) speaks in favor of DTG groups with fixed amounts, which we have justified to the CHIF for each of 39 patients, and for the remaining 70 patients and their invoices (bills). The result of the analysis through the invoice realization resulted in the presentation of expense amount by comparing expenses for an individual DTG prescribed by the CHIF with the final overall invoice. Each calculation points towards profits for all 109 admitted and operated patients.

What is significant for this study is that the best prostheses and implants offered at the Croatian market are used. There were no repeated hospital admissions or hospitalizations, 9 patients received blood products (2 x 350 ml), and all patients received 2 grams of Cefazolin prior to operation. Our patients are not transferred to the Intensive Care Unit (ICU) after the operation but are returned to the Department. Disposable surgical laundry is used and bandages are not changed until the removal of stitches (on the 14th day). Workers at the Department regularly participate in educations on hand hygiene and hospital infection prevention, which results in good infection management. We have prescribed procedures for all processes and both the staff and the patients comply with them.

The Department employs 6 orthopaedists and traumatologists physicians, 11 nurses/technicians (1 with a Master's degree in nursing and one with a Bachelor's degree in nursing), 2 bachelors in physiotherapy and three cleaning service workers.

5.2.1. Total Cementless Hip Prosthesis (CHP)

During the studied period, 17 patients were operated with the primary diagnosis of M16.0, M16.1, M16.3, and the same belong into the DTG group: Hip replacement with very severe or severe clinical complications (Figure 2).

The average length of stay was 7.7 days; the average age was 65 years (patients were born between 1938 and 1965). Regarding sex, 10 were women and 7 were men. The Croatian Health Insurance Fund pays for the aforementioned operation on average HRK 31,057.35, which amounted to HRK 527,975.00 for all 17 cases. The price is formed on the basis of days of stay, procedures, materials and medications, diagnostic-therapeutic procedures (DTP), DTG (orthopedics, anesthesia and resuscitation, transfusion, physical therapy, and radiology services). On average, HRK 17,085.92 was invested per case. In total, HRK 290,460.70 was invested. Thus, realized income amounted to HRK 237,514.30 for 17 operated patients to whom a total cementless hip prosthesis (CHP) had been implanted.

Figure 2. Image of the implanted total cementless hip prosthesis (CHP)

Source: Authors, 2019.

5.2.2. Total Knee Prostheses (TKP)

During the studied period, 16 patients were operated with the primary diagnosis of M17.0, M17.1, and the same belong to the DTG group: Knee replacement or reconnection (Figure 3).

The average length of stay was 7.6 days; the average age was 69 years (patients were born between 1943 and 1966). Regarding sex, 15 were women and 1 man. The Croatian Health Insurance Fund pays for the aforementioned operation on average HRK 25,000.00, which amounted to HRK 399,919.00 for all 16 cases. The price is formed on the basis of days of stay, procedures, materials and medications, diagnostic-therapeutic procedures (DTP), DTG (orthopedics, anesthesia and resuscitation, transfusion, physical therapy, and radiology services). On average, HRK 15,600.79 was invested per case. In total, HRK 249,612.75 was invested. Thus, realized income amounted to HRK 150,206.51 for 16 operated patients to whom a total knee prosthesis (TKP) had been implanted.

Figure 3. Image of implanted total knee prosthesis (TKP)

Source: Authors, 2019

5.2.3. Partial Hip Prostheses (PHP)

During the studied period, 2 patients were operated with the primary diagnosis of M17.0, M17.1, and the same belong to the DTG group: Knee replacement or reconnection (Figure 4).

The average length of stay was 8 days; the average age was 80 years (patients were born between 1937 and 1941). Regarding sex, both patients were women. The Croatian Health Insurance Fund pays for the aforementioned operation on average HRK 22,568.00, which amounted to HRK 45,136.00 for both cases. The price is formed on the basis of days of stay, procedures, materials and medications, diagnostic-therapeutic procedures (DTP), DTG (orthopedics, anesthesia and resuscitation, transfusion, physical therapy, and radiology services). On average, HRK 16,387.91 was invested per case. In total, HRK 32,775.82 was invested. Thus, realized income amounted to HRK 12,360.18 for two operated patients to whom a partial hip prosthesis (PHP) had been implanted.

Figure 4. Image of the implanted partial hip prosthesis (PHP)

Source: Authors, 2019

5.2.4. Proximal Femoral Nail Antirotation (PFNA)

During the studied period, 4 patients were operated with the primary diagnosis of S72.1, S72.2, and the same belong into the DTG group: Other hip and femur procedures without very severe clinical complications (Figure 5).

The average length of stay was (7.5) 8 days; the average age was 80 years (patients were born between 1937 and 1941). Regarding sex, 3 were women and 1 man. The Croatian Health Insurance Fund pays for the aforementioned operation on average HRK 14,495.99, which amounted to HRK 57,983.98 for all 4 cases. The price is formed on the basis of days of stay, procedures, materials and medications, diagnostic-therapeutic procedures (DTP), DTG (orthopedics, anesthesia and resuscitation, transfusion, physical therapy, and radiology services). On average, HRK 12,980.62 was invested per case. In total, HRK 51,922.51 was invested. Thus, realized income amounted to HRK 6,061.47 for 4 operated patients to whom PFNA had been implanted.

Figure 5. Image of implanted PFNA

Source: Authors, 2019

Along with the invoice realization, we also controlled the quality from the aspect of patients via an anonymous form for reporting their compliments and complaints. Before discharge, each patient had an opportunity to fill in the form and express his/her feelings and opinions in writing. We are proud to report that all patients, all 109 of them, expressed their pleasure with health care and non-health care workers with an emphasis on their competence and communication and satisfaction with overall health and non-health services.

Patient quotes:

"I came to this hospital and this department on a recommendation from other people and now I see why people praise you so much. Everything is true, you are the best:"

Sandra P., October 16, 2019

"Department staff instills full confidence, they are highly professional, warm and we were in good hands at any moment during day and night. We received everything we needed. I did not remember all names to list them here, but we were cared for by friendly and caring faces. This is not just my experience, but also of many of my acquaintances who stayed at this department. Thank you."

Mirjana F., November 15, 2019

"Staff professionalism and responsibility, cleanliness, sentiment for patients, constant great care directed towards a patient."

Marija K., November 15, 2019

"Compliments for hygiene, kindness, pleasantness, accuracy, and responsibility."

Ljubica, A., October 16, 2019

"Everyone did their job great! All of them deserve a raise."

Fabijan, P., October 19, 2019

"I would like to express my positive feelings from the hospital with complete satisfaction with Doctor Zoran Aleksijević and other staff members: Nemanja, Milan, Mijo, Vedran and everybody else."

Kata, A., October 30, 2019

"Pleasant, friendly, knowledgeable, dedicated to patients. This goes for the entire staff."

Dinka, L., October 25, 2019

“I have nothing else to say apart from that the world is rich when such wonderful people as you live in it. Thank you for caring so much for us. You turned all of our tears of pain into smiles of joy.”

Monika, C., October 23, 2019

We are proud to report that all patients, all 109 of them, expressed their pleasure with health care and non-health care workers with an emphasis on their competence and communication and satisfaction with overall health and non-health services. No invoice or payment can pay for those beautiful words our patients expressed towards our staff.

6. CONCLUSION

The originality of this paper is recognized in the fact that this type of research is not sufficiently conducted in the Republic of Croatia, and it is highly necessary for better control of expenses in hospital system and measuring outcomes that speak in favor of health care system and quality of work, as this study focused on Department of Orthopaedics and Traumatology staff at the National Memorial Hospital in Vukovar. Overall income realized amounted to HRK 406,142.46. With further calculation, by subtracting 18% overhead (electricity, water, costs of laundry, cleaning, kitchen, etc.) that amounted to HRK 73,107.64, final income realized amounted to *HRK 333,034.82* for the described surgical procedures. The remaining 70 surgical procedures also showed income realized, to the satisfaction of the management and the staff working at the Department of Orthopaedics and Traumatology at the National Memorial Hospital in Vukovar. The results are not comparable to other hospitals in the Republic of Croatia since such research is lacking. This example of good practice can be used as a starting point for more efficient invoice realization in the function of profit and an example of excellent quality in other institutions and all other departments that do not realize income nor profit nor can achieve or justify their monthly limit via invoice realization. The research showed that expert physicians and nurses/technicians and proper knowledge management contribute to efficient invoice realization and justification of the existence of the department. Further research is recommended for all other departments and hospitals through invoice realization and the research should be a measure of good and cost-effective practice in the health care system.

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CIVIL SERVICE SYSTEM 2.0: IS PARADIGM SHIFT FROM BUREAUCRATIC PYRAMID TO NETWORK OF TEAMS TOO RADICAL?

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Abstract

Traditional hierarchical public service organizations are less and less able to effectively meet the needs of their "customers" in the contemporary, digital era. The following key causes present an argument for change. Politicians are often disappointed with the slow implementation and quality of the outcome of proposed policies. The same disappointment share citizens faced with second-rate digital solutions, and business taxpayers frustrated by stories of failed projects. As the gap between expected and delivered widens, governments need to fundamentally refurbish the organization of the public sector and the way of doing business. Firstly, the policy articulation jobs should be set apart from the repetitive horizontal supporting jobs. Secondly, using disruptive technologies like blockchain and Distributed Ledger (DLT), a plethora of administrative jobs could be automated or outsourced. For retained policy articulation jobs, governments should abolish bureaucratic Weberian pyramids and introduce a *network of agile teams. By replacing silos with hubs, an army of middle managers as information, command and guidance agents should become obsolete, and only a few facilitators of the business environment should be needed. Organic organizations have a clear definition of mission, decentralization of authority, a full delegation of responsibility to the expert level, a strong reliance on team leaders, the promotion of a culture of cooperation and information sharing, and open and transparent internal communication that ensure mutual consistency and synergy between teams. This approach positions the execution of the strategy where it happens and empowers teams to set their own goals/decisions, respecting the context of the overall organization/government strategy (and its goals). If the government agrees to alienate itself from the part of monopolized institutes, everything mentioned could shrink the civil service sector and bring desired effectiveness to life.*

Keywords: *bureaucratic pyramid, network of teams, civil service system, agile organization in government*

JEL Classification: M10, M12

1. FOREWORD

The title alludes to the need to change the shape of the public administration organization, which in most countries has the form of a hierarchical pyramid. To explain the need for change, in the first part, we provide an overview of the critique of bureaucracy in the Western industrialized world since its emergence to this day. In the second part, we point out that bureaucracy has been changing and trying to improve through industrial epochs by implementing management experiences from the business community. Additionally, a recent example from the world is presented, which proves the increase of efficiency and transparency of public administration using blockchain technology, with the satisfied condition that the state relinquishes part of the monopoly over some of the institutes of governance. How this new disruptive technology could be deployed in the aim to reach maximum efficiency of future public administration organizations in the European Union, requires further research. The third part describes the challenges of the development of Croatian public administration from independence to the present day, with a description of conflicting conceptual approaches and the current approach of the Government of the Republic of Croatia in an attempt to develop public administration. At the end of the third part, we gave our view of a possible solution to the problem of the size and efficiency of the Croatian bureaucracy.

2. TERM, ORIGIN AND CRITICISM OF THE BUREAUCRACY

According to Encyclopaedia Britannica, bureaucracy is a specific form of organization defined by complexity, division of labor, permanence, professional management, hierarchical coordination and control, strict chain of command, and legal authority. In its ideal form, bureaucracy is impersonal and rational and based on rules rather than ties of kinship, friendship, or patrimonial or charismatic authority.

The term *bureaucratie* was first used by a French Physiocrat Jacques Claude Marie Vincent de Gournay, in 1764. Bureau is the word used in the 18th century for a clerk desk, while the continuation of the word is a derivative of the Greek word *kratein*, which means "to rule". The notion of bureaucracy underwent numerous translations and soon became part of the international political vocabulary. French *bureaucratie*, soon became German *Bureaukratie*, Italian *burocrazia*, and English bureaucracy.

2.1. Development of bureaucracy

The development of bureaucracy as a new form of government affairs management coincides with the beginning of the First Industrial Revolution. The invention of the steam engine was a disruptive innovation, which had a great impact on the social movements of the time. Until that time, the government was traditionally patriarchal and even semi-military: the aristocracy was in charge of managing all resources in the allotted territory in peace and the army deployed from the same territory in war. In feudalism, specialization and division of labor were relatively simple. The Industrial Revolution brought changes in both economic and political life. The production power of steam engines has led to an increase in specialization, a stronger division of labor, and the creation of new elites in whose hands the ownership of the means of production exceeds. Increased stratification led to further upheavals and wars, as well as alternative attempts at social order so that in some countries socialist or communist social order was established, led by its vanguard. The choice to govern the country was the same - bureaucracy.

2.2. Traditional, liberal and neoliberal criticism of bureaucracy

The ironic tone in which Honore de Balzac describes bureaucracy in the 1836 novel "Les Employes" becomes an example of how bureaucracy is thought of, which has persisted to this day: "Since 1789 the State, or if you like to have it so, La Patrie, has taken the place of the sovereign. The clerks no longer take their instructions directly from one of the first magistrates in the realm…and thus bureaucracy, the giant power wielded by pigmies, came into the world. Bureaucracy was organized, however, under a constitutional government with a natural kindness for mediocrity, a predilection for categorical statements and reports, a government as fussy and meddlesome, in short, as a small shopkeeper's wife" (Albrow, 1970, p. 18).

The criticism of liberals towards bureaucracy is best reflected from the 1821 letter of the Prussian state administration reformer Freiherr von Stein: "We are ruled by buralists-salaried, with a knowledge of books, with no cause to support, and without property… In these four points is summed up the spirit of our own and similar lifeless governmental machines. Come rain or sunshine, whether taxes rise or fall, whether long-established rights are destroyed or preserved, it makes no difference to them. They draw their salaries from the exchequer and write, write, write, in silence, in offices behind closed doors, unknown, unnoticed, unpraised, and they bring up their children to be equally usable writing machines", (Albrow, 1970, p. 19).

The most persistent criticisms of bureaucracy are addressed by proponents of neoliberalism, as part of the broader demands of deregulation. According to Naomi Klein, three pillars hold the neoliberal conception: the privatization of the public sector, deregulation of the business sector, and reduction of personal and corporate taxes (Klein, 2014, p.72). The budget deficit created by the decrease in tax revenues would have to be offset by reduced spending on the public sector, which presupposes its reduction. According to the ideas of neo-liberals, the entire public sector should be privatized, as well as services provided by the state for free, namely health and education.

In the early 1980s, new public management was embraced by administrations in the United Kingdom, under Prime Minister Margaret Thatcher, and in the United States, under the presidency of Ronald Reagan (Gruening, 2001, p.2). The British model has become a model for OECD countries as well as for powerful financial institutions (IMF and World Bank) as donors who recommend this model to dependent countries on these donations. The British model in itself embodies neoliberal thought as much as possible as well as the implementation of neoliberal principles into the practice of the whole range of reforms that directly affect the public sector (Perko-Separovic, 2002, p.32).

2.3. Weber's ideal-type bureaucracy

The founding of the "bureaucratic-monocratic" model we owe to German sociologist Max Weber. In his 1922 book "Economics and Society", Weber argues that bureaucratic hierarchical structure and consistent processes are an ideal way of organizing human activity, defining the key features of modern bureaucracy as follows: (Weber in Waters & Waters 2015, p.76):

- Specialization, i.e. a strict division of work in which each bureaucratic employee performs the specified job for which he or she is competent.
- A hierarchical chain of command in which the holder of authority has absolute authority.
- A clearly described set of rules that employees agree to follow/abide by impersonally.
- Written and communicated organizational goals and objectives.
- Performance appraisal is given according to employee productivity.
- Promotions to upper positions are possible and merit-based.

Weber cites three key factors for developing an ideal bureaucracy (2015, p. 77):

1. Abstract rules: Rules and processes should be based on rational, abstract and clearly understood rules.
2. Impersonal enforcement of rules: Rules and processes should be professionally enforced without being influenced by the interpersonal relations between bureaucracy officials and political options.
3. Knowledge for implementing rules: Expert and technical rules should be applied rationally, which requires expert knowledge.

Although written for humans, the above requirements make it seem as though they were written for machines or today's computers. This is precisely the reason for the imperfection of bureaucracy because under real conditions no bureaucracy in the world can achieve the ideal described above. After all, by the nature of things, it is not possible to achieve that living beings act completely mechanically.

3. DISRUPTIVE INNOVATION AND THEIR IMPACT ON THE DEVELOPMENT OF A BUSINESS ORGANISATION

3.1. Second Industrial Revolution

Henry Ford's ideas of automation and Frederick Taylor's revolutionary theoretical approach to the organization of work began the Second Industrial Revolution. Hierarchical and specialized organizations that have embraced this machine-like model and adhered to the principles of scientific management have dominated their markets for decades, outperforming other organizations and attracting the best talent. Frederic Taylor published "The Principles of Scientific Management" in 1909, explaining how optimization and job simplification can increase productivity. Through experiments in the workplace, he developed four principles of scientific management:

1. Traditional common-sense work habits should be replaced by scientific methods to study work and determine the most effective way to perform certain tasks;
2. Instead of simply being assigned to any job, employees should be tailored to their jobs based on ability and motivation and trained to work at maximum efficiency.
3. Employee performance needs to be monitored and instructed to ensure that they are using the most efficient modes.
4. Allocate work between managers and employees. Managers should invest time in planning and training and allow workers to perform tasks effectively.

Upon publication in 1911, Taylor's ideas shaped modern quality control and overall quality management in processes.

Henry Fayol also contributed to the development of managerial skills with the first systematization of the management of an organization through a description of five managerial functions, namely: forecasting and planning, organizing, leading, coordinating and controlling. In addition to describing managerial functions, Fayol's 14 management principles described in his 1916 book "Administration Industrielle et Générale" had a significant impact on the beginning of modern management theory. Fayol's 14 principles are a division of labor, authority, discipline, unity of subordination, unity of mission, the subordination of individual interests to the general interest, compensation, centralization, hierarchy, order, equality, the stability of employment, initiative, and sense of pride and mutual loyalty.

Taylor and Fayol's works are complementary (Pearson, 1945, p. 73) because they include both a bottom-up and a top-down approach: while Taylor focused on shop management, Fayol focused on top management. The combination of these approaches formed the basis for further enhancement of the management function in the next 100 years, also called the century of managerialism. Positive experiences in the business sector have become a motive for trying to transfer practices to the public sector and the basis for what will later become known as the new public management doctrine. However, the ways of organizing work until the beginning of the Third Industrial Revolution, could not offer anything paradigmatically new in terms of organizational structure. Organizations continued to be pyramid organized, and the focus was on improving knowledge and performing the activities of a growing number of middle management.

3.2. Third Industrial Revolution

In the 1960s, thanks to the development of transistors, the electronics industry began to develop rapidly, thus beginning the Third Industrial Revolution. Intel co-founder Gordon E. Moore in 1965 stated that the number of transistors that could be placed in a given unit of space would double about every two years, with half the cost of production. Moore's Law became the driving force for technological and social change, productivity and economic growth that marked the end of the twentieth and early twenty-first centuries. Along with the rapid development of the processing power of computers, the software industry was developing rapidly too, which required a new form of organization.

3.2.1. Organic organization

By studying the management and structure of Scottish electronics companies, Burns and Stalker, in the early 1960s, discovered a new way of organizing business and a business-friendly organization they called organic. The theories of Burns and Stalker influenced the field of organization theory. They compared mechanical and organic structures and pointed out the differences between the two types, as shown in (Table 1).

Table 1. Comparison of mechanistic and organic organizations according to Burns and Stalker

	Mechanistic Organization Form / Management System	**Organic Organization Form / Management System**
Appropriate Conditions	Stable	Changing
Distribution of tasks	Specialized differentiation of functional tasks into which the problems and tasks facing a concern as a whole are broken down	Contributive nature of special knowledge and experience to the common task of the concern
Nature of Individual task	The abstract nature of each individual task, which is pursued with techniques and purposes more or less distinct from those of the concern as a whole: i.e., the functionaries tend to pursue the technical improvements of means, rather than the accomplishment of the ends of the concern	The "realistic" nature of the individual task, which is seen as set by the total situation of the concern
Who (re)defines tasks	The reconciliation, for each level in the hierarchy, of these distinct performances by the immediate superiors, who are also, in turn, responsible for seeing that each is relevant in his own special part of the main task	The adjustment and continual redefinition of individual tasks through interaction with others
Task scope	The precise definition of rights and obligations and technical methods attached to each functional role	The shedding of "responsibility" as a limited field of rights, obligations and methods (problems may not be posted upwards, downwards or sideways as being someone else's responsibility)
How is task conformance ensured	The translation of rights and obligations and methods into the responsibilities of a functional position	The spread of commitment to the concern beyond any technical definition
Structure of control, authority and communication	Hierarchic, Contractual	Network, Presumed Community of Interest
Locating of knowledge	Reinforcement of the hierarchic structure by the location of knowledge of actualities exclusively at the top of the hierarchy, where the final reconciliation of distinct tasks and assessment of relevance is made	Omniscience no longer imputed to the head of the concern; knowledge about the technical or commercial nature of the here and now may be located anywhere in the network
Communication between members of concern	Vertical; i.e., between superior and subordinate	Lateral; i.e., between people of different rank, resembling consultation rather than command
Governance for operations and working behavior	Instructions and decisions issued by superiors	Information and advice rather than instructions and decisions
Values	Insistence on loyalty to the concern and obedience to superiors as a condition of membership	Commitment to the concern's task and to the "technological ethos" of material progress and expansion is more highly valued than loyalty and obedience
Prestige	Greater importance and prestige attaching to internal (local) than to general (cosmopolitan) knowledge, experience, and skill	Importance and prestige attach to affiliations and expertise valid in the industrial and technical and commercial milieux external to the firm

Source: https://www.valuebasedmanagement.net/methods_burns_mechanistic_organic_systems.html

The core of Burns and Stalker's criticism of the bureaucratic organization is reflected in the following:

- The bureaucratic hierarchical structure isn't well-suited to the present time, which is turbulent and unpredictable.
- A management-focused approach to control creates an inflexible, mechanical organization,
- Employees are seen as a tool, not as growth and development potential,
- Organizational creativity and effort is focused on internal problems, systems, and procedures,
- Internal procedures consume more resources than user-focused activities,
- Slow response to external changes – lost contact with external stakeholders and users,
- Narrow thinking and acting and closing in silos,
- The boundaries between departments lead to complicated procedures,
- Middle management is not prone to change under new circumstances and defends the status quo.

During the 1990s, several methods for developing IT solutions were developed by the organic organizations of software and application development companies, to go beyond previous methodologies described by critics as over-regulated, over-planned, and requiring a lot of micro-management.

3.2.2. Agile team-working organization

Although the following methods were created before the publication of the Agile Manifesto in 2001, *Rapid application development, Scrum, Crystal Clear*, and similar methods are considered agile methods for computer program development. At the Snowbird Resort, Utah, the first meeting of representatives of 17 software companies was held in 2001, the outcome of which was Manifesto for Agile Software Development (Table 2).

Table 2. Manifesto for Agile Software Development

Manifesto for Agile Software Development We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:		
Individuals and interactions	over processes and tools	
Working software	over comprehensive documentation	
Customer collaboration	over contract negotiation	
Responding to change	over following a plan	
That is, while there is value in the items on the right, we value the items on the left more.		
Kent Beck Mike Beedle Arie van Bennekum Alistair Cockburn Ward Cunningham Martin Fowler	James Grenning Jim Highsmith Andrew Hunt Ron Jeffries Jon Kern Brian Marick	Robert C. Martin Steve Mellor Ken Schwaber Jeff Sutherland Dave Thomas

Source: Authors according to Agile Manifesto at https://agilemanifesto.org/

The characteristics of an agile organization are given in the following (Table 3).

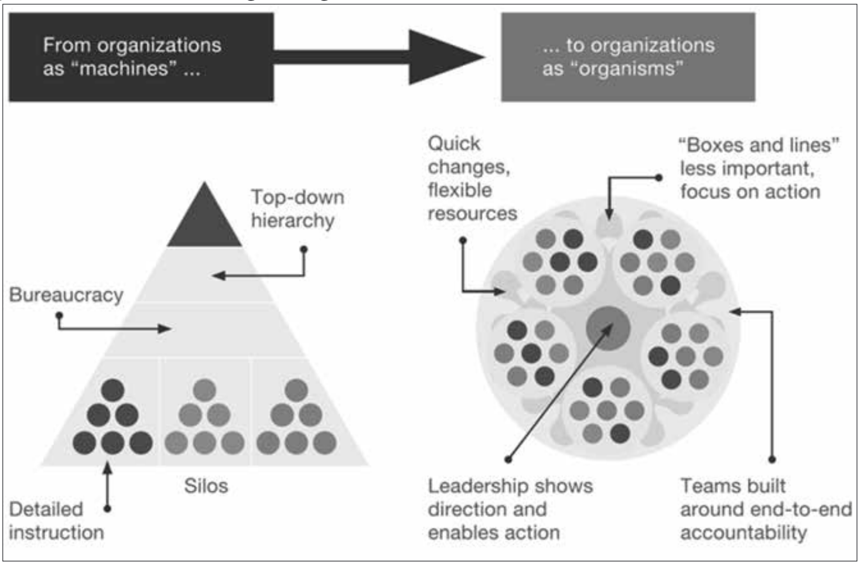
Table 3. The elements and characteristics of an agile organization

Elements	Characteristics	Practices
Strategy	Overall strategy is widely communicated and embodied throughout the organization.	- shared purpose and vision - strategic guidance is actionable - seeing and using opportunities - resource allocation is flexible
Structure	Network of agile teams	- organization structure as flatten as possible - roles clearly described and accountable - governance including personal involvement - strong and capable communities of practice - co-working ecosystem - working environment (physical and virtual) is open - cells well equipped for its designated role
Process	Fast decision and learning	- quick iteration and experimentation - well defined ways of working - orientation towards performance - transparent information system - learning in cycles - decision making oriented to action
People	Dynamic staff model	- esprit de corps - cohesion environment - leader as facilitator - intrapreneurship - mobility of roles
Tech	State of the art technology	- next-generation technology, - practices for evolving technology architecture, systems and tools

Source: Authors according to McKinsey at https://www.mckinsey.com/business-functions/organization/our-insights/the-five-trademarks-of-agile-organizations

Software companies have found that to successfully respond to an ever-changing environment, it is necessary to create a living organism such as an agile organization (Figure 1).

Figure 1. Visual of an agile organization



Source: https://www.mckinsey.com/business-functions/organization/our-insights/the-five-trademarks-of-agile-organizations

Agile organizations can deliver higher quality strategies and services more efficiently and with less risk. By ensuring greater employee autonomy engagement, they can release large dividends on productivity that is currently growing in today's public sector. The public sector, ministries and agencies, and even internal departments are separated with managers focused on their vertically organized and sometimes competitive areas.

In contrast, the agile organization enables teams to achieve high-quality results quickly. It is a paradigmatic shift that favors a clear, inclusive vision rather than excessive regulation. The agile network promotes a culture of leadership, the organizational structure of multifunctional teams, a talent ecosystem and collaborative culture. As the capacity of the institution grows, so it breaks down functional silos, increases transparency and accountability, and empowers employees.

3.3. Fourth Industrial Revolution and blockchain

The human need for interaction and transactions throughout history has been accompanied by a lack of effective coordination systems and a lack of mutual trust. With the advent of the internet, coordination issues have been increasingly addressed, while the search for a systematic answer to effectively address the issue of mistrust has continued. If there had not been human distrust, there would not have been a need to create institutions. Institutions have become too expensive over time as they always have been monopolized by governments knowing that governments are the only ones having a monopoly on coercive means on a particular territory too.

3.3.1. Blockchain, development and use of blockchain as a currency

Blockchain was announced to the world on 3 January 2009, in the article titled "Bitcoin: A Peer-to-Peer Electronic Cash System" published by Satoshi Nakamoto, introducing Bitcoin, a direct electronic payment method. Blockchain technology is capable to solve the problem of trust in transactions between humans. By doing so, it is not requesting human nature to be changed. On the contrary, blockchain technology is fed by human distrust, so its long life is guaranteed.

Blockchain technology is a combination of two technologies that have been widely used for some time. The first is a common ledger for electronic information. The second is asymmetric cryptography that allows the secure transfer of private transactions over a public network. Transactions are secured through network nodes that distribute tasks for the algorithmic hash generation to networked computers. A hash is a series of data of a consistent length that acts as a unique identifier that can validate transactions. The hashes, once calculated and locked, become a new block to be added to an existing set of blocks. New blocks are created according to predefined rules that cannot be manipulated unilaterally even by blockchain platform designers themselves (Böhme et al. 2015).

To help explain the use of this technology, it may be best to compare it with money. Cash can be forged, and there is a centralized authority governing it. Unlike central banks and their national currency issues, no centralized agency can unilaterally create or uncontrollably spend the new cryptocurrency. What determines the ownership of a cryptocurrency is the collective production and the creation of consensus-based on fixed rules that cannot be changed without consensus once they are set up and published. Today, the issuance of currencies, which was once the discretion of powerful elites, is now exposed to competition and public participation. The same thing can happen with other institutes over which governments still hold a monopoly and charge too much, keeping too many bureaucrats on the payroll.

3.3.2. Examples of using blockchain to support public service

According to Forbes (2016), the Georgian land-registry pilot project is the first project in the world where a government has used the blockchain technology for this purpose. Georgia Land Registry Reform began in 2004 with the digitization of land records conducted by the Ministry of Justice and the Bureau for Technical Inventory. Numerous frauds occurred during the process, so the Georgian Government decided to reduce the number of bureaucratic procedures and repetitive jobs and to restore the confidence of citizens.

The processes were removed from the Ministry of Justice and the Bureau, and an independent Registry Agency was established, leaning on the Ministry of Justice. To restore the trust, it was decided to disable human manipulation of the Registry and verification of the real estate ownership data began by using Bitcoin blockchain technology. The project improved government efficiency and helped to restore public confidence in national agencies. As of 2019, a total of 772,617 real estates in the Republic of Georgia have been published by the use of the blockchain technology. In Georgia today, it is possible to transfer property rights in a single day, without the mediation of third parties with a significant cost reduction.

Subsequently, a wide-ranging action was taken to digitize most of the repetitive processes carried out by the slow bureaucracy. According to the World Bank's Doing Business 2020 Report, Georgia moved up to second and fifth place in the global rankings, in the categories of business establishment and registration of ownership of the real estate, respectively.

3.3.3. How to attain standards, interoperability and legal framework to deploy Blockchain and Distributed Ledger Technologies in the public sector in European Union?

Blockchain technology is a disruptive technology that can enable the first real step towards creating an effective functioning of society. Today, there is no need for governments to keep all of the coordination institutes and handle them through the bureaucracy. A good deal of horizontal support work or repetitive work could either be privatized or placed at independent platforms of electronically distributed ledgers (DLT).

The real question in deploying blockchain and DLT technology is standardization, legal certainty, interoperability and trust in services enabled by these technologies. European Commission recognized Blockchain as an important tool for building a secure, inclusive and fair digital economy, therefore, in collaboration with European Parliament, launched the European Blockchain Partnership, and within it, the European Blockchain Services Infrastructure (EBSI).

There is a need for further research how European Commission will set standards and create a regulatory framework for blockchain and DLT deployment having in mind that blockchain is just a technology, and like other technologies deployment, there is more attention needed about economics and business models of organizations involved (and their change management), than it is about technology evangelism. For any future administrative organization, blockchain technology deployment should not be a goal in itself (like it happened with poor digitalization for some online e-government services) but a tool deployed to help public service organizations achieve effectiveness and efficiency.

4. DEVELOPMENT OF PUBLIC ADMINISTRATION IN CROATIA

The development of public administration in Croatia can be divided into four phases. The first phase of the transition began with the independence gained in 1990 and ended with administrative reforms in 1993 when the second (consolidation) phase began. The third phase began in 2001, with a new package of reform measures motivated mainly by a political decision to enter into the European integration process. The adoption of the first State Administration Reform Strategy in 2008 marked the start of a new, fourth phase – the phase of modernization of the Croatian state administration (Koprić, 2017, p. 350). Development was accompanied by numerous problems, conflicting concepts crystallized, and currently, the reform is being implemented through the Public Administration Development Strategy adopted by the Parliament of the Republic of Croatia in 2015.

4.1. Conceptual conflicts in attempts to reform Croatian Public Administration

Administrative changes are taking place with constant conflicts between those who want to preserve the traditional model of the Croatian state and those who advocate a radical minimization of the role of the state. Although conceptually conflicting, supporters of the new public management and traditionalists coexist because they have occupied certain positions and largely satisfied their ambitions. (Koprić, 2016, p. 10). What is mutual to both is the fact that none of the concepts is considering dismantling the bureaucratic pyramid and try to shape the civil servant system in a way to successfully cope with a contemporary rapidly changing environment.

Tradition is a heavy burden because those who wish to preserve it naively perceive it as a pillar of state continuity. It is incumbent on traditionalists to preserve the current hierarchical, politicized and centralized governance model, as well as the corresponding administrative organizations, structures, and institutions. There is strong resistance to changes and modernization of administration in the higher professional layers of public administration, which is reflected in unnecessary formalism and procrastination, the perpetuation of outdated models, rejection of innovations in procedures and techniques, and rejection of good European practices and standards, and resistance to administrative simplification. This bureaucratic resistance is sometimes glorified as nurturing an administrative tradition, and parts of the Academia support it as well. (2016, p. 9)

The New Public Management (NPM) proponents call for the principles of private management to be introduced at least partially into the public administration. Some of these are the introduction of a quality management system, performance indicators, cost-benefit analysis, strategic planning, human resources management, and the overall digitalization of administrative processes and outsourcing of the public services. As a prerequisite for all the aforementioned, the civil servants' employment requirements should be regulated by the Labour Act instead of the current Civil Servants Act. Proponents of the NPM are in favor of the lean government and they want a serious reduction of the role of the state with radical cuts and privatization of public administration. (Pollitt & Bouckaert, 2003, p. 23). Also, they want to divide the current scope of civil servants' work into two separate groups; the ministries should be in charge of articulation of public policies, while the agencies should be in charge of the delivery of public services, i.e. the agencies should have more autonomy.

4.2. Main reform problems

The paternalistic paradigm of socialism is deeply embedded in today's bureaucrats in public administration in Croatia: most of them think in the way that public affairs should be solely taken care of by politicians. This thinking has diminished the capacity of public administration to formulate long-term public interest. We are witnessing the overproduction of poorly designed strategic plans, where strategic goals are not set, performance indicators are not clearly defined, and monitoring and control are missing. Moreover, even when the strategies are well thought out, there is a significant lack of political will to support the implementation of the strategies adopted. The Public Administration Development Strategy 2015-2020 (Narodne Novine, 2015) and the Action Plan for the implementation of the Public Administration Development Strategy for the period 2017-2020 (Vlada RH, 2016) are currently being implemented.

4.3. Strategy for the Development of Public Administration and Action Plan

Croatian Parliament adopted the Strategy for the Development of Public Administration for the period 2015-2020, and the Government of the Republic of Croatia adopted the Implementation Action Plan for Public Administration Development Strategies for the period 2017-2020, which is the following the Strategy. According to the Strategy, the development of public administration should take three main directions:

- Simplification and modernization of administrative procedures,

- Improvement of the system of development and management of human resources,
- Reforming the administrative system (European best practice).

The Action Plan describes the activities required to be implemented or to be completed by 2020. There are 45 total measures overall, divided into the following groups of desired outcomes:

- Civil service system rationalization
- Introduction of quality management,
- Enhancement of transparency and accessibility of services,
- Development and introduction of Human Resource Management,
- Digitalization of public services.

From publicly available data on the web pages of the Ministry of Administration, it is evident that the Ministry of Administration has contracted the funds for co-financing and that the projects started will attempt to address eight of the forty-five measures outlined in the Action Plan.

In this paper, in terms of the progress in the reform, we were interested in the concrete results of the projects "Introduction of Quality Management System in Public Administration of the Republic of Croatia" (Quality Project) and "Development of the Competence Framework for Public Administration Employees" (Competence Project). We recognized that these projects could make the most of starting a genuine reform of the Croatian public administration in terms of introducing efficiency monitoring, enhancing competencies and, consequently, a necessary reorganization to create an organization of Croatian public administration capable to face the challenges of the future.

4.3.1. Quality Project – the introduction of Taylorism

For the implementation of measure 5.1 from the Action Plan: "To Introduce Quality Management Standards in Public Administration", the Ministry of Administration announced the procurement of the Business Process Optimization and Standardization Services on the website of the Official Gazette, 11.03.2019 No 2019 / S 0F14-0008731.

By the project task, it has been well recognized that the institutes and mechanisms in the existing legal framework are not at the same spot in terms of legislation or methodology, they are outdated, and there is no systematic management approach based on the concepts of continuous improvement and quality, including a system of planning, monitoring and reporting on the use of those institutes/mechanisms within public administration bodies.

But, the following statement from the project task: "There are no performance measurement mechanisms without which it is not possible to determine the current state of affairs and hence to suggest the necessary improvements," we see as an alibi attempt to not fully implement the reform. If only the optimization and standardization of existing processes are carried out, the success will be partial. Unless the project is upgraded, we conclude that Croatian Public Administration is currently introducing only the genuine Taylorism, and nothing more.

What we consider this project should necessarily deliver refers to the delimitation of the public administration processes into groups of professional-creative and repetitive processes. After the delimitation, a thorough analysis should be conducted and recommendations are given about which processes should be retained, and which processes are repetitive and therefore eligible to be automated or outsourced. Furthermore, at least one of the processes which are within the Ministry of Administration concern (e.g. registration of death in the registry), should be piloted using distributed ledger technology for further research. If done so, outcomes like automation of last will execution via blockchain smart contract could be thoroughly analyzed.

4.3.2. Competence Project – late Fayolism in the Croatian Public Administration

For the development and implementation of the Competency Framework in the Project: Development of the Competence Framework for Employees in the Public Administration of the Republic of Croatia, the Ministry of Administration announced the procurement of services, 14.01.2019 No 2019 / S 0F2-0000864.

From the project task assignment, it is evident that a competence framework will be created, meaning that it is necessary to develop a unique methodology for analysis and evaluation of jobs that will be applicable in all three areas of public administration in the Republic of Croatia. Based on the established methodology, generic job descriptions and typical/standard job titles with defined required and recommended competencies for the following job groups should be created:

1) Professional-creative jobs (creation of policies and strategies, expert studies, drafting of laws, expert opinions, financial-planning tasks, etc.)

2) Administrative procedure:
   a) Direct law enforcement activities (performing actions in administrative proceedings, maintaining and resolving administrative matters, keeping prescribed records and issuing certificates from those records, conducting proceedings to determine facts which are not kept as official records and issuing appropriate certificates on these facts and performing other appropriate administrative tasks);
   b) Supervision (inspections, internal audit),

3) Horizontal function jobs (HR management, public procurement, management and control of the use of ESI funds, preparation, drafting, implementation, monitoring and coordination of projects, IT, general and administrative, material and financial affairs).

By comparing the two project tasks, we conclude that a certain part of the jobs described in the Competences Project should be described in the Quality Project. In particular, the Quality Project should recognize the character and so divide the jobs. Only after deciding which jobs should be retained in public administration, a final document could be created with a generic job description by job group created, which will form the basis for planning and hiring officers of appropriate competences, more evenly distributed work, appropriate performance appraisal, and training planning.

If these projects are rigorously implemented as described in the terms of project tasks, their effects can only further negatively strengthen red tape.

4.4. Recommendations for solving the size and efficiency of the Croatian bureaucracy

Frequent changes in circumstances require new types of action and reaction. Bureaucracies are slow and are burdened by procedures. Instead of doing the wrong thing the right way or the right thing but too late, today it becomes more important to do the right thing satisfactorily and on time, meaning, flexibility and the ability to act creatively become more important than the narrow efficiency.

4.4.1. Solution to incompetent politically appointed management

A particular problem in Croatian Public Administration is the problem of the competences of politically appointed management. Wodroow Wilson in his famous essay, The Study of Administration in 1887 advocated the fight against corruption and the spoils system, which is only possible if political parties are prevented from interfering with government administration (Chandler & Plano, 1988, p. 43). The spoils system appeared in the United States with President Jackson in 1829 who inaugurated full-scale spoils system of personnel appointment, following the principle "to the victors belong the spoils of victory". Government jobs were offered to those with the "right" political loyalties, without major emphasis on job-related competence, since everyone was competent to perform public service (Shuler, 2011, p. 6).

Solution: It is necessary to carry out through the Competences Project analysis of the competencies required for performing top-level managerial tasks too, both from the civil servants' side and the politically appointed government official's side. To acquire the relevant competencies, individuals within political parties intended to run for political appointees would be required to complete management/specialist training, like it is in Germany and France.

4.4.2. Solution to the incompetent employee and inadequate organization

Issue: Incompetent individuals proposed for a senior position in the bureaucratic pyramid will accept a position for which they have neither training nor experience, thus confirming the so-called Peter's principle. According to Peter's principle, an employee who is competent at their job will be promoted to a higher-level job that requires different skills and knowledge. If they are competent at the new job, they will be promoted again, and so on. However, at some point, the employee may be promoted to a position for which they lack the necessary specialized skills and knowledge. Based on this principle, Peter's Corollary states that «in time, every post tends to be occupied by an employee who is incompetent to carry out its duties. (Peter & Hull, 1969, p. 24).

Solution: Abolish a pyramid organization with numerous incompetent middle managements, and introduce a flattened organic organization made of agile teams whose members are highly competent specialists of different profiles (Figure 1). Abolish the system of advancement and unnecessary managerial functions. Following the new organizational scheme, devise a system of human resources development to achieve the highest level of specialist expertise and create a high culture of the organization to attract talent. According to Burns and Stalker, organic organizational structures are a form of flexible organization where employees work as team members instead of as subordinates. Today's administrative organizations need an organic organization structure characterized by the following features:

- The organic organization has to be able to constantly reshape itself to solve new problems and solve unforeseen emergencies caused by volatile, turbulent and changing conditions,
- Instead of a rigid, highly specialized structure, a fluid organizational design should be created that facilitates flexibility, adaptation, and redefinition of jobs,
- Extreme flexibility, customization and frequent redefinition of tasks,
- Lateral communication consisting of information and advice, instead of a top-down cascading command overflow,
- Members of the organization should be personally and actively dedicated to what is fundamentally operational or functionally required,
- Dissemination of commitment throughout the organization.

4.4.3. Solution to the processes problem

From the options offered by traditionalists and neo-liberals, the best parts should be accepted, and everything that surreptitiously leads to complications of procedures, on the one hand, or complete liberalization of the public service, on the other, should be eliminated.

The solution to the legislative framework should be: To reduce the number of passing imperfect laws, it would be sufficient to build a platform for effective and honest two-way communication with the interested public when passing new laws. To achieve mutual consent, target marketing campaigns should be conducted to invite citizens and the business community to work together.

Solution for procedures: In terms of quality implementation of procedures, it would be sufficient to make an inventory of existing procedures, to recognize and to abolish unnecessary procedures. Retained procedures should be modified and separated into those seeking professional creative work and those that are repetitive. Most of the creative work in public administration should be assigned to agile teams by triage, and the rest of the work should be placed through internal competitions, which would revive the reward system. Regarding recurring jobs, they need to be digitized and placed on the blockchain platform to automate and reduce. The part of recurring and horizontal support jobs that logically cannot be placed on the blockchain platform needs to be outsourced.

After the digitalization of services, it is necessary to carry out an extensive education of users for the use of e-services and to actively promote the use of e-services by citizens and the business community.

5. CONCLUSION

Hierarchical organizations are all around us as the historical answer for designing the systems to meet human needs of communication, interactions, and transactions. With curiosity as a driver, these needs were always accompanied by mistrust that hindered or impeded those needs. Various ways to arrange systems of coordination and solve the problem of mistrust were tried. Each in his age, thinkers described what this system should look like, from authoritarian Macchiavelli, through moderate Hobbs, to authors advocating anarchy like Leeson. What is universal in all systems is the institute of coercion which, in a particular territory, has been retained by the sovereign. In addition to the institute of coercion, the sovereign has retained for himself all other institutes for coordination and transactions. That would not be a bad thing if these institutes functioned as efficiently as possible, but it's not as that.

In their specific way, neoliberals are fighting the hardest to reduce red tape. Heavily funded by the world's richest families they create new and newer doctrines, directions and schools. Sadly, we are witnessing several contradictions of neoliberalism: forms of hyper-liberalization can coexist with increasing calls for national protection; many of the changes in the policies of Western economies aimed at providing opportunities for greater individualization and social mobility have resulted in the explosion of social inequalities and new forms of stratification and the transformation of a social world that is yet to be fully understood.

The fact that even today we have a bureaucracy such as Balzac ridiculed in 1836, we have to thank the implanted paternalism that we acquire through education, work and the transfer of knowledge. The root cause of bureaucracy, therefore, is paternalism, meaning that incompetence, the spoils system, and complicated procedures are only a consequence. In the modern sense, paternalism is associated with actions that restrict individuals' freedom through law and public policy. All "democratic" governments are built on the foundations of paternalism. The democratic paternalistic response, therefore, can also be expected from the recommendations for improving the red tape that we have proposed in the previous chapter.

Yet, given the rapid pace of change and the broad implications of the last Industrial Revolution, governments face unprecedented challenges that they will not be able to answer if they remain as they are. The Third and Fourth Industrial Revolutions, among other innovations, introduced organic (agile) organization and blockchain technology. If governments prove the capability of embracing the world of disruptive change that engenders new technologies and if they renounce part of their predatory instinct, they and their bureaucracies will succeed in unburdening governing organizations by automating and outsourcing repetitive jobs, therefore transforming administrative structures into organizations of greater transparency and efficiency.

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Project management

PROJECT MANAGEMENT IN ACQUISITION OF THE CROATIAN COAST GUARD PATROL SHIP

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Abstract

Shipbuilding is the process in which a ship is manufactured from basic raw materials and components. In a broader sense, it includes all the activities involved in the process, from which the first idea of a ship becomes to a ship ready for use, i.e. from signing the contract to delivery of a ship to the shipowner. This process varies depending on the material, size, and purpose of the ship, but essentially consists of the preparation and construction of the ship.

As a specific branch of shipbuilding, the military vessel construction is the process of military shipbuilding and consists of the development, design, construction, repair, and maintenance of combat and other military vessels.

Ministry of Defense by constructing the Coastal Patrol Ship (CPS) has the goal to increase the capability of the Coast Guard of the Republic of Croatia, as part of Croatian Navy, to carry out the task of permanent monitoring of the territorial sea and the protected ecological and fishing zone of the Republic of Croatia.

This paper discusses specifics of military shipbuilding with its main characteristics and "la raison d'être" and its importance using the construction of the prototype of CPS built for the Croatian Navy. The main goal of this paper is to elaborate on the complexity of the organization and managerial skills to apply all available resources to complete the project from drawing to the final

launching of CPS. CPS will serve to the Croatian Navy to increase its capabilities and efficiency.

Keywords: *war shipbuilding, project management, capabilities*

JEL Classification: H57, O22

1. INTRODUCTION

This article aims to present to the expert and wider public the issues related to naval shipbuilding. Military shipbuilding is specific for its technical requirements for shipbuilders which have to answer to complex requirements of specific design, production-related to security and quality control, ship size and complexity, contracting, design, production, workforce demand, client involvement, and business models. (Birkler J. at al., 2005)

As presented in RAND book additional requirements compared to civilian shipbuilding are related to the large propulsion systems for the space available to accommodate them, and their electrical systems must be capable of greater loads. Weapon and sensor systems must be planned, and the number and placement of such heavy systems must be addressed to ensure that the ship's center of gravity is not too high. (Birkler J.at al., 2005)

This paper presents the case study of one specific project of construction of the CPS built for the Croatian Navy.

The article is composed of a short theoretical overview, general requirements of the project and main ship characteristics. In continuation here is presented the project management organization and processes and then the main challenges and risks of the project.

In the end, the article gives in conclusion lessons learned and possible improvements in military shipbuilding as a sort of recommendation and directions in future efforts in this field.

In theory According to the source from the Lexicographic Institute Miroslav Krleža (LZMK 2017) "shipbuilding is art, technical discipline and industrial activity related to the design, construction, and construction of ships and other vessels". (Batinić Š., Belamarić I., 2019)

Further, the source mentions shipbuilding as "industrial activity, in the broader sense, means the shipbuilding industry, which, besides the construction of the ship, also includes the production of marine equipment, shipbuilding system, etc. Today, shipbuilding is mainly related to shipyards as industrial plants in which construction takes place and repair of ships. There is a distinction between river shipbuilding (inland navigation vessels) and naval shipbuilding". (Batinić Š., Belamarić I., 2019)

The article on project management in the acquisition of the Croatian coast guard patrol ship is the first work on this subject in Croatia. The topic is difficult to address because there is very limited access to sources as there is not much open source information available to the public insufficient details.

Ministries of defense are using internal documentation which carries the degree of secrecy and requires a security clearance certificate. Based on that fact access is limited only for use within the national defense and security sector.

For this reason, this article relies on available open sources to present the Project management in the acquisition of the Croatian coast guard patrol ship as the case study.

1.1. References on naval shipbuilding project management

This part of the paper refers to previous works in shipbuilding project management that apply to this work. Brown in his paper gives an overview of defense acquisition management in the US Department of Defense. It lists the roles and responsibilities of major participants and regulatory documents. Chapter 3 focuses on the importance of program and project management in accomplishing project objectives during development, production, and sustainment to meet required military capabilities.(Brown, 2010)

UK Ministry of Defense in the National Shipbuilding Strategy in Chapter 2 focuses on the development of a new governance structure for the management of the Navy`s ship acquisition portfolio. The main aim was to improve project management practices regarding finance, contracts and working with industry. (UKMOD, 2017)

The Royal Australian Navy is in process of acquisition of a new frigate with the working name "SEA 5000 Future Frigate program". RAND Corporation, in one of his publications, developed acquisition policies that are important for program managers in terms of designing, building, testing, and supporting a complex naval ship and numerous decisions that might be made along those different tracks. (Schank, Arena, Kamarch, Birkler, , 2014)

The next source provides a useful understanding of the roles and responsibilities of program managers in the US DoD. It delineates specialized skills and knowledge that are specific for the DoD acquisition system, understanding program management principles, processes, and terminology. It stresses the importance of leading the program management team, collaboration with members of the DoD community, and managing program processes and phases including estimation of project cost, scheduling, and risk assessment. (Cooly, W., Ruhm, B., 2014)

Douglas L. Bland presented national approaches of the United Kingdom, Netherlands, Australia, and Canada to naval shipbuilding procurement. It outlines their industrial strategies, major naval programs in those countries and lessons learned in the area of program management. (Bland, 2010)

1.2. Project Management in CMOD and CAF

CMOD recognized the importance of project management procedures for the successful execution of a project to provide new capabilities following strategic planning documents.

As presented in article Project management in government administration „projects were initiated, conducted and brought to its successful conclusion by the imagination and significant efforts of the appointed heads of the working body together with the appointed members, personnel from different parts and functional organizations of CMoD and CAF". (Ćutić, Pađen, 2019)

All projects in CMOD are supervised, managed and executed per "A Guide to the Project Management Body of Knowledge" (PMI, 2013) as the general framework for project management, recognizing the national legal framework, respecting the specifics of the functioning of state administration bodies and following the specifics of the structure, organization of work, hierarchy and other internal regulations in the field of management of the CMoD and CAF.

1.3. Shipbuilding

In the website edition of Lexicographic Institute Miroslav Krleža (LIMK2006), Hadžić and Zaplatić discuss how the construction of a ship represents a process by which the basic raw materials and components are built to the ship. In a broader sense, it includes all the activities involved in the process, from which the first idea of a ship becomes to a ship ready for use, i.e. from signing the contract to delivery of a ship to the shipowner. This process varies depending on the material, size, and purpose of the ship, but essentially consists of the preparation and construction of the ship.

In continuation of definition of shipbuilding, authors describe the shipbuilding process as "the preparation of the construction of the ship includes defining the ship in technical, technological and commercial terms, contracting the construction, drawing up technical documentation, planning individual stages of construction, obtaining the required material, machinery and equipment and planning their storage. The application and development of computer technology in the present time has shortened the time of preparation and has facilitated the preparation of project documentation, construction, and works of art, etc.

Going in more details authors elaborate that the construction of the ship includes the processing of the building parts of the hull, the prefabrication of sub-assemblies, assemblies, sections, blocks and modules, and the construction of the hull, equipment construction, ship launch, ship fitting and finalization, testing and acceptance. (Hadžić, Zaplatić, 2018)

1.4. Military shipbuilding

In LIMK edition on military shipbuilding stay (LIMK 2016) „development, design, construction, repair, and maintenance of military and other military vessels. Apart from project offices and shipyards, it often involves scientific and other developmental institutions". (Mušterić, Vojna brodogradnja , 2019)

Also, LIMK in website edition describes military shipbuilding existence of shipbuilding capacities for the construction of warships that exist from the earliest history, and given their importance, they were mainly supported by a state authority or were under its direct authority. By the technological organizational structure, they did not differ significantly from the civilian, with additional security and data protection measures that were considered confidential. The development of naval shipbuilding in the world and Croatia follows the development of overall shipbuilding and often encourages the acceptance of new technologies that are later used in civil shipbuilding. (Mušterić, Vojna brodogradnja, 2019)

2. THE PROJECT GENERAL REQUIREMENTS

The successful construction of the CPB is vital for the reconstruction of the Croatian Navy's ability to achieve the required efficiency on the sea, and even more important given the above-average age of Croatian Navy ships. The CPB prototype is evaluated through the prism of fulfilling its operational capability i.e. satisfying the set of tactical and technical requirements that are in direct support of the fundamental, supplemental and warfare tasks of the ship.

The success of the CPB project is reflected directly on the perception and reputation of the Ministry of Defense (MoD) and the Croatian Armed Forces (CAF), the situation of the Croatian military industry and the potential profiling of CPB as an export product of the Republic of Croatia, the retention of jobs and the preservation of the ability to design and build warships in the Republic of Croatia. The modernization of the Croatian Armed Forces (CAF) will also be a motivating factor in attracting naval personnel through the construction of CPB, which is of crucial importance for the maintenance and continuation of Croatian Navy capacity as one of the important components of the Homeland Security system. (PT, 2019)

The Croatian Coast Guard (CRO CG) is part of the Croatian Navy whose mission is to protect the state interests on the sea. The main tasks of the CRO CG in support of its main mission are:

- low enforcement at sea,
- protection of fishing,
- control and prevention of possible ecology incidents,
- combat against terrorism,
- trafficking of people and narcotics.

To be effective, the CRO CG needs new capabilities that will be acquired through new CG ships which will support all the above-mentioned tasks.

During the preparation period of the project, the CRO MoD conducted a series of studies that indicated that the most appropriate capability for the CRO CG will be a CPS. It would enhance the CRO CG operations and improve its efficiency at sea. The main tasks for the new coastal patrol ship are (Ministarstvo obrane, 2013):

- To conduct peacetime tasks as mention above,

- Miscellaneous tasks such as search and rescue and support of the local population in crises,
- Tasks during wartime.

As a result of the tactical study, the study of conceptual solutions and feasibility study the tactical and technical requirements were developed. The main requirements are listed below:

- Length overall 43.5 m,
- Breath overall 8.0 m,
- Breath of hull 7.5 m,
- Draft over propellers not higher than 3.5 m,
- The speed at 90% MCR 28 knots,
- Economy speed 15 knots,
- Minimal speed from 5 to 8 knots,
- Minimal displacement through the optimization process,
- Height of hull at the main section 3.85 m,
- The ship should be operational at the sea state 3 following the World Meteorological Organization (WMO),
- Semi displacement ship form,
- The material of hull is high strength steel,
- The material of superstructure is Al alloy,
- The ship autonomy is 10 days,
- The ship range is 1000 nm.

There were additional detailed requirements about all ship systems such as propulsion, auxiliary equipment, armament, navigation equipment, communications, and CIS equipment, deck equipment, firefighting, etc.

3. PROJECT MANAGEMENT ORGANIZATION AND PROCESSES

3.1. Croatian CPS project

The coastal patrol ship project management (PM) (established by the Decision of the minister of defense) was organized on three levels within the MoD.

The mid-level was Project Board (PB) (established by the Decision of the minister of defense on introducing the PB) that was responsible for overall control of the project and providing directions in cases of difficulties (PB rules of procedure - internal regulation of the responsibility of PB). As superior to the Project manager (PM) was the project sponsor assigned to control and supervise the project. The PM reports to the project sponsor.

At the mid-level, in the organization structure of Ministry of defense in 2017 was established the Project management office (PMO) as an independent department to perform professional and administrative tasks related to project management in the field of resources for the needs of the Ministry and the Armed Forces. The PMO coordinates activities, manages the scope, timing, costs, quality and human resources, exchange of information, risks and procurement for projects, programs and portfolios needs of the project. The PMO also prepares analyses and reports on project implementation for the needs of the body responsible for the supervision, control, and decision making in project management. As the CPO is registered as a project within MoD portfolio PMO is an important chain in the project hierarchy. (Vlada RH, 2017)

The lower level represents the Project team (PT) that was responsible for practical jobs related to the preparation and execution of the project. The main responsibilities of the PT were:

- Preparation and coordination of development of the project documents including tactical study, the study of concept solutions, feasibility study, technical specification, and bid documentation.
- Development of requirements for the project and user documentation including logistic support.
- Control and acceptance of project documentation, results of model tests and approval of possible changes in this area.
- Development of long and short term programs of execution of the project.
- Development of quality control requirements for the project.
- Development of the acceptance test programs in coordination with the Shipyard.
- Execution of quality assurance during ship construction and equipping in coordination with the Croatian Shipping Register (CSR).

- Development of programs of prototype testing in coordination with the Shipyard.
- Tracking functionality of the ship during the warranty period and coordination with the Shipyard regarding the possible maintenance works.
- Preparations are necessary for entering the ship in operational use.
- Contract execution control.
- Reporting to the PM every week.
- Day to day coordination with the shipyard and managing the changes within the project.

PM was leading the PT and his responsibilities include:

- Lead the PT and give direction to PT members.
- Coordination and harmonization of PT activities with other stakeholders including the shipyard, project office, and CSR.
- Execution of direction from the PB.
- Reporting to the PB and other divisions within the MoD.
- Proposing the composition and changes of the PT.
- Drafting of the procedure of functioning the PT.

Initially, the PT was composed of the permanent part (PM, leader of the technical division, a permanent member of the project team) and temporary members that covered all specialist areas of the project. Temporary project members were included in the team activities as it was necessary during the execution of the Project. After the reconstruction of the PT, there were some changes within the team. The PM was only permanent member and temporary members were organized in specialist subgroups (operation and weaponry, naval architecture, marine engineering, electric, electronics and communications, and computer information systems) and the rest of the team that included finance, security, and acquisition. The team had a typical matrix organization, each team member was part of its organizational structure within the MoD and at the same time, there were members of the PT. Each specialist subgroup had a leader that led the subgroup and was responsible for reporting directly to the PM. Also, the reconstruction of the project team included a detailed description of the tasks of all specialist subgroups. This kind of organization was crucial in achieving the success of the project that will be further elaborated in the paper. This way the team was organized following the main functional area which contributed to the overall effectiveness of the PT.

The highest level of project management of this project represents the top MoD management. They were reported by the PB and sometimes as needed by the PM during thematic meetings at the level of the minister of defense. The main concerns of this management level were to provide finance for the project and to get deliveries of the project on time and required quality.

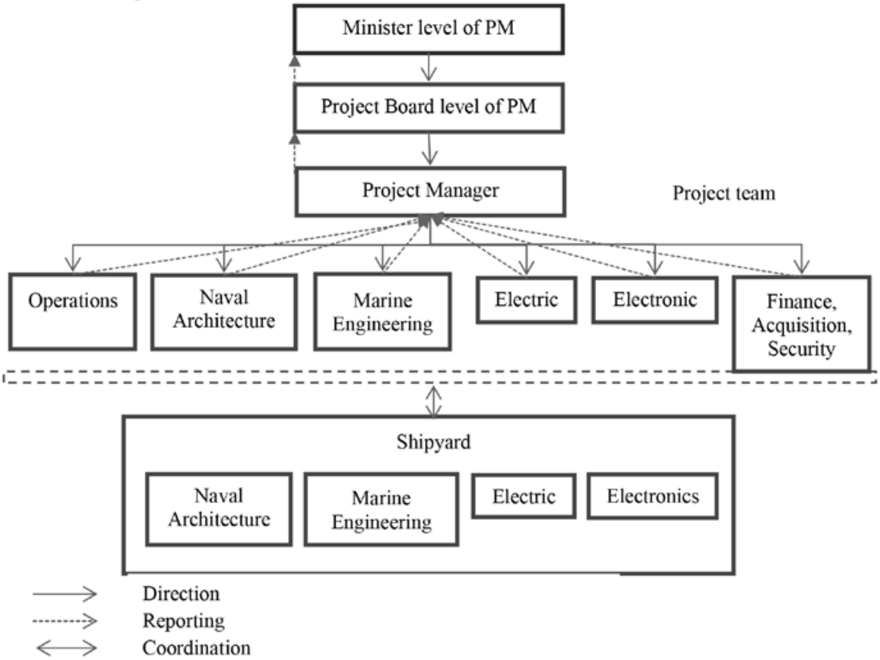
The Shipyard had its organizational structure that supported the execution of the project. It was a typical Shipyard structure that will not be in detail elaborated in this paper. The main project office was not part of the Shipyard and it was a member of the Corporation . One of the characteristics and complexity of the operation of Shipyard was that workers of part of the Shipyard that was responsible for ship construction were sometimes assigned to other projects within the Shipyard.

To succeed it was necessary to maintain very good coordination of MoD PT with the Shipyard. Most time was dedicated to changes within the project during the construction phase and coordination in the development of acceptance testing programs. Coordination meetings were held every month and when necessary there were ad-hoc meetings. There were a lot of challenges that the project faced during the construction of a prototype related to technical solutions of some ship subsystems and equipment installation that were settled on these meetings.

The smooth flow of information and efficient reporting system was important for the success of the project. That way all project management decision levels could do its part of a job and the project could continue smoothly. Chart 1 shows the organizational structure of project management and related processes.

For this project, as well as for any other project in MoD is approved Methodology of project management of developmental projects of MoD and Croatian Armed Forces (CAF). (MoD, 2014) This methodology was applied to the CPS project. As a comparison to this methodology, every organization in different countries develops its specific project methodology. As an example, we refer to the US Coast Guard Major System Acquisition manual where acquisition processes and project management responsibilities and procedures are described. (CG, 2019)

Chart 1. The organizational structure of PM



Source: author

4. THE MAIN CHALLENGES AND RISKS

4.1. Challenges

Positive features of the above PM structure are as follows:

- PT has a functional organization that gave PT members more autonomy and their performance was much better in comparison to the previous structure.
- In the current structure, PT members had clear responsibilities and tasks.
- Reporting and flow of information were improved after reconstruction of the PT and had a positive impact on the MoD PM structure and it better contributed to efficient decision making.
- PT representatives required fairly execution of all terms in the contract and its annexes.

- Quality control processes were significantly improved after PT reconstruction and their active participation in the development of acceptance and prototype quality programs.

Negative features of above PM structures are:

- Shipyard PM team had a large influence on the project changes during the finalization of project documentation what resulted in significant changes of the project in comparison to the initial project, produced many technical difficulties and resulted in breaking a deadline for prototype delivery.
- PB has an important role in the PM processes but it should have been more focused on the project and it should have one person directly responsible for the project.
- Shipyard shortcomings related to their internal technical processes, organization, planning, and management of ship construction. The weak shipyard` s quality organization and assurance in certain technical areas, and lack of highly professional staff.
- Lack of experienced personnel in the MoD PT because MoD did not have similar naval development projects for a long period e.g. there was a discontinuity in building the new warships in the MoD.
- Lack of project management knowledge in all levels of PM organization and very often a change of the PT members.

The main challenges are related to the above mentioned negative characteristic of PM and the main task of the restructured PT was to force Shipyard to properly execute all obligations from the contract. One of the most demanding activities that involved PT members and Shipyard personnel was the development and harmonization of the acceptance quality assurance programs. Equally important was coordination with the Shipyard regarding the management of changes during the ship construction. Also, some of the project stakeholders had different expectations from the delivered prototype in terms of its performances and this caused difficulties to the PM to explain and firmly stand behind the project contract terms. The PM faced the following challenges after taking over the position of PM:

- Set up a new relationship with the Shipyard that is based on competences, keeping planned due dates of the main phases of the project, and fair execution of all obligations from the contract.
- Agree with the shipyard the scope and the content of acceptance and prototype tests.
- Reorganize MoD PT following functional division and provide decentralization and more freedom of PT members in the execution of their tasks and relation with the Shipyard.
- Define clear responsibilities of PT subgroups and set up an efficient reporting system.
- Negotiate and agree with the shipyard about the acceptance procedure and content of the acceptance record.
- Clarify the approach of acceptance of the prototype and continuation of building the ships of series due to unclear procedures in the MoD.

4.2. Risks

The risks that were related to all phases of the project were as follows:

- Braking deadline for the prototype delivery. This risk was present during the project and it occurred as a result of shipyard shortcomings and other negative influences as was mentioned above. Although the Shipyard broke prototype delivery deadline CPS was accepted because it was an important project for the CRO Navy, restoration of its capabilities and fact that ship satisfied most of the set requirements. For the construction of ship series, new delivery deadlines will be set in agreement with the Shipyard and it is expected that shipyard will deliver the ships on time.
- Shipyard business and financial problems that could cause incompletion of the ship. The PT seriously considered this risk but fortunately, the shipyard stayed stable.
- Failure to meet certain set requirements. There were risks that the prototype will not achieve all the set requirements. This risk also materialized but at the level that did not strongly influence the acceptance and delivery of the ship.

- Lack of continuity and experience in building warships within the MOD. MoD did not build warship for a long period and there was no enough experienced personnel for managing such a complex project. Also, the shipbuilding industry in Croatia lost their knowledge and experience in this area. Fortunately, MoD organized PT that proved its ability to accomplish such a comprehensive task and after this experience, PT is ready to continue the construction of series ships and similar tasks in the future. The shipyard also proved its capability to produce at least patrol coastal ships for the CRO Navy.

5. LESSON LEARNED AND POSSIBLE IMPROVEMENTS

Participation in this project was beneficial for all personnel that was part of the MoD PM structure especially the personnel within the PT. They got the opportunity to refresh their knowledge and to expand it further. The project provided an exceptional chance to learn and to get valuable experience in the area of project management of complex projects such as the design and construction of warship. Finalizing the acceptance of prototype the CRO CG got new capabilities that represent the base for further development of the CRO CG and the entire Navy.

The main lessons learned and possible improvements from this project could be summarized in the following way:

- For possible future similar projects, it is necessary to rigorously keep under control of the MoD representatives the key features of the project and not to tolerate the Shipyard in making significant technical changes within the project documentation. That way the project will probably stay within set technical tolerances and there will be no negative surprises during ship construction.
- It is necessary to require from the Shipyard to improve its technological processes, better organize quality assurance division and improve the planning and execution of shipbuilding phases. Shipyard should as much as possible adhere to the set plans and deadlines.

- Shipyard should improve the professional competence of its personnel especially in the area of quality assurance and planning of all phases of ship construction what would be following initially set requirements.
- MoD PT should stay organized on functional bases but it should be streamlined and reduced to be focused on control of shipbuilding works in all functional areas.
- It will be beneficial that PT members get a higher level of formal education in the area of project management. That way there will be a better understanding of PM processes and reduction of misunderstandings in the responsibilities of PT members.
- It is necessary to involve new personnel within the MoD PT and achieve refreshment and strong will to continue building of ship series.
- Reduce fluctuation of MoD PT members and increase the number of permanent PT members that would improve PT efficiency.
- It will be motivating if MoD PB involves more technical people who understand project matters and appoint one person who would be responsible for the project. That way PB would better exercise its control function and achieve smooth decisions regarding the important project milestone.
- Communication towards all project stakeholders should be improved including the public which is interested in this kind of project and their status.

6. NEW ZELAND NAVY ACQUISITON PROGRAM

This chapter presents, in short, the New Zeland Navy Acquisition program of seven new ships. The intention is to compare the Croatian CPS project with the New Zeland (NZ) acquisition program that faced serious problems with the construction of one of the ships in the program. The program supposed to meet gaps in New Zealand's military and civil surveillance and sealift capabilities. The contract signed during 2004 called for the delivery of one multi-role vessel (MRV) for tactical sealift and patrol, two offshore patrol vessels and four inshore patrol vessels. After the delivery of MRV, two significant incidents occurred in 2007 that resulted in the loss of a rigid inflatable boat (RHIB) and the death of a crew member during deployment of an RHIB. The NZ Minister of defense required an independent review that would identify any concerns relevant to MRV operations, its design or performance, report whether it is capable of performing functions for which was designed and propose any corrective action that may be needed.

The review was carried out by the United Kingdom MoD independent commission and their report (Report of the Review of the Safety and Functionality of HMNZ Canterbury) is referenced in the paper. The main findings of the commission were as follows:

- The MRV is intrinsically safe but remedial work was required to enable her to perform military functions. Seakeeping performance was likely to be poor in higher sea states.
- The program has been managed with relentless determination to deliver to time despite evidence of likely performance shortfalls. There was, however, no explicit consideration of the risks of doing so.
- The complexity and challenges of the program have been under-estimated in all respects. The project team has lacked the size and range of skills to manage a project of the complexity of MRV.
- There have been significant shortcomings in the governance of the MRV acquisition, exacerbated by some strained relationships between the MoD and NZ Defence Forces (DF). Reporting of project performance has been generally inadequate.
- Roles and responsibilities need to be clarified in several areas, notably for safety during the acquisition phase and design responsibility throughout a project's life; improvements could also be made to the ship trials and acceptance process.

Based on the Commission review it can be concluded that lack of project management skills, inadequate risk consideration, negative NZ MoD DF relations and poor roles and responsibilities of a different player in the acquisition program failed the MVR project. (UK MoD, 2008)

7. CONCLUSION

The paper shows a practical example of PM in the area of warship acquisition and refers to a similar project referenced in chapter 6. It presented a complex and demanding multi-level structure of PM in MoD and its relations with the Shipyard counterparts. The main challenges and risks were elaborated as well as lessons learned and possible improvements in leading such a complex project. In comparison to other similar projects, this one is relatively small but it was challenging for the MoD to successfully finalize the first step e.g acquisition of prototype of CPS for the CRO CG. Based on gained experience MoD PT is capable to successfully continue the project and to accept even more complex projects in the future. Suggested improvements would impact the efficiency of the MoD PM structure and enhance the acquisition of the ship's series in the close future. These lessons learned and experiences can be applied in similar complex projects. One of the biggest challenges is related to positive changes in the Shipyard to improve their technological processes and project management generally. MoD PT already affected Shipyard changes but this process should be continued with the aim to improve the quality of the final product e.g. CPS. Also, it is necessary to increase the formal educational level of MoD personnel who participate in this project and prepare them to take more responsibilities in future similar projects. To be successful in this important area MoD should assure continuity of complex projects, invest in constant education of personnel, further develop regulations in the area of project management and use positive experience from the presented practical example.

The key guidelines for the future development of defense project management acquisition, including naval shipbuilding, are related to the establishment of an enhanced organization of competent project office and other control structures for managing defense projects that would be in support of MoD vision and its strategic goals. To succeed in this area, MoD (Government) should act as an intelligent participant, acquiring competent technical personnel, providing them education and development in project management area, and participation in such complex projects to achieve necessary experience. By this approach, new projects would contribute to the gaining of necessary defense capabilities.

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PERMANENT STRUCTURED COOPERATION (PESCO) AND EUROPEAN DEFENSE FUND (EDF) AS A TOOL FOR ECONOMIC DEVELOPMENT

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Abstract

In the European Union (EU) there is nothing constant and stable. The EU is in permanent change searching for better solutions in every segment of life. Implementing efforts of all member states makes every step a challenging and demanding process. In defense is no different. There are several levels involved in defense to improve EU capabilities to answer to the security challenges.

To develop a more secure and better environment and for a better standard of life, the EU makes efforts to improve security and defense capabilities to respond to possible challenges. To reach that goal EU established various documents, tools, and mechanisms in the overall EU capability development process.

The European Defense Agency is the extended hand of The Common Security and Defense Policy (CSDP) of the European Union's (EU) course of action in the fields of defense and crisis management, and the main component of the EU's Common Foreign and Security Policy (CFSP).

There are tools such as Capability Development Priorities (CDP), Coordinated Annual Review on Defense (CARD), European Defense Fund (EDF), and Permanent Structured Cooperation (PESCO), *In this work role of these tools will be presented in more details to present the importance of the EU defense capabilities and the defense industry in economic development.*

Keywords: *PESCO, EDF, EDA, defense capabilities*

JEL Classification: O10, O19

1. INTRODUCTION

The European Union is a political and economic union of 27 member states with an estimated population of more than 440 million. For the safe development of civil society, the EU must develop its defense capabilities to ensure a stable and secure environment. Part of the secure development of civil society depends on defense capabilities, their maintenance, sustainability and development of new capabilities which are independent of the influences from outside the EU

That is why EU member states are developing the military industry. The inevitable fact is that the military industry develops lethal weapons, but which enable the securing of a safe environment for civil society to flourish.

Despite the deadliness of its products, the defense industry has two benefits: investment in research and product development, which, after being used in the defense industry, find their place in civilian applications and the employment of large numbers of people.

Manufacturing brings employment, and the sale of defense industry products brings wages to employees as well as government funding through tax payments. The defense industry's paid taxes are paid back to civil society through the allocation of state budget funds to meet the full range of civil society needs.

This article presents organizations and tools of the EU that are involved in the development of defense capabilities and what is the financial framework of the initiatives actions to fulfill and reach targeted defense capabilities.

2. THE EUROPEAN DEFENSE AGENCY (EDA)

In this chapter, EDA as the leading agency for the promotion of collaboration among EU member states in maintenance, sustainability, and development of new capabilities will be presented in short. Also here is represented Capability Development Plan (CDP) as the tool for decision making.

The EDA is the part of the EU structure of CSDP and the EU course of action in the fields of defense and crisis management, and the main component of the EU's CFSP.

As declared in official pages the EDA promotes collaboration, originates new initiatives and introduces solutions to improve defense capabilities. It also helps the Member States that are willing to do so to develop joint defense capabilities. (EDA, 2004)

The EDA is a key facilitator in developing the capabilities that underpin the EU's CSDP and supports its Member States (except Denmark) in improving their defense capabilities through European cooperation.

It acts as an enabler and facilitator for ministries of defense that are willing to work on collaborative defense capability projects.

The agency is a European defense cooperation 'hub'. Its expertise and networks enable it to cover a broad defense spectrum, including:

- harmonising requirements for delivering operational capabilities
- research and innovation to developing technology demonstrators
- training and exercises to maintenance to supporting Common Security and Defense Policy operations.

The EDA also works towards strengthening the European defense industry and acts as a facilitator and interface between Member States' military stakeholders and EU policies that impact on defense.

In 2017, Member States agreed to reinforce the agency's mission, including by making it the central operator for EU-funded defense-related activities.

(EDA, 2004)

2.2. Capability Development Plan (CDP)

The CDP provides a full capability picture that supports decision-making processes at EU and national levels regarding military capability development, thus contributing to increased coherence between Member States' defense planning.

The CDP Provides a picture of European military capabilities over time, help Member States' defense planners identify priorities and opportunities for cooperation, look at the long term trends affecting European Defense, and identify a list of priority actions detailed enough to direct work on capability development. (EDA, 2019)

As described in its web page The European Defense Agency produces updated Capability Development Plans (CDP) since 2008, in close cooperation with its Member States and with the active contributions of the EU Military Committee (EUMC) and the European Union Military Staff (EUMS)[1].

The purpose of the periodic CDP revision, a key tasking of the Agency, is to provide a full capability picture that supports decision-making at EU and national levels regarding defense capability development. The overall objective is to increase coherence between Member States' defense planning and to encourage European cooperation by looking together at future operational needs and defining common EU Capability Development Priorities. The CDP revision benefits from several inputs such as the Headline Goal Process, studies on long-term trends, lessons from operations and information on current plans and programmes. (EDA, 2019)

The CDP is regularly updated and the latest version was endorsed by the EDA Steering Board in Capability Directors formation in 2018. CDP is of particular strategic significance as it serves as a baseline and reference for the implementation of major European defense initiatives launched following the 2016 EU Global Strategy: the Coordinated Annual Review on Defense (CARD), the Permanent Structured Cooperation (PESCO), and the European Defense Fund (EDF).

The most tangible output of the 2018 CDP revision is the 11 new EU Capability Development Priorities, developed together with the Member States. They are the result of an in-depth assessment conducted based on contributions provided by the Member States, the EU Military Committee (EUMC) and the EU Military Staff (EUMS) on short-term, mid-term and long term trends: capability shortfalls analyses and lessons learned from recent CSDP operations; planned capabilities and the potential for future European cooperation in each of the capability domains; and a study into the long-term capability-related and technological trends and needs (2035 and beyond). (EDA, 2019)

1 EUMC is the body of the European Union's Common Security and Defence Policy (CSDP) and The EUMS contributes through EUMC to the CSDP by providing strategic advices

CDP is developed to support EDA activities as the key action of the agency to provide a full capability picture that supports decision-making at EU and national levels regarding defense capability development. The overall objective is to increase coherence between Member States' defense planning and to encourage European cooperation by jointly considering future operational needs and defining common EU Capability Development Priorities.

The CDP is developed with the active contributions of the EU Military Committee (EUMC) and the European Union Military Staff (EUMS), and in close cooperation with its Member States and with the active contributions of the EU Military Committee (EUMC) and the European Union Military Staff (EUMS).

EDA 2018 CDP REVISION The EU Capability Development Priorities European Defense Agency 2018

3. CDP, CARD, EDF, PESCO, DIFFERENT TOOLS FOR COMMON GOAL

With the EU Global Strategy and Council Conclusions, member states set the Level of Ambition in the security and defense area. With the revised Capability Development Plan, new initiatives PESCO, CARD, and EDF EU member states created a solid framework toward the operationalization of declared Level of Ambition.

However, to be able to continue the work on the operationalization of objectives and defense-related initiatives, there is a need an open and comprehensive discussion to reach a clear and common understanding of key issues:

What are political and military goals, ambitions and priorities in terms of the autonomy of action?

When, where, and based on which criteria should the EU be able to intervene with military tasks?

What assets and forces are needed to fulfill the EU level of ambition?

To what extent currently declared capabilities are aligned with politico-military ambitions and what needs to be done in terms of capability development and cooperation to close existing shortfalls?

To answer these and other questions there is a need for a further sequence of documents deriving from EU Global Strategy. One of the options could be to establish strategic political guidance to further refine the objectives, also taking into account NATO's priorities to avoid overlapping.

For EDF this is particularly important since in this way EU would be able to better determine what kind of capabilities are needed. From the EU point of view, member states must direct and guide this process incoherent, inclusive and transparent manner. (EDA, 2019)

3.1. Capability Development Priorities (CDP)

The CDP represents a key reference for Member States' and EU's capability development initiatives as part of the Capability Development Plan. The Plan and its Priorities will be instrumental in identifying future cooperative activities irrespective of the chosen cooperation framework, including under PESCO and the European Defense Fund (EDF). (EDA, 2018)

In continuation EDA's web page explains in more details the role and importance of CDP, CDP process, and CARD:

CDP since 2018 considers changes in the wider European security and defense environment. Member States agreed upon the adoption of the new EU Level of Ambition taking into account the necessity to counter hybrid threats. Plan for 2018 observes the entire spectrum of capability development and recognizes cooperative activities that can be implemented by the Member States in the cooperation framework of their choice. The 2018 CDP intends to support Member States in the implementation of the 2018 EU Capability Development Priorities.

Based on CDP, CARD will help to operationalize the CDP by reviewing Member States' implementation of the EU Capability Development Priorities and by identifying additional opportunities for cooperation.

Finally, the coherence between capability, R&T, and industrial domains will be reinforced by the interaction between the CDP, the Overarching Strategic Research Agenda, Key Strategic Activities and the engagement with industry.

The CDP includes a capability shortfalls analysis from the CSDP perspective, as well as lessons learned from recent operations provided by the EU Military Committee. The mid-term dimension assesses the potential for cooperation for each capability. The CDP finally offers an assessment of future trends (2035 and beyond) and needs for each capability by linking long-term technology trends to future capability requirements and related R&T needs as well as industrial perspectives.

When analysis, based on lessons learned was conducted, and new trends recognized, based on the identified trends, information gathered from the Member States, the EU Military Committee and the EU Military Staff, a set of EU Capability Development Priorities were proposed by EDA and agreed by the Member States. On the one hand, they address main capability shortfalls for deployed operations (land, maritime and air capabilities as well as logistic and medical support) with a reinforced focus on high-end warfare. On the other hand, they also cover other national focus areas, such as the adaptation of military capabilities required for territorial defense and security or cyber defense.

To illustrate the EU Capability Development Priorities here are numbered "the 2018 lines of action:

- Enabling capabilities for cyber responsive operations
- Space-based information and communication services
- Information superiority
- Ground combat capabilities
- Enhanced logistic and medical supporting capabilities
- Naval maneuverability
- Underwater control contributing to resilience at sea
- Air superiority
- Air mobility
- Integration of military air capabilities in a changing aviation sector
- Cross-domain capabilities contributing to achieving the EU's level of ambition

After they are approved, EDA starts with the preparations for the implementation of the priorities, including the elaboration of Strategic Context Cases." (EDA, 2018)

3.2. Coordinated Annual Review on Defense (CARD)

CARD is a process of supervising the defense plans of the EU the Member States to help coordinate spending and identify possible collaborative projects. CARD is an annual review developed to help foster capability development addressing shortfalls, deepen defense cooperation and ensure more optimal use, including coherence, of defense spending plans. (EDA, 2018)

As stated in the Fact sheet "the CARD is the cornerstone of recent EU security and defense initiatives and an essential intermediate step in the overall EU capability development process. Several EU security and defense initiatives where launched quasi simultaneously – the CDP revision, CARD, and PESCO. The coherence between these initiatives must be ensured and the way they affect each other is not only to be understood but purposefully planned. A coherent approach from priority setting to output is important and adequate sequencing is critical to ensure that the different steps of the overall approach reinforce each other. (EDA, 2018)

In short EDA in the Fact sheet say that the "CDP tells us what to focus our common efforts on, the CARD gives us an overview of where we stand and identifies next steps, PESCO, in turn, gives us options on how to do it collaboratively, while the EDF could provide the funds to support the implementation of cooperative defense projects in general, but with a bonus, if in PESCO." (EDA, 2018)

3.3. European Defense Fund (EDF)

The EDF was established in 2017 to support cross-border cooperation between EU countries and between enterprises, research centers, national administrations, international organizations, and universities.

A too rigid mechanism that does not take into account all the complexities during the research phase could jeopardize the successful transition to its development phase. For this reason, unnecessary high administrative burdens and lengthy procedures within EDF to support PESCO projects should be avoided.

The EDF also has to serve as a driver for emerging new technologies. This is an area where other global players, particularly China, invest a lot of resources, threatening to leave Europe behind. This particularly applies to artificial intelligence: cooperation among member states is of utmost importance in this area where EDF provides a window of opportunities in both dimensions: research and development.

An important aspect of EDF is the link between research and capability development. It will be one of the major challenges to ensure a smooth transition of research results to the development phase by ensuring the financial resources early in advance. For this, the EU should keep the EDF mechanism as flexible as possible for potential PESCO projects.

The EDF is applied to two lines phases, the research and the development phase of defense products and technologies. The first line is the research strand where the EU budget will provide funding for collaborative defense research projects, and the second line is the capability strand where the EU will create incentives for companies and EU countries to collaborate on the joint development of defense products and technologies through co-financing from the EU budget. The European Commission will also offer practical support and advice on:

- cost-saving financial arrangements
- providing terms and framework agreements
- ownership structures for the joint acquisition of defense capabilities by EU countries. (EDA, 2019)

The European Defense Fund (EDF) is a component of the European Union's (EU) Common Security and Defense Policy (CSDP) which aims to coordinate and increase national investment in defense research and improve interoperability between national armed forces.

The EU Commission has adopted work programs to co-finance joint defense industrial projects in 2019-2020 worth up to €500 million. A further €25 million have been earmarked to support collaborative defense research projects in 2019, with calls for proposals launched today.

The Juncker Commission was making an unprecedented effort to protect and defend Europeans. From 2021, a fully-fledged European Defense Fund will foster an innovative and competitive defense industrial base and contribute to the EU's strategic autonomy. (EDA, 2019)

In EU Commission Press statement The Juncker Commission informs that „through two precursors to the Fund, the Commission is taking steps to make defense cooperation under the EU budget a reality as of now. The Preparatory Action on Defense Research continues to deliver for the third year running.

And with today's decisions, the Commission kick-starts the first EU-funded joint defense industrial projects through the European Defense Industrial Development Programme. This will focus on areas including drone technology, satellite communication, early warning systems, artificial intelligence, cyber defense or maritime surveillance".

A press release on Joint development of defense equipment and technology says that „the first European Defense Industrial Development Programme work program agreed with the Member States provides €500 million in co-financing for the joint development of defense capabilities during 2019-2020. In the coming days, the Commission will publish 9 calls for proposals for 2019, and 12 further calls will follow for 2020. (Comission, 2019)

These calls will cover priority areas in all domains and finance areas in – air, land, sea, cyber and space:

Enabling operations, protection and mobility of military forces: €80 million is available to help develop CBRN threat detections capabilities or counter-drone systems;

Intelligence, secured communication & Cyber: €182 million will cover cyber situational awareness and defense, space situational awareness and early warning capabilities, or maritime surveillance capabilities;

Ability to conduct high-end operations: €71 million will support the upgrade or the development of the next generation of ground-based precision strike capabilities, ground combat capabilities, air combat capabilities and future naval systems;

Innovative defense technologies & SMEs: €27 million will support solutions in Artificial Intelligence, Virtual Reality, and Cyber technologies, as well as to support SMEs.

Also, two projects have been proposed for direct award: €100 million to support the development of the Euro drone, a crucial capability for Europe's strategic autonomy, and €37 million to support ESSOR interoperable and secure military communications.

Financing innovation in defense research:

Today Commission publishes calls for proposals under the Preparatory Action on Defense Research, the third and final budget tranche under the Juncker Commission.

The 2019 Work Programme will dedicate €25 million for research in Electromagnetic Spectrum Dominance and Future Disruptive Defense Technologies - two areas identified as essential to maintaining Europe's technological lead and independence in the long-term.

The calls on Future Disruptive Defense Technologies will look at how best the EU can support disruptive technologies in defense that may lead to transformational changes in the military. This will help prepare the ground for the European Defense Fund which could allocate up to 8% of its budget for disruptive technologies. (Comission, 2019)

3.4. PESCO

PESCO and EDF are defense policy-driven instruments in the best interest of the member states. In addition, the EU has to find the right balance between military requirements and future technological needs on the one hand and industrial perspective in other. (Council, 2016)

PESCO is introduced as another milestone resulting from the EU Global Strategy, which for the first time legally commits member states to invest, plan, develop, and operate defense capabilities together. EDF could be a strong incentive for further cooperation within PESCO.

EU fact sheet on PESCO says „In light of a changing security environment, the EU Global Strategy for Foreign and Security Policy (EUGS) started a process of closer cooperation in security and defense. The EU Member States agreed to step up the European Union's work in this area and acknowledged the need for enhanced coordination, increased investment, and more cooperation in developing defense capabilities". (EEAS, 2019)

The PESCO is the part of the EU's security and defense policy in which 25 of the 28 national armed forces pursue structural integration. It is a framework for structural integration within the Common Security and Defense Policy, based on Article 42.6 of the Treaty on European Union which say „Those Member States whose military capabilities fulfill higher criteria and which have made more binding commitments to one another in this area with a view to the most demanding missions shall establish permanent structured cooperation within the Union framework. Such cooperation shall be governed by Article 46. It shall not affect the provisions of Article 43." (Council, 2017)

3.4.1. What is PESCO

PESCO is a framework and process to deepen defense cooperation between those EU Member States who are capable and willing to do so. 25 EU Member States have joined PESCO and subscribed to more binding commitments to invest, plan, develop and operate defense capabilities more together, within the Union framework. The objective is to jointly arrive at a coherent full spectrum of defense capabilities available to the Member States for national and multinational (EU, NATO, UN, etc.) missions and operations. This will enhance the EU's capacity as an international security actor, contribute to the protection of the EU citizens and maximize the effectiveness of defense spending. (PESCO, 2019)

3.5. PESCO/EDF projects

Some of these will involve developing new equipment, such as infantry fighting vehicles, amphibious assault vehicles, light armored vehicles, indirect fire support, strategic command-and-control systems for EU Common Security and Defense Policy missions, minesweeping drones, harbor, and maritime surveillance and protection, upgrading maritime surveillance, and developing a joint secure software-defined radio.

On June 25, 2018, the 25 member states engaged in PESCO adopted common governance rules for PESCO projects, including the limited role for third-party countries, such as Norway or the U.K. after Brexit. (Banks, 2018)

The European Council approved projects proposed by member states in three rounds. In March 2018 Councill approved the initial list of 17 projects in the field of defense in areas such as training, capability development, and operational readiness. The second list of additional 17 projects was approved on 19 November 2018, and the third round of project proposals generated 11 projects. All the 47 projects that are being developed in the context of PESCO and covering areas such as training, land, maritime, air, cyber, and joint enablers. (PESCO, 2019)

3.6. European defense industrial development program (EDIDP)

The European Defense Industrial Development Programme (EDIDP), paves the way for the European Defense Fund that will be established for the funding period 2021-2027. EDIDP focuses on the promotion of a strong and innovative defense industry as well as on raising the EU's autonomy and technological leadership in defense. For the funding period of 2017-2020, the EDIDP supports defense research and the development of equipment and technology. (EU, 2019)

EDIDP was established by EU Regulation 2018/1092 and represents an industrial program of the EU aiming to support the competitiveness and innovation capacity of the union's defense industry.

The 2019 calls for proposals will address 9 categories of defense capabilities.

1. A multipurpose unmanned ground system
2. Permanent air or space capabilities for intelligence, surveillance, and reconnaissance (ISR) and communication, tactical remotely piloted air systems (RPAS) and sensor suite for integration into air-traffic management
3. Cyber situational awareness and defense capabilities, military networks and technologies for secure communication and information sharing
4. Positioning, navigation and timing (PNT) and satellite communication capabilities
5. European command and control (C2) system from strategic to tactical level
6. Upgrade of current and development of next-generation ground-based precision strike capabilities
7. Air combat capabilities
8. Future naval platforms and related
9. Innovative and future-oriented defense solutions. (EU, 2019)

The EDIDP provides €500 million in co-financing over the year 2019-2020 for the joint industrial development of defense equipment and technologies in all domains (air, land, sea, cyber and space). It is a test phase given a more ambitious EU program in the next EU multi-annual financial framework. The ED-IDP will be implemented directly by the European Commission. (EU, 2019)

4. DEFENSE INDUSTRY AS TOOL FOR ECONOMIC DEVELOPMENT

As the EU introduced a new financial framework through CDF and PES-CO projects it opened the new level in the development of defense industry capacities which can burst the economic development in Member States involved in PESCO project development.

EU major incentive for EU Member States to cooperate on military procurement with an EDF, worth €5 billion (U.S. $5.8 billion) per year, the first time the EU has put serious money on the table for this purpose.

With an annual turnover of more than €100 billion and a sector that employs 500,000 people and 1.2 million indirectly, the European defense sector is a major industrial division. (Banks, 2018)

The European Commission has proposed a European Defense Fund that, as of the next budgetary cycle (2021–27), will include a 'development window' of up to €5 billion per year, from which up to 20% can be funded from the EU budget, for multinational projects that address a commonly identified shortfall.4 For projects falling within the PESCO framework, an additional bonus of 10% is foreseen. Compared to the €35bn or so that the PESCO states annually spend on investment today, that is not a negligible sum. Of course, the EU budget also comes from the member states, but the European Defense Fund represents a new pot of common funding. If it is used to launch a limited number of key projects, it may help to orient member states' decisions.

The defense industry is a very strong lever for economic development. SIPRI[2] Fact Sheet for 2018 reports that world military expenditure is estimated to have been $1822 billion in 2018. It was 2.6 per cent higher in real terms than in 2017 and 5.4 per cent higher than in 2009. Global military spending has been gradually rising following a post-2009 low in 2014. It is now 76 per cent higher than the post-cold war low in 1998. (SIPRI, 2019)

[2] SIPRI - Stockholm International Peace Research Institute is an international institute based in Sweden, dedicated to research into conflict, armaments, arms control and disarmament.

The next table presented on defense news web page on top 100 companies in the defense sector is the extracted list of the first twenty. The intention is to present where is the European defense industry in comparison to the rest of the world. (Defence, 2019)

Figure 1. Top twenty out of Top 100 ranked companies by defense news for 2019

Rank	Last Year's Rank	Company	Leadership	Country	2018 Defense Revenue (in millions)	2017 Defense Revenue (in millions)	% Defense Revenue Change	2018 Total Revenue (in millions)	Revenue From Defense
1	1	Lockheed Martin [1]	Marillyn Hewson, Chairman, President and CEO	U.S.	$50,536.00	$47,985.00	5%	$53,762.00	94%
2	5	Boeing [2]	Dennis Muilenburg, Chairman, President and CEO	U.S.	$34,050.00	$20,561.00	66%	$101,127.00	34%
3	4	Northrop Grumman	Kathy J. Warden, CEO and President *	U.S.	$25,300.00	$21,700.00	17%	$30,095.00	84%
4	2	Raytheon Company [1]	Thomas Kennedy, Chairman and CEO	U.S.	$25,163.94	$23,573.64	7%	$27,058.00	93%
5	NEW	Aviation Industry Corporation of China	Tan Ruisong, Chairman of the Board, and Luo Ronghuai, President	China	$24,902.01	$22,898.73	9%	$66,405.36	38%
6	6	General Dynamics	Phebe Novakovic, Chairman and CEO	U.S.	$24,055.00	$19,587.00	23%	$36,200.00	66%
7	3	BAE Systems [3]	Charles Woodburn,CEO	U.K.	$22,477.48	$22,380.04	0%	$24,569.06	91%
8	NEW	China North Industries Group Corporation Limited	Jiao Kaihe, Chairman, and Liu Dashan, President	China	$14,777.77	$14,206.36	4%	$68,100.30	22%
9	7	Airbus [4]	Guillaume Faury, CEO *	Netherlands/France	$13,063.82	$11,185.91	17%	$75,220.59	17%
10	NEW	China Aerospace Science and Industry Corporation	Gao Hongwei, Chairman of the Board, and Liu Shiquan, General Manager	China	$12,130.93	$11,206.28	8%	$37,909.17	32%
11	NEW	China South Industries Group Corporation	Xu Ping, CEO, and Gong Yande, Director and General Manager	China	$11,963.37	$14,121.77	-15%	$38,591.53	31%
12	NEW	China Electronics Technology Group	Xiong Qunli, Chairman	China	$10,275.58	$9,518.91	8%	$33,354.01	31%
13	10	Leonardo	Alessandro Profumo, CEO	Italy	$9,828.51	$8,856.48	11%	$14,453.69	68%
14	NEW	China Shipbuilding Industry Corporation	Hu Wenming, Chairman of the Board, and Wu Yongjie, President	China	$9,795.47	$9,337.91	5%	$48,977.36	20%
15	8	Almaz-Antey	Yan Novikov, CEO	Russia	$9,660.14	$9,125.02	6%	$9,896.67	98%
16	9	Thales [1]	Patrice Caine, Chairman and CEO	France	$9,575.57	$8,926.13	7%	$18,775.63	51%
17	11	United Technologies [1, 5]	Gregory Hayes, Chairman and CEO	U.S.	$9,310.00	$7,826.00	19%	$66,500.00	14%
18	12	L3 Technologies [6]	Bill Brown, Chairman, President and CEO	U.S.	$8,249.00	$7,749.00	6%	$10,200.00	81%
19	NEW	China Aerospace Science and Technology Corporation	Wu Yansheng, Chairman of the Board, and Yuan Jie, Executive Director and President	China	$8,138.47	$7,514.73	8%	$38,030.23	21%
20	13	Huntington Ingalls Industries [1]	Mike Petters, President and CEO	U.S.	$7,767.00	$7,030.00	10%	$8,176.00	95%

Source: People defense news

In the top 20 out of top 100 ranked companies by defense news, there are 8 US companies, 7 China companies, one UK Company, one Italian company, one Russian company, one French Company, and one Netherland/ France Company.

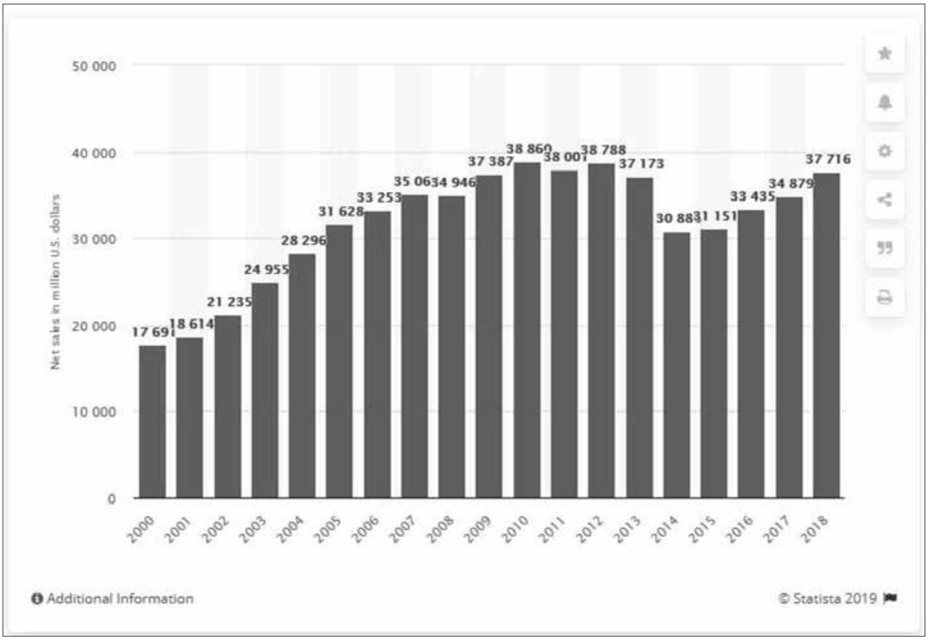
It is difficult to make the comparison as even in the top 20 defense industry companies the differences are significant. Just to compare the US Lockheed Martin Corporation ranked 1st with UK BAE Systems ranked 7th in 2018 it is obvious that BAE System is at the level of 44% of LM defense revenue in 2018.

Lockheed Martin Corporation (LM)

Lockheed Martin Corporation (LM) is an American global aerospace, defense, security and advanced technologies company with worldwide interests. LM as the leader in the top 100 companies earn $50,536.00 million in the year 2018 from the defense which represents the growth of $ 8,601.00 million in comparison with the year 2017 or change of 5% what is 94% of total revenue which company makes in one year. LM has 108.000 employees which are the part of the company not counting the number of employees in cooperative companies. Nearly 70 percent, or $35.2 billion, came from sales to the U.S. government. (Statista, 2019)

The next chart presents the net sales of LM in millions of USD from the year 2000 to 2018.

Figure 2. Net sales of defense technology supplier Lockheed Martin to the U.S. Government from 2000 to 2018 (in million U.S. dollars)

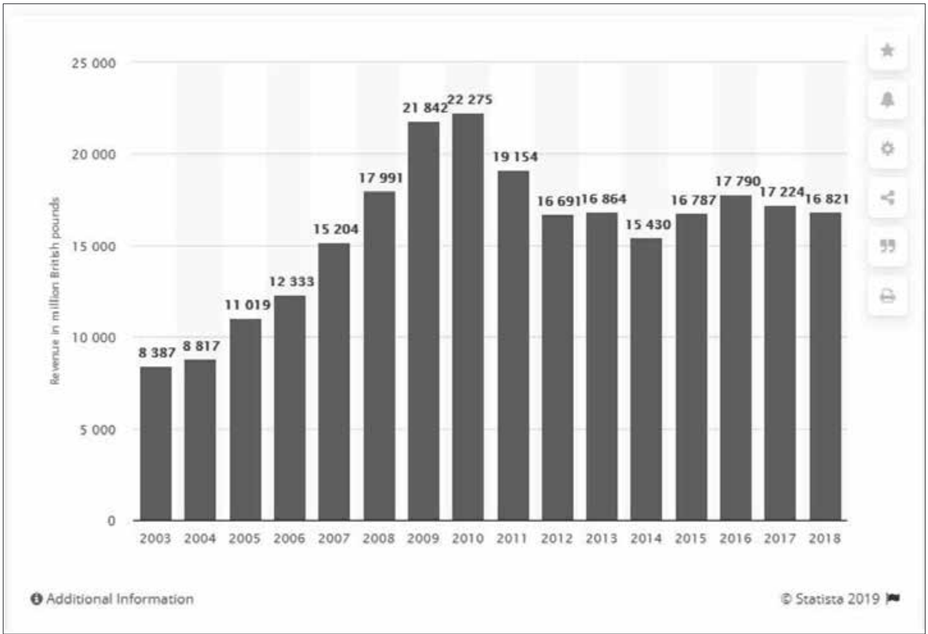


Source: Statista com

UK BAE Systems

The first European company on the list is UK BAE Systems placed in 7th position. BAE Systems plc is a British multinational defense, security, and aerospace company with operations worldwide. The company is the largest defense contractor in Europe. It has 83.200 employees in the year 2019 and the defense revenue was $22,477.48 million in 2018 and $22,380.04 million in 2017 with minimum growth which makes 91% of the total revenue of the company. (Statista, 2019)

Figure 3 Revenue of the defense technology supplier BAE Systems from 2003 to 2018 (in million British pounds)



Source: Statista com

As the best positioned European defense industry company BAE Systems play a critical role in ensuring the security of the United Kingdom. The Company is the nation's largest defense, aerospace and security company and delivers some of the largest and most technically advanced engineering and manufacturing projects in the world, keeping countries, their people and infrastructure secure.

By investing £4 billion in 8,900 companies in its supply chain, BAE Systems makes a significant contribution to the UK's national and regional economies, the technology sector and the fabric of UK society by providing unrivaled skills training and opportunities for social mobility. The Company creates highly skilled jobs, invest in research and development and generate significant exports and tax revenues.

These benefits are widely spread around the UK. BAE Systems' manages sites from Glasgow in Scotland to HM Naval Base at Portsmouth, and hence directly contributes to local economies across most UK regions. (BAE, 2019)

In continuation BAE System at the official web page declare Key facts compiled in Oxford Economics Report 2017from 2016 dana.

Table 1: Key facts compiled in Oxford Economics Report 2017 from 2016 data

Economic input

- £11.1 bn - Total gross valued added contribution to UK GDP (Equivalent to 0.6% of UK economic output or 57p in every £100 of UK GDP)
- £4.7bn - Value of exports (equivalent to 0.9% of all UK exports)
- £3.6bn - Contribution to the UK Balance of Payments
- £2.5bn – Total tax contribution (£620m directly generated by BAE Systems)
- £128,000- Productivity per Full-Time Employee (almost 80 percent higher than the national average)
- 130,400 - Total Full-Time Employee Jobs Supported (include 34, 600 BAE Systems FTE jobs)
- £4bn value of spend with 8,900 UK suppliers (representing 79% of total UK procurement)

Technology

- £1bn invested in R&D in 2016 alone
- 1,600 granted patents. Fourth largest UK applicant
- £10.7M invested in UK universities
- Strategic partnerships with 5 universities: Southampton, Cranfield, Manchester, Strathclyde, and Birmingham

Skills

- 22,200 employees (64% of the UK workforce) in engineering roles
- 1,600 apprentices and 500 graduates in training. Internships provided for 100 undergraduates*
- Apprentice training rated 'Outstanding' by Ofsted and received the Princess Royal Training Award
- 295 young people took work experience placements as part of the Movement to Work program. 166 secured full-time employment with BAE Systems or a supplier company*

*2017 figures

Source: BAE Systems

For comparison, the next European defense industry company is Airbus Netherland/France company ranked 9 which has defense revenue of $13,063.82 million or 25% of LM defense revenue in 2018. After Airbus, the next is Leonardo the Italian company ranked 13th with defense revenue of $9,828.51 million, and then Thales the French company ranked 16 with the defense revenue of $9,575.57 million in 2018. And this is all about European defense industry companies in the first 20 from the list of top 100. (Defence, 2019)

5. IMPACT ON CROATIAN NATIONAL ECONOMY

The share of individual manufacturers of military equipment of the Republic of Croatia at the global level is negligible. The previous chapter was presented sample companies from the list of the first twenty out of 100 highest ranked companies in the defense sector. Croatian companies are not listed in that list.

There is a list of the 40 countries with the highest military expenditure listed in the SIPRI Factsheet edition, and Croatia is not on that list. Still, the defense industry in Croatia plays its role in the national industry. (Tian, Fleurant, Kuimova, 2018) However, at the national level, the role of the military industry is significant and constantly growing.

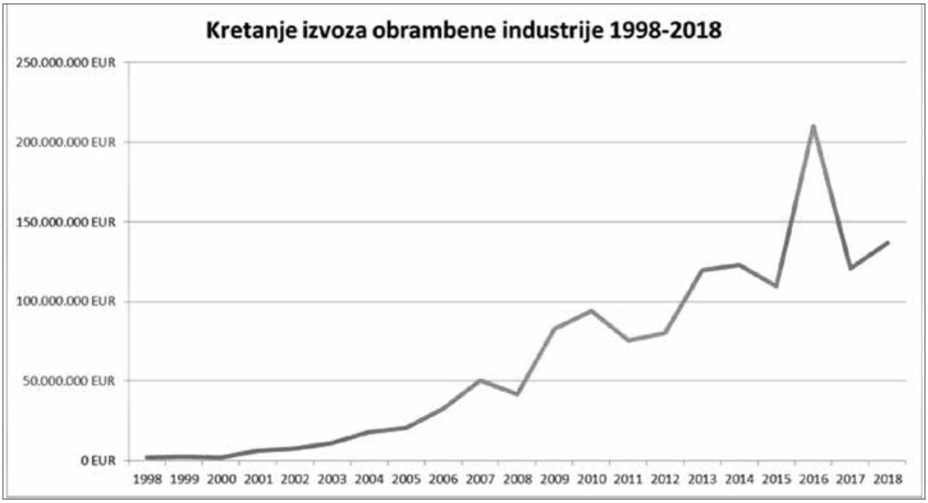
The defense industry in the Republic of Croatia grew out of inherited capacities from the former Yugoslavia and newly created capacities during the Homeland War.

After the Homeland War, with the reduction of the needs of the Croatian Armed Forces (CAF), domestic production of arms and military equipment also decreased. Due to insufficient adaptation to new circumstances and a growing international market, many Croatian defense industry companies are shut down and their capabilities abandoned. However, several manufacturers, such as HS Produkt (pistols), Šestan-Busch (helmets) and DOK-ING (demining equipment), have made their way into the leading positions of this branch in Croatia, simultaneously positioning themselves on the world market.

In the last 20 years, the main export product in this sector is the pistol, with the total value of exports in the period 1998-2018 being around EUR 800 million. In the same period, helmet exports have been growing steadily from year to year, with sales worth almost € 118 million.

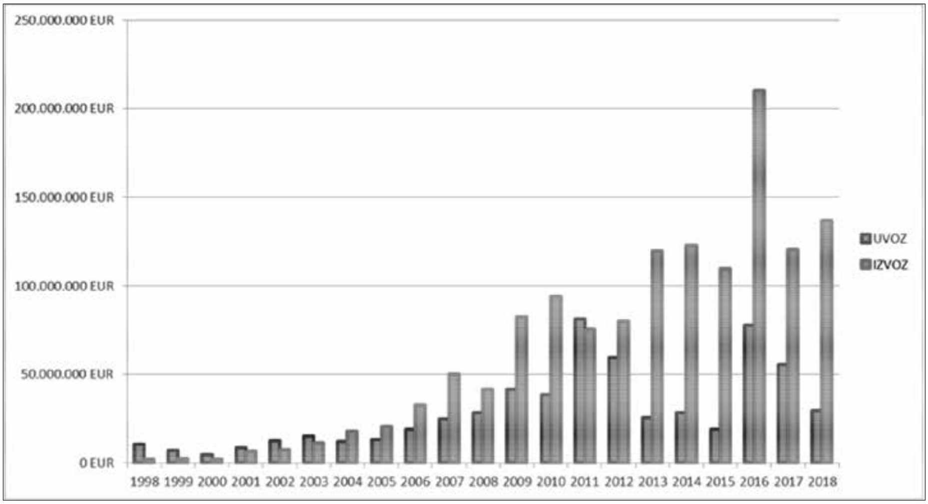
The Croatian defense industry is comprised of about 100 companies. The number of direct employees is approximately 3,000, which is 1.5% of the total processing industry employees. Companies have an annual production of products worth approximately EUR 200 million or 1% of the total manufacturing value of the manufacturing industry, while annual exports are EUR 100 million or 1.2% of total manufacturing industry exports. (HGK, 2019)

Figure 4 Defense Industry Export Movements 1998-2018



Source: Hrvatska gospodarska komora

Figure 5 Defense Industry Export Movements 1998-2018



Source: Hrvatska gospodarska komora

The Croatian defense industry still has plenty of room for further advancement and development, but already at the moment, it has respectable products that may be of interest to potential partners in the world, as well as in the US market.

The defense industry and the EDF will be one of the priorities in the field of security and defense as well as maintaining peace and security through early action in conflict prevention, developing operational capabilities and instruments for rapid crisis response, strengthening the European Union's security and defense policy, the continuation of close and substantive cooperation between the Union and NATO, but also the strengthening of transatlantic relations.

6. AS THE CONCLUSION

It is difficult and almost impossible, within a short period, to develop the capabilities required for the national defense system and for contributing to international organizations. The danger here is that in a period of peace and stability, national defense resources will be reduced to meet the other needs of society, which

Finally, all resources should be continuously maintained upgraded and improved so the defense sector can sustain its capabilities and be prepared to answer to the missions and goals set in planning documents.

The EDF will be successful if coherence is ensured between the current EU initiatives (CDP, CARD, and PESCO), relevant stakeholders and key partners (NATO). To make this a success, we need to jointly agree on political-strategic guidelines, which would inform member states where they want to be in the next five to ten years from now.

The EDF mechanism should be flexible and not rigid; the EDF should avoid administrative and time-consuming burdens to ensure the smooth and flexible transition of defense research results to the development phase.

The EDF will have to provide a genuine opportunity for our SMEs. Only through this approach will be in a position to truly stimulate the competitiveness of the European defense industry, particularly in the area of new technologies.

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Resource management

DEFENSE RESOURCES MANAGEMENT AND CAPABILITIES BUILDING

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Abstract

Resource management is the management of all human resources, material and financial resources available to a company or organization. It represents the management of the entire organization and its all resources. It is an effective way for every organization to qualitatively, in the long-term and effectively competes with similar organizations in the market.

The purpose is to use the available resources in the best possible way and to achieve the best possible results or achieve the set goals. The same goes for non-market-oriented organizations that rely on government budgets.

Regardless of the sources of funding, from the business or from the budget, each organization must take into account on what way, how much, where and how it spends its resources on maintenance and infrastructure, development, equipping and modernization.

In this the case, the article discusses the planning of resources and resources management in relation to capabilities in defense as the final outcome and to describe the definition, role, and importance of capabilities as a basis for managing an organization as a whole that encompasses all available resources to develop capabilities.

Managing with resources means to use all available resources to fulfill the goals set out in the planning documents of an organization. The goal of resource management is to achieve a cost-effective allocation of resources among the set goals.

The article refers to defense resources management with a goal to develop defense capabilities. The purpose of defense resources management is to link human and material resources in the defense sector with a goal to realize the certain defense *capabilities that must be achieved and maintained in accordance with the guidelines. For effective defense resource management, it is necessary to have a clear set of criteria that develop information as a basis for decision making.*

Keywords: *management, resources management, defense planning, capabilities*

JEL Classification: H57, M10

1. INTRODUCTION

Resources management is the management of all human resources, material and financial resources available to a company or organization. To manage resources means using all resources in order to achieve the desired results related to competition in the market. Due to the dynamic environment in which changes frequently occur and the new and modern technologies are introduced, it is necessary to make frequent changes to an organization of work and business for better efficiency and better results.

The purpose is to use the available resources in the best possible way and to achieve the best possible results or achieve the set goals. This applies to state administration bodies: ministries, central state offices, state administrative organizations, and state administration offices at the regional and local levels.

The intention here is to present, in short, the key management functions/processes. The article also gives definitions and a good understanding of capabilities as the final product of coordination of resources in defense in managing an organization as a whole to develop defense capabilities.

For defense, it has a specific weight since the defense has the role to secure a safe environment to improve the standard of life for all citizens of the country.

The resources management in defense is somehow difficult to address especially in the area of defense capabilities. The reasons are limited and often restricted access to security information. There is not much open source information available to the public insufficient details. The majority of the implementation of documents and regulations are internal.

For this reason, this article relies on available open sources with the aim to present the capacity building as the key process in increasing the defense capabilities of the armed forces. The main sources for the central part of this article are the Ministry of Defense of the Republic of Croatia and NATO with some basic data from other sources.

The resources management in defense is based on defense planning which extracts from defense policy and defense capabilities planning which represents a continuous process of defining new capabilities to respond to changes in the environment.

2. RESOURCES MANAGEMENT

Resource management is an important and indispensable part of planning for every organization, regardless of which category it belongs to. It refers to the management of all resources at all times.

For each organization, managing its resources represents the overall philosophy of the organization from setting long and medium-term goals, policies to modernize business and relationships to other organizations engaged in similar activities. Resource management is the efficient and effective deployment of resources within an organization in accordance with its objectives.

In any type of business, organization management recognizes, in principle, four managerial functions (planning, organizing, leading, controlling) needed to achieve the organization's goals and maintain competitive advantages. Various experts in the field of an organization have considered the instruments of management functions. Thus, leading experts in the field of human resource management Milkovich and Newman say that "there are four basic functions of management, namely planning, organizing, initiating and controlling". (Milkovich & Newman, 2010)

In the majority of available literature when talking on resources management there are many references related to human resources management. Material and financial resources are just the tools used by people (employees, workforce, personnel or however someone might call them). It is so true, nothing can be achieved without educated individuals or groups of individuals who poses knowledge, skills, and experience and use material resources (raw materials, machinery, and tools) and which, within given financial resources and available time make a result or output (product, service, result of a user's action, capability).

The defense planning recognizes the resource deficits which should result in opportunities development for increasing the efficiency of resource management to achieve the objectives of the armed forces.

2.1. Defense resources management

The goal of defense resource management is to achieve a cost-effective allocation of resources among the nation's security goals. Planning as a managerial function determines the organization's performance goals for the future to allocate the tasks and resources needed to meet the goals. The Ministry of Defense (MoD), as a state administration body, belongs to the category of organizations that rely on the state budget and, in principle, do not generate revenue through their activities.

The complex issue of defense resource management was addressed by several authors and organizations, but only partially, dealing with thematic parts of the resource and not as the complete process from planning to delivery of capabilities. In continuation is the short overview of the scarce sources related to the topic through literature, institutes, and journals to which the security and defense are the main agenda.

A comprehensive review of defense resource management was published in 2009 by the Geneva Centre for Democratic Control of Armed Forces DCAF entitled "Defense Management: An Introduction". (Bucur-Marcu, Fluri, Tagarev, 2009) Authors covered 7 chapters through leadership, management, command, defense planning, structuring the armed forces, financial management, human resources management, procurement management and transparency in defense management. The book covers these topics and provides a good basis for understanding the defense resources management of current and future leaders in the field of defense.

Another author Boudinova in her book presented defense resources transparency comparing the period of the communist regime with a modern democratic society in Bulgaria. (Boudinova, 2003)

Several institutes in Europe and the United States (USA) also deal with defense management. Leading in this field are: The Institute for Defense Analyses (IDA), USA; The International Institute for Strategic Studies, (IISS), UK; and the Stockholm International Peace Research Institute (SIPRI), Sweden.

In addition to the aforementioned institutes, there are a number of other academic institutions of organizations, journals and internet portals such as the Centre for Security and Defense Management - Bulgaria; The Defense Management Journal, USA; and Defense Management Review Issues, UK.

In an atmosphere of growing international insecurity, where security threats are becoming more complex and challenging, the meaning of global defense and security issues has never been more critical.

The role of the MoD and the Armed Forces (AF) in the vast majority of countries is of great importance; therefore the AF is a constitutional category. The constitutional law of each state contains an article on the place and role of the AF, whose primary task is to protect sovereignty and independence and to defend territorial integrity. The organization and ability of the state to defend itself are of particular importance.

AF which is not prepared for the future is vulnerable and cannot respond to the challenges. It is therefore important to prepare the space for investment and innovation for the future. Investments should be geared towards developing the required skills, based on lessons learned in the past. This is primarily related to participation in international missions and operations, which in recent years have been the main activities of the AF and have required the greatest strain on the overall resources of the defense system. Innovations are being made through upgrading existing and developing new weapons systems.

For this purpose, the MoD and AF set up institutes in their structure to research and develop new systems or to use the services of national institutes engaged in the research and development of new technologies.

As the beneficiary of the State Budget, the MoD and AF are active participants in the national economy and use the approved budget for the functioning of the system using products and services available on the market inside and outside the country.

In larger countries with a heavily developed military industry, the armed forces are the beneficiaries of national military industry products. By using the products of the national civilian and military industries, the armed forces indirectly stimulate the development of production and employment.

When the products of the national military industry are used in the national AF, this is a kind of promotion, which opens the possibility of placing the national military industry in foreign markets and improve existing assets or to develop new assets for use in the AF. It happens very often through the development and modernization of the armed forces.

If in the process of equipping and modernization national industrial capacities are used, it stimulates the development of new technologies that, after testing, are used in civil society.

As an example, this article refers mainly to national defense resources management represented by the Ministry of Defense of the Republic of Croatia, and as an example for defense resources management, NATO is taken as an example from the international environment.

2.2. Defense planning

The defense planning is the key element for defense resources management. Its task is to define the means, including the future force structure, which would allow defense and security sector institutions to deal effectively with likely future challenges.

To define the roles and responsibilities in defense planning MoD develops internal regulations with definitions, roles, and tasks as well as procedures in the planning process to reach the final goal which is defense capabilities. In MoD in Croatia, it was Defense Planning Regulations. (MoD, 2017)

The Defense Planning Regulations is the document developed on the basic documents in the field of defense (laws, internal plans, regulations, and directions in defense). Defense planning represents the process of identifying the required defense capabilities, how to achieve them, and resources for their implementation in accordance with defined defense policy. (MoD, 2017)

In defense management, the defense policy represents the direction and content of the activities in the field of defense. It refers to defining and developing national defense objectives, defining type and levels of the necessary capabilities, and the identification of approaches and priorities in relation to international commitments and arrangements.

2.3. NATO defense planning process

NATO develops a document named Strategic Concept which represents the guidance and expectations and the vision of future challenges and is periodically reviewed with the purpose to set priorities. This guidance obliges the delivery of the required capabilities through the NATO Defense Planning Process.

The goal of the NATO Defense Planning Process (NDPP) is to provide a framework within which national and allied defense planning activities can be coordinated to enable the Allies to provide the necessary capabilities and capabilities in the most efficient manner. This should facilitate the timely identification, development, and delivery of the required range of forces that are interoperable and adequately prepared, equipped, trained and supported, as well as associated military and non-military capabilities, to undertake the full range of Alliance missions. (NATO, 2018)

The NDPP is a continuous process and line of related activities with the aim, in the changing international security environment, to respond to current and future challenges. It is also the approach based on risks and threats which, developed in sufficient detail for member states, develop national defense plans. In an integrated NDPP process, the member states make a pledge to provide the necessary capabilities. (NATO, 2018)

As the major tool, the NDPP facilitates the identification, development, and implementation of NATO's current and future capability requirements. These requirements are allocated to all Alliance members equally as Capability Targets, facilitating their implementation, and regularly evaluating the progress and achievement of the capability goals.

3. FINANCE MANAGEMENT

Finance management plays a special role in resource management planning in general. It is important to have clear financial frameworks in the preparation of strategic documents and in the framework of their missions, visions, and tasks, which dictate to a large extent the achievement of the set goals and their dynamics.

Countries that have an adequate approach to finance and fiscal policy have a stable system. Financial management has several levels. If laws, regulations, and ordinances governing financial rules are clearly and unambiguously laid down in the country, then it is possible to manage the overall system more easily and realistically. This chapter is aimed at managing the financial defense system, which is part of the state administration so, the chapter refers to users of the state budget.

In order to successfully achieve the goals set out in the strategic documents, it is important to have financial frameworks in place. The frameworks are usually set up in the parliaments of the countries which, by majority decision, adopt a certain percentage for a particular sector.

3.1. Finance management in defense

The defense budget is a part of the state budget which has to be balanced between full spectrums of needs that modern society has. Depending on the national economic strength and national GDP depends on how the country is dedicated to national defense.

For the purpose to build and maintain a stable defense budget NATO member states have set the desired and targeted percentage of GDP at 2%. (NATO, 2019)

This percentage is difficult to reach for some countries, especially in the face of negative economic performance or economic downturn, and in circumstances where countries have priorities in maintaining a stable economy and population standards. (NATO, 2014)

Defense budgets cover basically three categories of expenditures: personnel costs and pensions; research, development, and procurement of defense equipment; and finally, operations, exercises, and maintenance. Budget allocation is a national, sovereign decision, but NATO allies have agreed that at least 20 %t of defense spending should be devoted mainly to the procurement of new equipment, including related R&D, which is considered a key indicator of the scale and pace of modernization. (NATO, 2014)

Where expenditures do not meet the 20% target, Karnjuš in his book discusses, the risk of equipment obsolescence is growing. Add to that the defense loses defense capabilities and loses the capability to fulfill AF missions and tasks declared in strategic and planning documents. Even more, skills deficiencies and interoperability among allies, and a weakening of defense industrial and technological base, increase. (Karnjuš, 2008)

Part of the defense budget is related to resources management and capability development. The distribution of a budget on the procurement of new equipment is visible in the analytics of the state budget. Contribution of the defense budget for the acquisition of new equipment to develop new capabilities is visible in the detailed financial plan under, for example, K545043 for Armed Combat Vehicle - ACV (Borbeno oklopno vozilo) or K545044 Coastal Patrol Ship - CPS (Obalni ophodni brod). (MF, 2019)

3.2. Finance management in NATO

International organizations build their budget based on the common funding of their members. NATO is functioning on the same principles, and member countries make their direct and indirect contributions to the costs of running NATO and implementing its policies and activities. For their share of direct contribution to the budget is according to national GDP and with prescribed procedures and financial keys, member states allocate funds for the functioning of the organization from national budgets.

Indirect contributions are the largest and originate from national contribution to NATO missions and operations with troops and equipment. This contribution is additionally demanding since the equipment and troops must be interoperable with the armed forces of other members. (NATO, 2019)

Member states divide contribution to the civilian and military budgets and the NATO Security Investment Program (NSIP). This funding covers common needs; NATO command structure, NATO general air defense, command and control system, Alliance liaison system or what is not an obligation of individual members.

NSIP is the long term investment program supported by funding from all NATO member states. The share in common budget depends on priorities set by the North Atlantic Council (NAC) and distributed by Budget Committee (BC) which distributes budget in accordance with the analysis during the preparation of its annual recommendations. (NATO, 2020)

Every year member states, through their representatives in NSIP, decide which of the programs or projects, taking into account the security environment, the contribution ceilings and the other provisions will be supported.

The decision is made based on established common goals, and assessment of what capabilities the Alliance needs. Common goals are expressed in internal NATO strategic document Force Goals. The aim is to support goals for the national or collective development of capabilities; and facilitating national, multinational and collective capability development and innovation.

4. CAPABILITY MANAGEMENT

In the previous chapter, national (Croatia) and international (NATO), defense resources management and planning processes are presented in brief. This chapter presents the outcome of the entire process of planning, and allocating resources. The outcome can be represented with final product or services or in many cases it is capabilities. Here capabilities are elaborated in more detail.

4.1. Capability Management in general

To present a clear definition of capabilities the best is to use definitions offered in dictionaries. In Merriam-Webster dictionary capability can be defined as "the quality or state of being capable (also – ability), or a feature or faculty capable of development (potentiality), and the facility or potential for an indicated use or deployment" (Meriam-Webster, 2019).

For capability management, Australian MoD says that it "enables an organization to have the necessary capabilities to successfully achieve its business goals. The capability is therefore to have adequate capacity to do something or influence something. The term may refer to quality, capacity or opportunity. (Australia, 2006).

In general, the capacity to do something as capability is mostly recognized as a term in defense and military as defense capability which is more elaborated in the next chapter.

4.2. Managing defense capabilities

Capability management is a function that is applied in the field of defense and represents the high-level integration of functions. Capability in military terminology means "represents the measurable ability of the defense sector as a whole or parts of it to realize a set goal according to established standards of action in the given circumstances and deadlines". (MORH, 2017) NATO and EU member states, in accordance with the conclusions of the governing bodies, should declare certain military capabilities that could be used in international missions and operations, as required, in accordance with UN resolutions and decisions by NATO and EU governing bodies.

Croatia as NATO member recognized needs for the development of new capabilities defined in strategic documents as Partnership Goals (PG) and Force Goals (FG). This brought MoD's to the position to form the working groups or task forces with clear directions to initiate, lead and conclude the process of procurement, adjustment, and implementation of a new defense system into the Croatian Armed Forces (CAF) to maintain, upgrade or develop new capabilities for CAF. (Ćutić & Pađen, 2019)

The Rulebook on Defense Planning at the MoD and the (CAF) defines defense capabilities according to established standards of operation in given circumstances and deadlines. A defense capability generally consists of multiple, lower-complexity defense capabilities, and is realized through one or more organizational units, where one organizational unit may possess multiple defense capabilities. (MORH, 2017)

Since planning is the first step in capability development it is of large importance as a continuous process of analyzing, defining and sizing up the defense capabilities needed to achieve the objectives in the field of defense in the implementation of the missions and tasks of the CAF and setting the framework requirements for the required resources.' (MORH, 2017)

Capability management aims to balance funding and achieve the required operational requirements with the sustainable application of today's capabilities and the development of future capabilities that sometimes need to meet the demanding strategic and operational goals. In order to manage capabilities, it is important to maintain and enhance current capabilities and to continually align with national interests and needs and the missions and tasks that have evolved from this.

The Long-term plan for the development of the Armed Forces of the Republic of Croatia 2015 - 2024 defines capabilities as "possession and development of appropriate capabilities is a precondition for the successful accomplishment of the missions and tasks of the Armed Forces. (MORH, 2014)

As Australia's MoD interprets „abilities are never permanent because they have a specific life cycle that consists of several stages: a. Needs, b. Requirements, c. Acquisition, d. In-service and e. Disposal". (Australia, 2006) According to the same document, the context is the combined effect of the multiple inputs that make up capabilities. Capability is not the sum of these input parameters, but rather the synergy that results from how the parameters are combined and put into use, which determines the level of competence in a particular context. In defense, Fundamental Inputs to Capability (FIC) is categorized and broadly defined as personnel, organization, joint training, major systems, supply, facilities, support, command, and control. (Australia, 2006)

Capability management helps organizations to better understand and better integrate, if needed rearrange, utilize and apply the capabilities of the organization in achieving strategic goals and current operational tasks. It develops and provides new solutions. The circumstances of limited appropriations for defense and the presence of the challenges of financial crises instruct countries that are members of international alliances and organizations to share certain capabilities. This approach is useful and cost-effective because capability management can be shared with a bilateral partner in a way that joint efforts and resources are made to meet the requirements for specific capabilities, since, by economic logic, larger orders typically reduce the unit price, which is also applicable maintenance where the cost per unit is reduced. The Partnership Sharing Initiative has been discussed on several occasions at multiple levels in NATO and the EU with the intention of finding the optimal approach to the collective development of capabilities. (NATO, 2019) To this end, the defense ministries use their own systems and procedures that allow for the maintenance of capabilities, consisting of appropriate elements.

In general, the MoD's and AF do not procure the appropriate and necessary product on the market but by the capabilities. To this end, different models are already being used at the national level in the MoD's or developing their own and specific models and tools used in capability management. Each of the available model processes capabilities according to the selected key categories or dimensions. Common models are Balance Score Card, Total Quality Management, Cost-Benefit Analysis, and Game Theory. These models are often used in MOD's systems as frameworks to build upon specific internal or independently developed models.

According to the Rulebook on Defense Planning at the Ministry of Defense and the Armed Forces of the Republic of Croatia, "the required defense capabilities are determined on the basis of a defined defense policy and the results of the strategic environment analysis, taking into account obligations arising from NATO's defense planning process, commitments undertaken within the European Union and other international organizations and arrangements and available resources". (MORH, 2017)

For comparison and illustration, a US Department of Defense capability development framework has developed an analysis of the so-called 'DOTLMPF' - (Doctrine, Organizations, Training, Leader Development, Material, Personnel, Facilities) (DoD, 2007) and in the UK, Defense Lines of Development (DLoDs): training, equipment, staff, information, concept and doctrine, organization, infrastructure, logistics (Training, Equipment, Personnel, Information, Concepts and Doctrine, Organization, Infrastructure, Logistics). (DoD, 2004)

The next example is the Australian Department of Defense which developed analyses in Fundamental Inputs to capability (FIC) in the following dimensions or categories: training, equipment, personnel, information, concept and doctrine, organization, infrastructure, logistics (Training, Equipment, Personnel, Information, Concepts and Doctrine, Organization, Infrastructure, Logistics). (Gaidow, 2006)

In a military setting, capabilities are analyzed in terms of strong structure and preparedness based on that strength structure. "Capability planning assesses the ability of existing and planned forces to achieve defense objectives and develop variants to strengthen weaknesses and reduce the pronounced need to develop forces that exceed projected needs. Capability planning is also limited by the resources available." (Vanc, Hinkel, 2011)

4.3. Managing NATO capabilities

NATO's modern defense system is based on an effective combination of two key pillars: state-of-the-art weapons systems and platforms and forces trained to operate smoothly. Investing in the right capabilities is an essential part of investing in defense. NATO plays an important role in assessing the capabilities that the Alliance needs; setting goals for national or collective capability development; and facilitating national, multinational and collective development of capabilities and innovation.

As described in chapter 2.3. NATO defense planning process NDPP is the primary means to identify and prioritize the capabilities required for full-spectrum operations and to promote their development and delivery.

Capabilities are developed by member states but NATO enables tools for member states to cooperate in developing and procuring capabilities through multinational cooperation and helps to reduce individual costs and to deliver interoperability and capabilities needed to reach alliance capability goals. Such cooperation in the procurement process helps member states to acquire vital capabilities. (NATO, 2018)

For the purpose to develop capabilities the Alliance works closely with industry, which creates a stronger national defense industry to burst national GDP. At the same time cooperation among industries across the member countries helps in industrial and technological advancement and progress. (NATO, 2018)

5. DEFENSE RESOURCES PROCUREMENT

As presented in capability management the procurement of new weapons and armaments (material assets) for AF represents introducing the new capabilities into the defense system.

5.1. Defense Resources Procurement in Croatia MoD

In Croatia MoD, procurement procedures are defined in "Rulebook on the procurement of material assets" (Rulebook). Defining material resources procurement as a „set of interrelated and coordinated activities that provide material resources and services for the functioning and operation of the MoD and CAF". (MORH, 2017)

Rulebook defines the categories of material resources, and the process of developing, equipping and modernizing complex assets and a group of weapons and military equipment. It regulates procedures and lists the documents necessary for the initiation and execution of military assets procurement.

Depending on the complexity of material assets to be procured for capabilities development, procurement can be divided into two groups. The first group represents the procurement of material assets through the regular process of public procurement regulate by Law on public procurement. (Sabor, 2016)

The second group represents the procurement of material assets as a project. Croatian MoD open projects for complex assets when alongside procurement there is a needs to organize retraining and adjustment of personnel to the new equipment, building construction for new asset accommodation, and even new organization structure for reception and management of the new asset.

Project management for the second group of material assets procurement is based on standard project management methodology "A Guide to the Project Management Body of Knowledge", PRINCE 2 and internal Croatia MoD Development Project Management Methodology. (MORH, 2014)

5.2. Defense Resources Procurement in NATO

For procurement in NATO, North Atlantic Council (NAC) established the NATO Support and Procurement Organisation (NSPO) as NATO body to meet the collective requirements of NATO countries in the acquisition, capability, support, and logistics. NSPO has the task to provide "cost-efficient acquisition, including armaments procurement, logistics, operational and systems support and services to the Allies". (NATO, 2015)

NSPO for the logistics and procurement support activities, and to provide integrated multinational support solutions for its stakeholders established The NATO Support and Procurement Agency (NSPA) as the executive body.

NSPA works in three main capability pillars: Support to Operations and Exercises; Life Cycle Management (including the large-scale acquisition) and Services, and provides support on a "no profit - no loss" basis. (NATO, 2015)

6. AS THE CONCLUSION

It is difficult and almost impossible, within a short period of time, to develop the capabilities required for the national defense system and for contributing to international organizations. The danger here is that, in a period of peace and stability, national defense resources will be reduced in order to meet the other needs of society, which is especially emphasized at the time of the recession when insufficient budgetary resources are to be distributed among different beneficiaries. The consequence of such treatment may return like a boomerang in the near or far future in the event of a national security threat when it is necessary to use national defense capabilities that may prove insufficient to meet the challenges posed.

In order for the defense system to respond to the set challenges defined in planning documents through missions and tasks and to be ready to respond to threats and challenges in the future, it is necessary to have a quality planning system. At the strategic level, it is necessary to have a clear direction and projections of the functioning of the defense system at the national and international levels. It is not enough to declare capabilities for specific missions and tasks. Within each mission and task, it is necessary to clearly identify what resources the defense system can count on, in what numerical sizes, and for what time period. In planning all necessary elements must be represented. Currently, the defense system's biggest challenge is how to meet as many requirements as possible with very limited funding sources and with a very vague prospect of future funding.

Maintaining and developing knowledge, skills, and capabilities enables the development of a larger range of human resources capabilities. Also, by continuous upgrading, modernizing or procuring new material resources (weapons and equipment), better bases are reached for linking human and material resources to upgrading existing or improving and creating new capabilities.

Finally, all resources should be continuously maintained upgraded and improved so the defense sector can sustain its capabilities and be prepared to answer to the missions and goals set in planning documents.

This article opened space for other researches in the area of defense resources management. The academic community should connect more closely and work together with the defense sector an assist in introducing new ideas and solutions in the defense planning system. The defense sector was for many years innovator in many areas developing new technical and technological solutions later applied in the civilian sector. The defense sector was the leader in introducing changes in management, organization structure, and others.

Today the civilian sector should work closely with the defense sector bringing recommendations and new ideas that can help fulfill defense missions and tasks by developing new defense capabilities introducing cost-effective and cost-efficient models producing more with less.

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QUALITATIVE AND QUANTITATIVE ASPECTS OF TOURIST ACCOMMODATION IN HOUSEHOLDS

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Abstract

Efforts focused on quality improvement have resulted in the standardization of tourism and hospitality services, which has led to the emergence of accommodation classification schemes and quality labels. Given the importance of tourist accommodation in households within the Croatian Tourism Development Strategy, special emphasis has to be put on quality improvement in this market segment. Therefore, the purpose of this paper is to point out the importance of quality evaluation schemes in accommodation in households, including institutional as well as non-institutional evaluation schemes as they represent the basis for improving market recognition and the effective promotion of households to increase competitiveness and quality. To gain complete insight into accommodation in households, qualitative and quantitative analysis based on secondary data is carried out and the importance of accommodation in households within the Croatian accommodation sector and concerning competitive European countries is explored. Additionally, the paper presents a detailed analysis of theoretical determinants and legislative framework related to the provision of services in accommodation in households. The importance of the research stems from the fact that the household accommodation segment represents almost 60% of total accommodation capacities in Croatia *and that this topic is still under-researched. The proposed research contributes to the theoretical as well as practical knowledge base because of its topicality and focuses on trends in the tourism market. Research results are followed by recommendations for increasing the competitiveness of tourist accommodation in households in Croatia through the implementation of quality evaluation schemes. In this respect, the paper provides guidelines for effective quality improvement strategies in accommodation in households. Also, this research can serve as a basis for future research related to service quality in this accommodation segment.*

Keywords: *tourist accommodation in households, quality schemes, legislation, qualitative and quantitative analysis*

JEL Classification: Z30, Z32

1. INTRODUCTION

An increase in the current level of quality of tourism supply following the Croatian Tourism Development Strategy (2020) represents one of the important prerequisites for the successful and long-term positioning of Croatian tourism in the international market. The great importance of accommodation in households relative to the overall accommodation capacities in Croatia points to the significant influence of quality in gaining and sustaining competitive advantages for this segment of the accommodation offering and, in turn, improving the overall quality of Croatian tourism.

Institutional as well as non-institutional quality evaluation schemes can be used to that end. The aim of defining and testing quality is to rank quality, and this ranking is commonly carried out through institutional and non-institutional categorization systems. To foster quality improvement processes in the segment of accommodation in households, a legislative framework, relating to quality evaluation schemes, is described and examples are given of quality labels developed for this type of accommodation in Croatia, Italy, and Austria. The paper also analyzes the structure of capacities in the accommodation segment represented by the number of beds and rooms in the total capacities in Croatia and the share in a total number of arrivals and nights. The level of quality is analyzed using data on the category of facilities (2, 3, 4 and 5 stars) for the period 2016 – 2019 in total and by county. A comparison with competitive Mediterranean countries is made to gain insight into the share of capacities in Croatia relative to the share of capacities in those countries.

2. LEGISLATIVE FRAMEWORK – PROVISION OF SERVICES IN TOURIST ACCOMMODATION IN HOUSEHOLDS

A hectic lifestyle and lack of leisure time in the place of residence have led to the loss of quiet family life and family atmosphere, which tourists try to find in the place of their temporary residence, i.e. during holidays (Pavlić, Portolan, 2014). This has resulted in greater demand for accommodation in family households, an important part of the accommodation offering in Croatia. Private accommodation facilities have a specific way in which they treat their guests (making them feel at home), a personalized approach to providing services, specific architectural, horticultural and designer features, as well as a high level of informality. (Mrnjavac, Pavia, Cerović, 236)

Several legal acts govern the provision of services in accommodation in households. To better understand the circumstances under these facilities, operate, the legal aspects of this matter are discussed below.

According to Croatian legislation, the provision of hospitality services is regulated by the Hospitality and Catering Industry Act (Official Gazette 85/15, NN121/16, NN 99/18, 25/19, 98/19). The Act defines the manner and conditions under which people can engage in hospitality, the groups of hospitality facilities relative to the type of services provided, the minimal requirements for the type and category of a facility as well as other rights and obligations of service providers (lessors). Based on the Act, the Regulation on the classification and categorization of facilities providing hospitality services in households (Official Gazette 9/16, NN54/16, NN 61/16, NN 69/17, 120/19) prescribes the minimal conditions a facility providing hospitality services in a household must meet. These conditions refer to guest safety, horizontal and vertical communication, the height of rooms, and the serving of food, drinks, and beverages. The Regulation also defines the minimal conditions required for rooms, apartments, studio-type suites and summer homes, as well as campsites and camping rest areas. It goes on to define the type of facilities and categories and the conditions for each type and category. The Appendix of the Regulation describes the minimal conditions required for a certain category. Rooms and Studio type-suites can be classified into three categories: 2, 3 and 4 stars for existing facilities and 3 and 4 stars for new facilities, while apartments, summer homes, and camp can be categorized with 2, 3, 4 and 5 stars for existing facilities and with 3, 4 and 5 stars for new ones. The criteria for categorization refer to the reception of guests, unit composition and surface area, furniture, equipment and services, food, drinks and beverage services (not mandatory), cleaning services, and the general condition and external appearance of the facility and environment. Special emphasis in this paper is placed on the hospitality/catering services in households that provide rooms, apartments, studio-type suites, and summer homes, in the lessor's ownership, having not more than ten rooms, that is 20 beds (extra beds not included).

The next part of the paper examines the categorization of facilities, the subject of this research, in the period 2016 – 2019 in general and the structure of categorized facilities by region/counties, in particular (Table 4 and Table 3).

In addition to the above legal acts, other regulations are also connected with the operation of hospitality facilities in households. They are the Act on the Provision of Services in Tourism (Official Gazette 130/2017) regulating the types of services that lessors can provide to guests, the Act on Tourist Board Membership Fees (Official Gazette 52/2019) stipulating the obligation of paying membership fees to tourist boards (this applies to lessors as well), and the Tourist Tax Act (Official Gazette 152/08, 59/09, 97/13, 158/13, 30/14) regulating flat rates for payment of tourist taxes.

3. QUANTITATIVE AND QUALITATIVE ANALYSIS OF ACCOMMODATION IN HOUSEHOLDS

Since the accommodation units covered by this research (rooms, apartments, studio apartments, holiday homes) represent almost 60% of the total number of accommodation capacities in Croatia, an increase in the level of quality in this segment could potentially represent a prerequisite for the future development and competitiveness of Croatian tourism. Secondary data is used to gain insight into the current state of the qualitative and quantitative aspects of accommodation capacities in households and their share in total tourist traffic. Focus is placed on analyzing the importance of accommodation in households within the total accommodation supply, as well as concerning total tourist arrivals and overnights in Croatia (Table 1 and Table 2).

Table 1. Tourist arrivals and tourist nights by types of tourist accommodation establishments ('000)

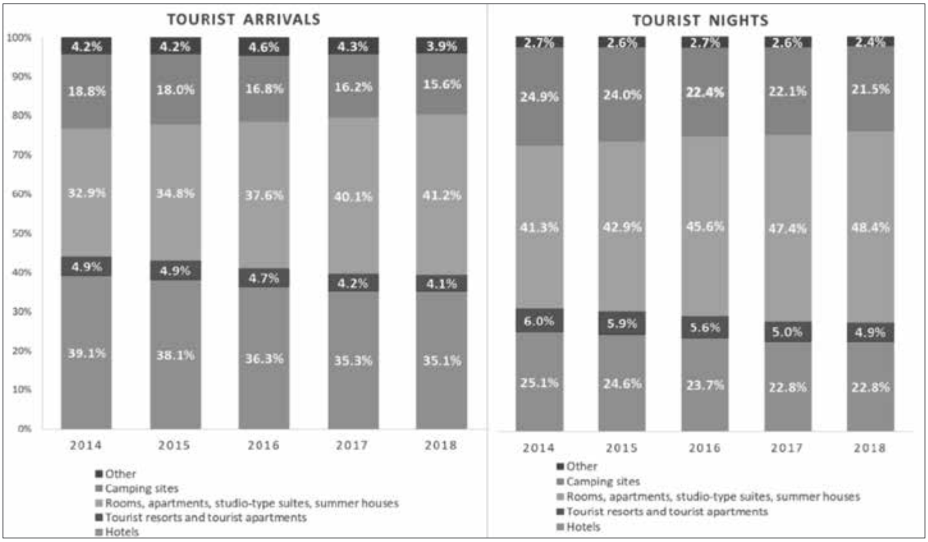
Tourist arrivals					
Establishments	**2014.**	**2015.**	**2016.**	**2017.**	**2018.**
Hotels	5,052	5,403	5,617	6,149	6,561
Tourist resorts	420	481	495	512	556
Tourist apartments	217	207	230	220	213
Boarding houses	81	90	115	126	132
Guest houses	15	16	16	17	16
Rooms, apartments, studio-type suites, summer homes	**4,248**	**4,934**	**5,811**	**6,985**	**7,682**
Hostels	285	334	438	456	450
Spas	34	33	21	20	13
Overnight accommodations	56	62	55	55	55
Inns offering accommodation services	6	5	6	4	4
Camping sites	2,433	2,555	2,601	2,822	2,920
Other	67	57	58	65	65
Total	**12,914**	**14,175**	**15,463**	**17,431**	**18,667**
Tourist nights					
Establishments	2014.	2015.	2016.	2017.	2018.
Hotels	16,641	17,539	18,435	19,669	20,436
Tourist resorts	2,622	2,901	2,936	3,021	3,118
Tourist apartments	1,382	1,318	1,406	1,316	1,251
Boarding houses	283	319	400	439	448
Guest houses	75	80	86	91	86
Rooms, apartments, studio-type suites, summer homes	**27,337**	**30,664**	**35,545**	**40,851**	**43,382**
Hostels	692	801	1,034	1,124	1,105
Spas	220	204	154	152	108
Overnight accommodations	173	185	154	164	161
Inns offering accommodation services	24	11	10	7	8
Camping sites	16,519	17,158	17,484	19,082	19,276
Other	301	259	275	283	274
Total	**66,270**	**71,437**	**77,919**	**86,200**	**89,653**

Source: Croatian Bureau of Statistics

The results presented in Table 1 show that the total number of arrivals in Croatia increased by over 5 million from 2013 to 2018 and in 2018 a total of 18,667,00 arrivals were recorded. The following categories account for the highest shares in the total number of arrivals in 2018: "Rooms, apartments, studio-type suites, summer houses" (41.2%), "Hotels" (35.2%) and "Camping Sites" (15.6%) Chart 3. A steady upward trend is evident in accommodation in the household and in that period the number of arrivals almost doubled, from

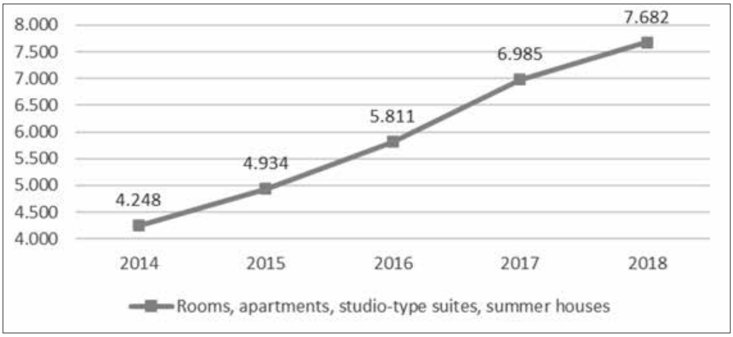
4,248,000 to 7,682,000 (Chart 1). The average annual rate of increase in overnight stays for the category "Rooms, apartments, studio-type suites, summer homes" in the period 2014 – 2018 was 16%.[1]

Chart 1. Tourist arrivals and tourist nights by types of tourist accommodation establishments



Source: Table 1

Chart 2. Rooms, apartments, studio-type suites, summer homes – tourist arrivals

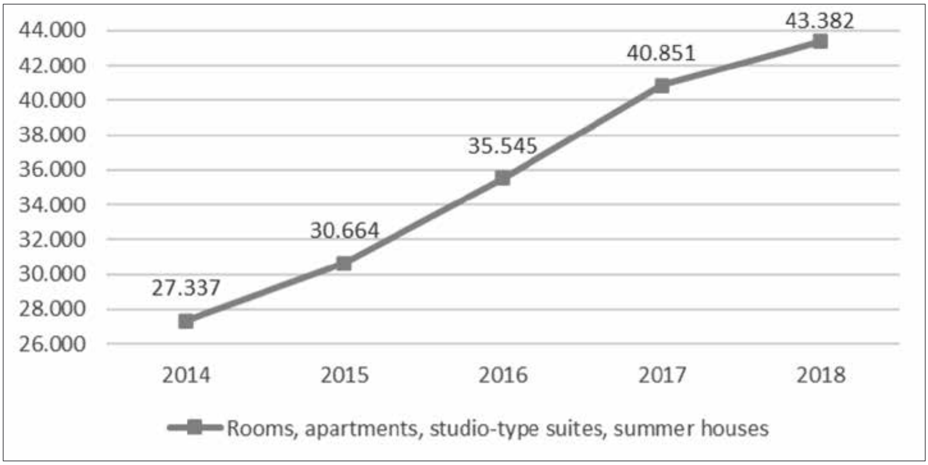


Source: Table 1

[1] Annual rate of increase or decrease (G) can be calculated: , n= total number of years, Y_n= final value, Y_1= starting value (Avelini Holjevac,50)

Similar to the number of arrivals, the number of tourist nights has also been rising over the past years (from 66,270,000 in 2014 to 89,653,000 in 2018). It is evident from the Table that the category "Rooms, apartments, studio-type suites, summer homes" has the highest share, accounting for almost 50% of all tourist nights (Chart 1), with the total number of 43,382,000 overnights. Hotels make up 22.8% with 20,436,000 tourist nights and camping sites, 21.5% with 19,276,000 tourist nights in 2018 (Chart 1).

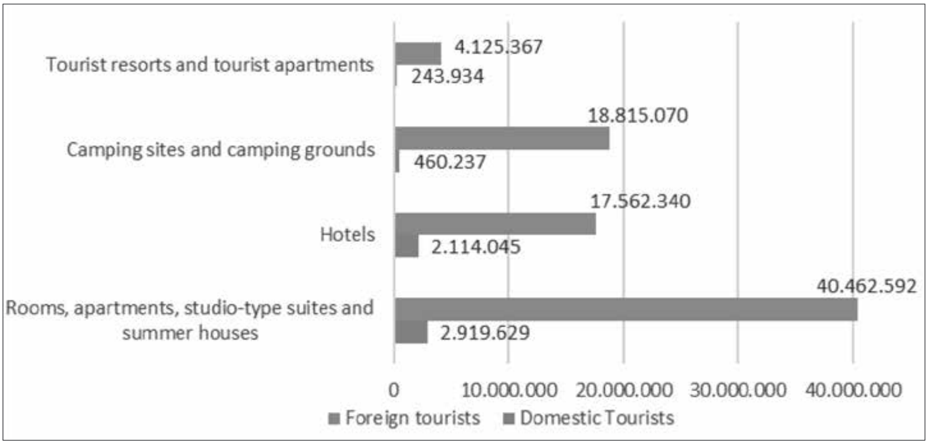
Chart 3. Rooms, apartments, studio-type suites, summer homes – tourist nights



Source: Table 1

A growing trend of tourist nights is present in accommodation in households in the analyzed period (27,337,000 in 2014; 43,382,000 in 2018) and the average annual rate of increase in overnight stays is 12.2%. (Chart 3)

Chart 4. Domestic and Foreign Tourist Nights, by Types of Tourist Accommodation Establishments, 2018.



Source: Croatian Bureau of Statistics

Most overnight stays are realized by foreign tourists and this applies to all types of accommodation, including accommodation in households. (Chart 4)

That accommodation in households represents the most significant form of commercial accommodation in the Croatian tourist accommodation sector is confirmed by the results presented in Table 2 relating to the number of rooms and beds in different types of accommodation.

Table 2. Accommodation Capacities, by Types of Tourist Accommodation Establishments- Rooms and beds

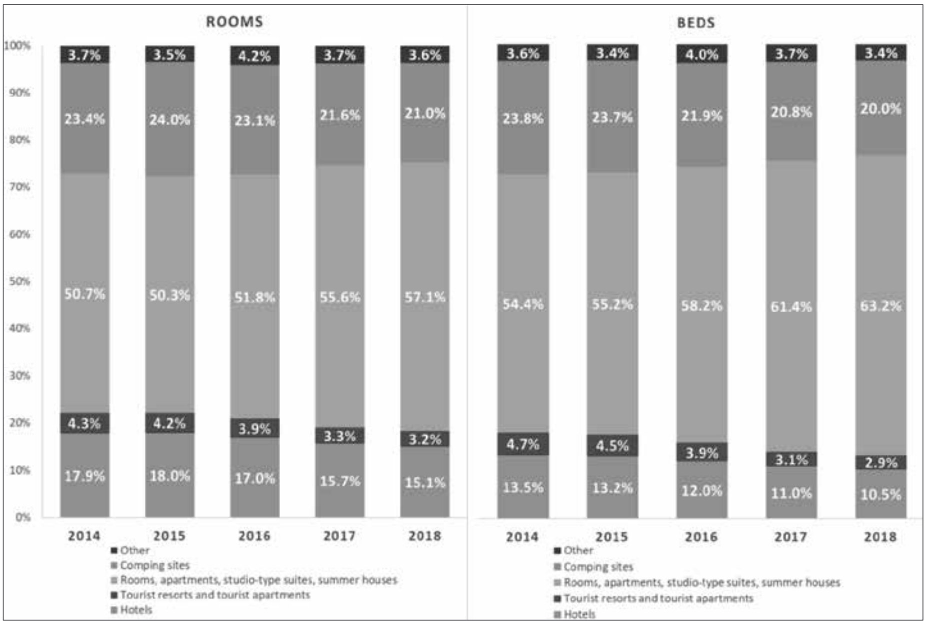
Rooms					
Establishments	2014	2015	2016	2017	2018
Hotels	60,214	61,672	62,440	63,281	64,203
Tourist resorts	10,138	10,128	10,080	9,572	9,973
Tourist apartments	4,394	4,141	4,239	3,855	3,640
Boarding houses	1,962	1,985	2,604	2,716	2,824
Guest houses	485	435	437	563	583
Rooms, apartments, studio-type suites, summer homes	**170,380**	**172,070**	**190,458**	**223,983**	**242,758**
Hostels	2,747	3,265	4,140	4,236	4,781
Spas	1,319	1,405	1,056	1,085	938
Overnight accommodations	1,371	1,356	1,386	1,593	1,324
Inns offering accommodation services	149	141	158	114	114
Comping sites	78,696	82,281	85,037	87,133	89,186
Other	4,309	3,486	5,516	4,799	4,956
Total	336,164	342,365	367,551	402,930	425,280

Beds					
Establishments	2014,	2015,	2016,	2017,	2018,
Hotels	134,823	138,629	138,303	136,607	137,388
Tourist resorts	30,303	31,507	30,232	26,289	26,511
Tourist apartments	16,854	15,444	14,693	12,154	11,697
Boarding houses	4,826	5,150	6,033	6,260	6,434
Guest houses	1,206	1,048	1,040	1,280	1,230
Rooms, apartments, studio-type suites, summer homes	**545,502**	**577,766**	**668,830**	**763,575**	**830,461**
Hostels	10,961	12,308	16,115	17,084	18,480
Spas	2,462	2,593	2,004	2,026	1,796
Overnight accommodations	3,348	3,368	3,346	3,729	3,066
Inns offering accommodation services	356	321	359	248	252
Comping sites	238,774	247,478	251,712	258,210	262,542
Other	12,572	10,719	16,554	15,201	13,236
Total	1,001,987	1,046,331	1,149,221	1,242,663	1,313,093

Source: Croatian Bureau of Statistics

The total number of available rooms has been growing from year to year, and as more and more tourists visit Croatia each year, the number of establishments is following that trend. Accordingly, the average annual rate of increase is 9.3%. (Chart 6)

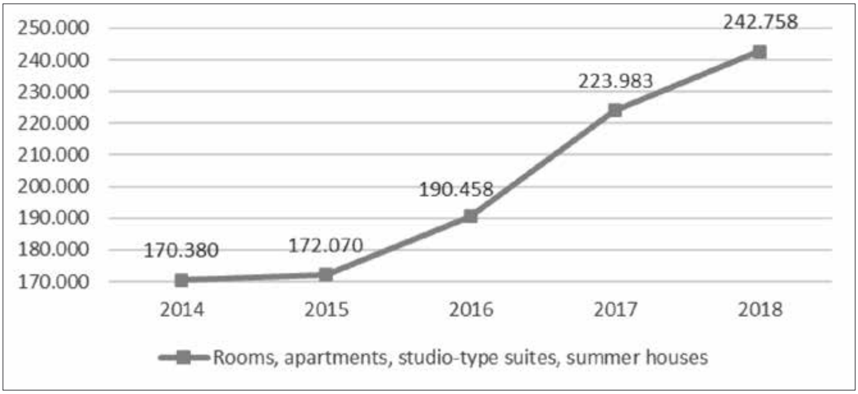
Chart 5. Beds and rooms in tourist accommodation establishments by types of tourist accommodation establishments



Source: Table 2

The share of beds represented in accommodation in households is even higher and amounted to 63.2% in 2018. In recent years, the number of beds has also been growing in this type of accommodation at an annual average growth rate of 11.1% (Chart 7)

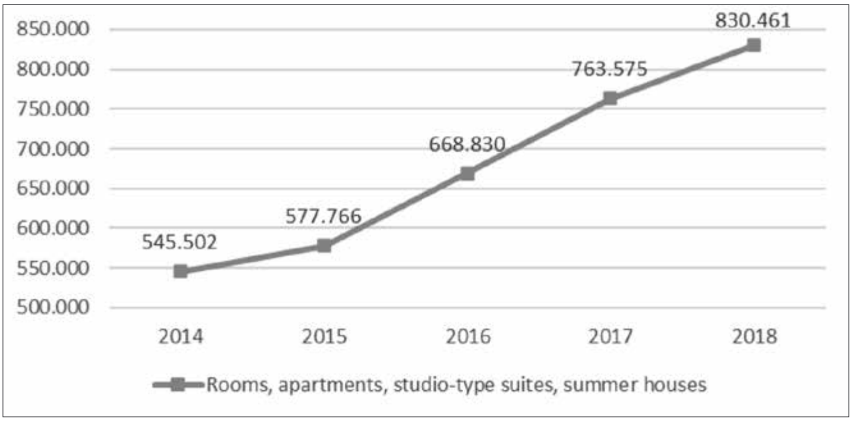
Chart 6. Rooms, apartments, studio-type suites, summer houses – rooms



Source: Table 2

The number of available rooms is highest in accommodation in households, with a total of 242,758 rooms in 2018, which accounts for 57% of the total number of rooms in all accommodation capacities. It is important to note that hotels account for 15.1% of rooms available, camping sites for 21%, tourist resorts for 2.4%, and hostels for 1.1%, while other types of accommodation establishments account for less than 1% of the total number of accommodation capacities (Chart 5).

Chart 7. Rooms, apartments, studio-type suites, summer homes- beds



Source: Table 2

Despite the increase in the number of rooms and beds, occupancy rates are still low, amounting to 13.7% in 2014, 14.5% in 2015, 14.6% in 2016, 14.7% in 2017 and 14.3% in 2018, with an average of 50 days occupancy per year.[2] Although the share of rooms and beds is higher in accommodation in households, the occupancy rates are lower (2018) than in hotels (40.8%) and camping sites (20.1%). The data point to leisure tourism in the two summer months of July and August.

In this respect, quality improvement can contribute to extending the tourism season in this segment of the accommodation offers. In recent years, an upward trend in quality improvement is evident in the growing number of accommodation units in households with higher star ratings (Table 3).

Table 3. Accommodation capacities in households, by category

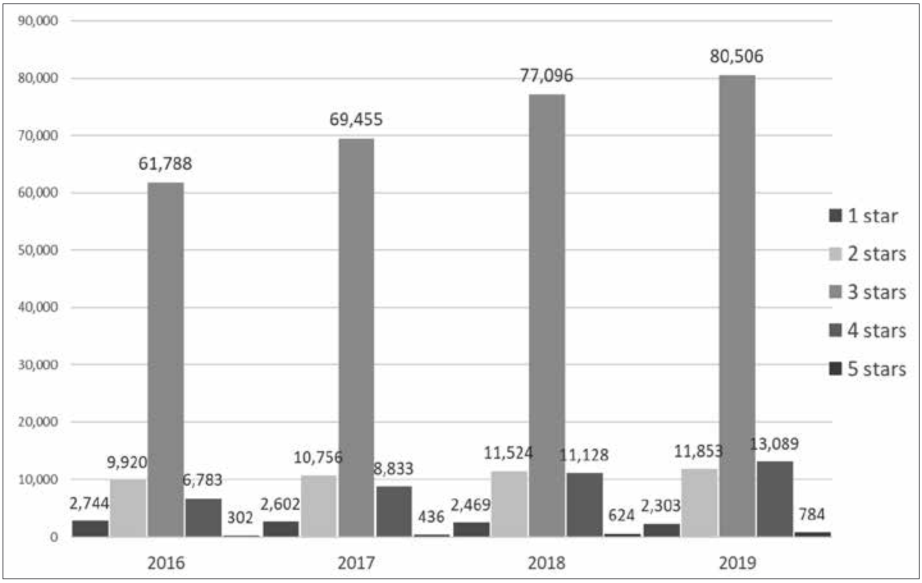
Category	2016		2017		2018		2019		The annual rate of increase or decrease
1 star	2,744	3.4%	2,602	2.8%	2,469	2.4%	2,303	2.1%	-5.7%
2 stars	9,920	12.2%	10,756	11.7%	11,524	11.2%	11,853	10.9%	6.1%
3 stars	61,788	75.8%	69,455	75.4%	77,096	75.0%	80,506	74.2%	9.2%
4 stars	6,783	8.3%	8,833	9.6%	11,128	10.8%	13,089	12.1%	24.5%
5 stars	302	0.4%	436	0.5%	624	0.6%	784	0.7%	37.4%
Total	81,537	100%	92,082	100%	102,841	100%	108,535	100%	10,0%

Source: Croatian National Tourist Board

Although most of the facilities belong to the 3-star category (Chart 8, on average 75%) the number of facilities with a 4-star rating and a 5-star rating is growing at an annual average rate of 24.5% and 37.4% respectively.

[2] Occupancy rate can be calculated $= \frac{\textit{Number of Occupied Rooms}}{\textit{Total Number of Available Rooms}} \times \mathbf{100}$, (Galičić, Laškarin, 214)

Chart 8. Household establishments in Croatia by categorization



Source: Table 3

The following table presents the detailed structure of categorized facilities providing accommodation in households.

Table 4. Number of establishments by category of accommodation in households in Croatia, by county (2019)

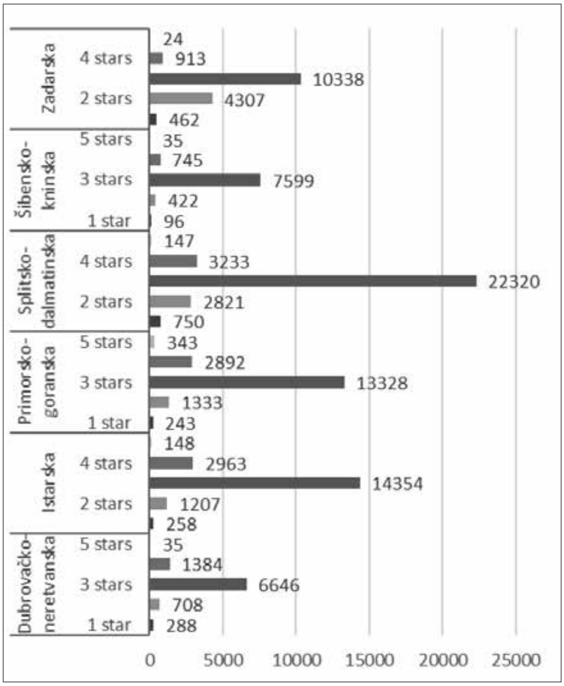
County	1 star	2 stars	3 stars	4 stars	5 stars	Total
Bjelovarsko-bilogorska	0	12	40	9	1	62
Brodsko-posavska	1	5	21	6	0	33
Dubrovačko-neretvanska	288	708	6,646	1,384	35	9,061
Grad Zagreb	5	110	1,788	410	26	2,339
Istarska	258	1,207	14,354	2,963	148	18,930
Karlovačka	40	69	548	68	1	726
Koprivničko-križevačka	0	2	14	4	0	20
Krapinsko-zagorska	5	16	83	47	4	155
Ličko-senjska	148	741	2,938	286	12	4,125
Međimurska	0	2	41	14	0	57
Osječko-baranjska	6	20	172	39	1	238
Požeško-slavonska	0	5	12	4	0	21
Primorsko-goranska	243	1,333	13,328	2,892	343	18,139
Sisačko-moslavačka	0	27	36	3	1	67

Splitsko-dalmatinska	750	2,821	22,320	3,233	147	29,271
Šibensko-kninska	96	422	7,599	745	35	8,897
Varaždinska	1	14	70	21	1	107
Virovitičko-podravska	0	4	5	2	0	11
Vukovarsko-srijemska	0	11	54	5	0	70
Zadarska	462	4,307	10,338	913	24	16,044
Zagrebačka	0	17	99	41	5	162
Total	2,303	11,853	80,506	13,089	784	108,535

Source: Croatian National Tourist Board

Split-Dalmatia County has the largest share of 1-star and 3-star facilities and Zadar County the largest share of 2-star facilities. Primorje-Gorski Kotar County has the most facilities with 4-star and 5-star ratings (22% and 44%, respectively). A detailed presentation on the number of categorized establishments in these counties is given in Chart 9.

Chart 9. Number of establishments by category of accommodation in households (Croatia - Zadarska, Šibensko-kninska, Splitsko-dalmatinska, Istrarska and Dubrovačko-neretvanska county, 2019)



Source: Table 4

For Croatia to determine the competitiveness of its accommodation offering, it is necessary to identify the position it holds relative to competitive countries that also have a tradition in providing accommodation in households. The following section analyzes tourist traffic in selected countries and compares data to gain insight into Croatia's participation in the overall offering of tourist accommodation in households at the European level.

Table 5. Number of tourist nights, arrivals and rooms, by Country– Group 55.2 Holiday and other short-stay accommodation (2018)

Tourist nights			
Country	Total	Holiday and other short-stay accommodation	
France	302,038,667	79,459,196	26.3%
Italy	212,334,391	45,231,787	21.3%
Spain	165,918,083	79,459,169	47.9%
Portugal	24,555,272	3,035,474	12.4%
Greece	20,515,937	6,363,836	31.0%
Tourist arrivals			
France	118,970,003	20,475,741	17.2%
Italy	64,905,729	10,874,621	16.8%
Spain	65,032,598	8,687,539	13.4%
Portugal	10,830,619	1,483,463	13.7%
Greece	7,804,544	1,770,408	22.7%
Rooms			
France	5,111,960	980,642	19.2%
Italy	5,113,197	1,700,345	33.3%
Spain	3,599,886	880,356	24.5%
Portugal	648,530	91,944	14.2%
Greece	1,340,451	437,842	32.7%

Source: Eurostat

A comparison is made with Italy, Spain, Greece, France and Portugal, Mediterranean competitive tourism countries. The share of nights in "Holiday and other short-stay accommodation" is the highest in Spain (48%), followed by Greece (31%) and France (26%). Within Class 55.2 it is not possible to single out specific types of accommodation (only rooms, apartments, studio-type suites and holiday homes). Because Class 55.2 encompasses all types of accommodation facilities in this group, this is a limiting factor in making comparisons. Nevertheless, it does provide insight into the importance of the "Holiday and other short-stay accommodation" segment in the overall structure of the accommodation offers.

4. QUALITY LABELS AS A BASE FOR QUALITY IMPROVEMENT IN ACCOMMODATION IN HOUSEHOLDS

Efforts focused on quality improvement have resulted in the standardization of tourism and hospitality services, which has led to the emergence of accommodation classification schemes and quality labels. This part of the paper centers on the existing quality labels for tourist accommodation in households in Croatia and on examples of good practice from abroad as frameworks for quality improvement in this segment of the accommodation offers.

In Croatia, there are six quality labels awarded to tourist accommodation in households. Three have been developed in Istria County, two in Split-Dalmatia County and one in Primorje-Gorski Kotar County.

Domus Bonus represents a quality certificate for accommodation in households and is part of the Istrian Quality Brand. As the Domus Bonus certificate is currently undergoing improvements, there is no available information on the criteria. Accordingly, the private owners of accommodation in households are encouraged to implement the quality label Istra Bike&Bed (Istra, 2020).

Istra Bike&Bed is a quality label focused on defining criteria for accommodation in households that specialize in providing service to cycling tourists. In addition to the specific requirements of this type of tourist concerning equipment, the system ensures linkage with other necessary services (information on tours, guides, renting, transportation, servicing, etc.) Periodic checks are carried out throughout the year to ensure compliance with the quality label (Istra bike, 2020).

Eco Domus (Istria County) is a quality certification for eco-friendly accommodation in households. It encourages private renters to diversify and improve the quality of accommodation through alignment with the principles of sustainable development and sustainable tourism in Istria. For a household offering tourist accommodation to receive an Eco Domus certificate, basic criteria need to be met. The household must have a total capacity of up to 30 beds and at least 2 years of renting, comply with national regulations and environmental protection principals and provide high quality following EU standards. Regular checks are conducted throughout the year to ensure compliance with the quality (Istra, 2020).

Kvarner Family is a quality label for accommodation in households that serves as a complement to the official categorization to increase competitiveness for this type of accommodation, connecting service providers, ensuring better market recognition and better promotion, and improve the professional knowledge of householders. The following criteria are taken into consideration in awarding the label: a minimum 3-star rating, work permits, the environment (at least five criteria should be met); the interior (at least five criteria should be met), parking space, distinctiveness, at least two years of family tradition in renting, loyal guests, a book of impressions, and education and training for staff members. To boost competitiveness and improve the quality of tourist accommodation in family homes, labels have been developed for the sub-brands Pet-friendly, Bike-friendly and Hike-friendly (Kvarner family, 2020).

The quality labels Welcome (Zadar County) and Like Home (Šibenik-Knin County) are systems developed along the lines of the Kvarner Family label. Although the criteria are the same, the former labels have distinctive elements in their sub-brands. The Welcome label has Bike, Hike and Pets sub-brands. Like Home label has the sub-brands Bike, City, Rural and Family. Regular checks of Welcome label holders are made every two years (Zadarska County, 2020).

The quality labels in Istria County operate independently of one another and have no sub-brands, while the quality labels of the Kvarner region and Dalmatia and their sub-brands are organized under a single umbrella brand.

The quality labels Südtirol Privat (Italy) and Urlaub are bauernhof (Austria) are briefly presented as good practice examples. The Südtirol Privat quality label sets minimum standards by providing the host with guidance on better planning, linking, directing, and enhancing accommodation quality activities. The geographical scope of the Südtirol Privat label in the region of South Tyrol (Italy) (Südtirol Privat, 2020).

The Austrian label Urlaub am bauernhof connects unique products, food and drink with the destination and the type of accommodation. The corresponding number of flowers indicates the quality of the accommodation facilities. Accommodation is offered through several sub-brands: bike, hike, pet, city, family, nature, winter (Urlaub bauernhof, 2020).

Of the foreign quality brands, the Südtirol Privat (Italy) quality label was analyzed more detailed. In addition to promoting its brand and sub-brands, the label also promotes ideas that involve broader benefits for the community (including different providers of auxiliary services in the destination and the offering of local food and beverages). The special feature of this quality label is reflected in the creation of a comprehensive tourism product, bringing together the use of local food products in preparing and serving traditional dishes, the activities guests can consume during their stay, and the type of accommodation in which they can stay. The synergy of providers of accommodation in households, local food producers and providers of auxiliary services in the destination creates a comprehensive and competitive product with a very strong image. Everything tourists consume during their stay carries the Südtirol quality label.

5. CONCLUSION

Tourist accommodation in family households is the most important form of commercial accommodation in Croatia's overall accommodation offering. In 2019, there were 108,494 facilities (households) registered for the provision of commercial accommodation services. In 2018, there were 102,800 such facilities. Regarding the total number of beds, accommodation in households accounted for 63.2% of total accommodation capacities in Croatia in 2018. In the observed period 2014 – 2018, this number steadily grew, at an annual growth rate of 11.8%. There is a similar trend in the number of rooms, which grew at an average rate of 9.3% in the observed period. Concerning the spatial distribution of accommodation in households, it is interesting to note that almost all capacities are located in coastal counties (93%), with the leading counties being Split-Dalmatia County (27%), Primorje-Gorski Kotar County (16.7%), Istria County (17.4%) and Zadar County (14.8%).

Accounting for the prevailing share of facilities in the Croatian accommodation offering, tourist accommodation in households also accounts for the largest number of tourist arrivals and overnights. For example, accommodation in households accounted for 41.2% and 48.4% of total arrivals and overnights, respectively. The period 2014 – 2018 indicates an upward trend in both arrivals (annual average of 16%) and overnights (annual average of 12.2%). Foreign tourists make up the large majority of guests in all forms of the accommodation offering, including accommodation in households (93%). Despite the growth in capacity in accommodation in households, the issue of seasonal operations is still present (the occupancy rate being about 14%). One of the factors that can have an impact on extending the tourism season refers to quality improvement. Hence, the other aspect of the research interest in this paper is related to quality evaluation schemes for accommodation in households, including institutional (legislative framework) as well as non-institutional evaluation schemes (quality labels for accommodation in households - Croatia, Italy, Austria). Those schemes represent a basis for quality improvement, which can, in turn, enhance the competitiveness of this segment of the accommodation offers. This is also a base for further research regarding service quality for this segment of the accommodation offering, taking into consideration elements of quality defined by legislative frameworks such as categorization criteria as well as quality elements defined by quality labels, focusing not only on tangible aspects but also on intangible aspects of the service.

Acknowledgment

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Perfomance management

OUTSOURCING OF ACCOUNTING SERVICES: NEEDS ANALYSIS

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Abstract

To better focus on their core business, micro and small enterprises outsource some of their business processes to partner companies. The most common among them are accounting services. Bookkeeping and accounting require specific knowledge and skills that not all entrepreneurs possess, especially in the early stages of business development. With this in mind, the paper analyses the use of different types of services typically provided by accounting service companies, on the example of micro and small enterprises in Osijek-Baranja County. The empirical research presented in the paper takes special account of the number of employees relative to the size and age of the investigated companies.

Keywords: *accounting services, Osijek-Baranja County, specific knowledge and skills, micro and small enterprises*

JEL Classification: M41, M49

1. INTRODUCTION

Small and medium-sized enterprises (SMEs) are major drivers of economic development and growth and a cornerstone of prosperity for any country because they promote entrepreneurship, employment, and innovation.

Almost 99% of companies in the European Union are micro, small or medium-sized enterprises (Sundvik, 2017, p. 154). This is the main reason why this particular business sector was chosen as the subject of the present research. The data reported for the Republic of Croatia are similar to those recorded in the EU. In 2017, small and medium-sized enterprises accounted for 99.7% of all companies in the country (Alpeza et al, 2018, p. 9). This percentage remained constant during the observed period. In 2017, compared to the year before, the number of micro and small enterprises increased by 4.9%, while the number of medium-sized enterprises grew by 3.9%. Micro, small and medium-sized enterprises employed almost three quarters (73.2%) of all employees in businesses that same year. The Total Entrepreneurial Activity (TEA) index for the Republic of Croatia in 2017 was 1.8. A slight improvement was noted in the number of opportunity-driven versus necessity-driven businesses started during the observed period. The reason for the emergence of necessity-driven businesses is the persistently high unemployment rate in the country. For this reason, it is quite likely that such companies are not always adequately prepared for navigating the challenges of the fast-changing business landscape. These circumstances can make their survival and performance vulnerable. To increase their prospects, start-up entrepreneurs would be well advised to get some outside help, such as consultancy services or expert advice in complying with tax legislation, as this would help to safeguard their operations in the long run.

Smaller companies in the developing economies cannot compete effectively because of the lack of resources and the necessary knowledge and skills, the increasingly complex environment in which they operate, and the growing pressure of competition created due to globalization (Kamyabi and Devi, 2011, p. 43). Therefore, to optimize their costs and in so doing ensure their survival in the market, they seek to optimize their use of external services, which are often essential.

Outsourcing various business functions are proving to be a valuable tool that enables a company to get the help it needs with non-core activities at a much lower cost than would be incurred by hiring in-house staff. "With the right partner, outsourcing can help increase your team's productivity, increase employee engagement and retention, and lower costly errors and risks." (Empyrean Benefit Solutions, 2017, p. 7) Small businesses are faced with unique challenges mainly due to their size. In other words, it is easier for larger companies to have an in-house team of experts for specific activities, while for many micro and small businesses this is not a feasible option (Abdul-Halim et al, 2012, p. 181). Although each outsourced service is connected to some specific requirements, according to Liović et al. (2017, p. 150) "accounting is a discipline that has to continuously deal with an array of laws and regulations that are frequently revised and amended. As a highly regulated profession, accounting also has an impact on the public interest, given that accounting services are used by all the stakeholders in society. All this makes the accounting function highly complex and demanding. If a company does not specialize in accounting, or if it does not have adequately trained personnel, it can easily run into problems as it is difficult for non-experts to find their way through the complexities of the accounting tasks."

Banham and He write "[M]anagement accounting information provides a basis for decision making, allocation of scarce resources, and a foundation for client interactions, product, and service pricing and is essential to SMEs viability and survival." (2014, p. 209) Thus, "[A]ccounting requires knowledge and skills that not all entrepreneurs have or are even aware of when starting a business". (Hadrović Zekić et al., 2018, p. 76) Besides, the task of the accounting department or outside accounting service is to fully understand the regulatory requirements imposed on particular economic sectors, financial reporting requirements, and standards, as well as tax-related legislation. Furthermore, the accounting department or service should be able to design book-keeping and accounting systems, as well as internal audit systems. It should be able to interpret and record complex transactions and to support managers in the interpretation of all kinds of accounting information. On the other hand, the company management, who has decided to make use of outside accounting service, is responsible for ensuring the accuracy and reliability of all the accounting information. To manage a company, whether big or small, is to make daily decisions that have an impact on operations. Every manager aims to get accurate data and feedback, which are often used to find and properly utilize scarce resources: funds, material and non-material assets, labor force, etc. Decisions related to resources are crucial since they have consequences in all the aspects of business operations: salaries and wages, goods or services that are produced and sold, pricing, and ultimately, turnover and profits.

Companies specializing in accounting services often provide business and financial consulting, as well as regular administrative services. Taking that into account, choosing high-quality and reliable bookkeeping and accounting service provider is very important because it allows the company's employees to focus on what they are best at. Bookkeeping, payroll services, and making sure that the company complies with the relevant laws and regulations, etc. is left to the experts who continuously stay abreast of any changes and advise the company on how to adapt their business operation accordingly. This helps companies overcome bureaucratic obstacles, saves them time and money, and allows their employees to better focus on the company's core activity.

Monitoring is another important factor to consider in outsourcing services. It involves having an independent external auditor carry out an additional audit and give an opinion on the accuracy and reliability of the company's financials and legislative and regulatory compliance. Thus, companies willingly allow external entities, which they often treat as their partners, to inspect all of their transactions, confident that it will add credibility to the quality of performance of the company's management and employees. According to an earlier study conducted by the author of this paper (Hadrović Zekić et al, 2018), choosing an external accounting service provider is a complex task which requires the company manager or owner to have the ability to evaluate the quality of the accounting service provider to ensure that it has the necessary experience, knowledge, and skills. Building on the prior research into accounting service outsourcing and the results obtained, this paper investigates which accounting functions are outsourced by MSEs. The research presented in this paper was also motivated by the fact that selecting an outsourcing partner for any area of business always entails a certain risk. This is particularly true for outsourcing accounting and financial services. To minimize the risk, it is important to accurately identify the needs of the company because outsourcing is not a solution for everyone. More specifically, a particular outsourcing model may be the right solution for one enterprise, but it does not necessarily mean that it will be beneficial for another company in the same industry. Before they reach a certain amount of revenue and a certain point in their growth, small businesses may rightly consider that more advanced accounting services are an unjustifiable expense because they do not need for them.

While seeking to expand their business to new markets and at the same time retain current customers by keeping them happy and satisfying their needs, companies often fail to notice and address poor cash flow management. Given their size and low revenue, small businesses cannot afford to hire accountants permanently. This is why they outsource some of their accounting services.

As the company grows, so does its need to hire additional employees due to the larger volume of business. As a result, its organizational structure and culture become increasingly complex. Financial management and accounting processes also increase in complexity and become an even more important business function of the company. This is when companies typically decide to create new accounting and controlling departments. Over time, their function also becomes increasingly complex - they provide information for strategic decision-making, which involves determining the company's financial position on an ongoing basis, analyzing and interpreting the financial reports, financial planning, and internal controls.

Due to the complexity of these tasks, the need for outsourcing might arise again even in companies that have attained a certain size and maturity. When deciding on outsourcing, it is necessary to consider how the company's internal accounting department will liaise with an outside service provider in their everyday operations. Externalizing the company's existing accounting operations may prove to be quite challenging. Often, companies have several internal rules and operating procedures that an external service provider needs to adapt to. Furthermore, the service provider must be aware that it will be handling valuable data and information about the company's business, and that the data transfer must be timely, swift, and well organized. Moreover, the service provider must be thoroughly acquainted with the strategy of the company.

Entrusting another business entity with confidential information always comes with a degree of risk. Accounting service providers need to prove that they are both competent and trustworthy. To keep a competitive edge, they increasingly invest in improving their skills and knowledge and continuously expand their service portfolio.

Often, the reason for outsourcing some of the accounting tasks to an outside provider is to reduce the company's expenditures. However, companies must carefully consider the choice of their business partner before agreeing with them because otherwise there may be negative consequences for everyday operations. Well-communicated expectations by the company outsourcing tasks to the service provider may be key to quality long-term cooperation. Although the legal responsibility for the transparent recording of all business events in compliance with the relevant legislation lies with accounting service providers, the companies that outsource their functions may sometimes be the ones who are at fault for accounting irregularities.

Information and communication technology enable almost instantaneous communication; however, in this kind of business relationship, the human factor still plays a key role. Timely and prompt submission of documentation with up-to-date data is imperative because it serves as a basis for bookkeeping and provides information for use in the completion of other accounting tasks agreed upon between the company and the service provider. The size of the company providing accounting services, in terms of the number of employees, maybe an indicator of its ability to adequately meet the needs of its clients as it shows the availability of human resources with the expertise needed to provide high-quality services.

"It's crucial, however, that the benefits administration partner you choose is capable of tailoring to your unique strategy and goals, and can also adapt and scale to changes within your organization and industry over time." (Empyrean Benefit Solutions, 2017, p. 7) The present paper aims to identify which types of accounting services, typically provided by external service providers, are most commonly outsourced by micro and small businesses in Osijek-Baranja County. Furthermore, the paper seeks to examine the extent to which these services are used and the correlation between different types of services, if any. Increasingly, bookkeeping and accounting service providers and other businesses are beginning to accept the fact that market orientation strengthens and promotes competitiveness and that customer orientation is extremely important. Özer, Koçak, and Çelik point out: "Changing needs of the customers, changing conditions of the industry and the new services in the market could also be effective for the firms' implications". (2006, p. 594) The insights gained as a result of this research are expected to provide accounting service provides with relevant information that could help them adapt their offer to market needs. This contribution is important because as Guo states: "Firms that do not systematically gather market intelligence will not be able to understand what consumers' expectations are (2002, p. 60)."

2. DATA AND METHODOLOGY

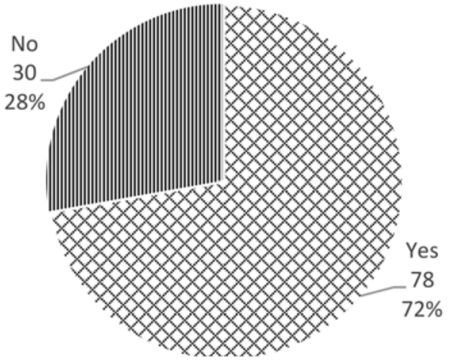
A survey was conducted, in 2017 to investigate the needs of micro and small businesses for outsourcing accounting services   The surveyed companies were selected from the Business Register of the Croatian Chamber of Economy, i.e. BizNet database (Intelligent Business Information System) available at http://

biznet.hr. The database comprises a total of 107,408 active companies in the Republic of Croatia. The authors selected the participating companies from the list of the Croatian Chamber of Economy, County Chamber of Osijek, i.e. companies located in Osijek-Baranja County. According to that list, there were 3,944 active companies (small, medium-sized and large enterprises) operating in Osijek-Baranja County, of which 3,872 or 98.17% are small enterprises. Given that the study seeks to examine their experience of outsourcing, it was decided to survey companies that were more than 5 years old, i.e. companies that were founded before 1st January 2012. The total number of enterprises that fit that category in Osijek-Baranja County was 2,342, of which 2,272 (97%) were micro and small enterprises. To simplify the survey process, of 2,272 small and micro enterprises, 983 (43.26%) were selected that had registered e-mail addresses. Although the Accounting Act adopted in 2015, effective as of 1st January 2016, introduced the category of micro-enterprises, Biznet.hr still categorizes enterprises into small, medium-sized, and large. For the sake of simplicity, the research included both micro and small enterprises.[1]

The survey was conducted between 31st August 2017 and 13th September 2017 by sending an invitation to the selected companies to fill in the survey questionnaire created on Google Forms. The delivery of the survey invitation was unsuccessful to 98 (9.97%) e-mail addresses. The survey data show that of 108 micro and small enterprises in Osijek-Baranja County, 78 (72.22%) had outsourced accounting services before. The average age of these companies was 16 years (the oldest company was founded in 1981). They had 10.34 employees on average. The largest company had 55 employees. Nine companies with prior experience of outsourcing accounting services eventually set up an in-house accounting department.

[1] Pursuant to Article 5 of the Accounting Act (2016): Microenterprises are enterprises that do not exceed the ceiling for two of the following three criteria: (1) balance sheet total HRK 2,600,000.00, (2) turnover HRK 5,200,000.00, (3) average staff headcount during the business year - 10. Small enterprises are enterprises that are not microenterprises and do not exceed the ceiling for two of the following three criteria: (1) balance sheet total HRK 30,000,000.00, (2) turnover HRK 60,000,000.00, (3) average staff headcount during the business year - 50. Medium enterprises are enterprises that are neither micro nor small enterprises and do not exceed the ceiling for two of the following three criteria: (1) balance sheet total HRK 150,000,000.00, (2) turnover HRK 300,000,000.00, (3) average staff headcount during the business year - 250.

Figure 1 Experience of accounting service outsourcing



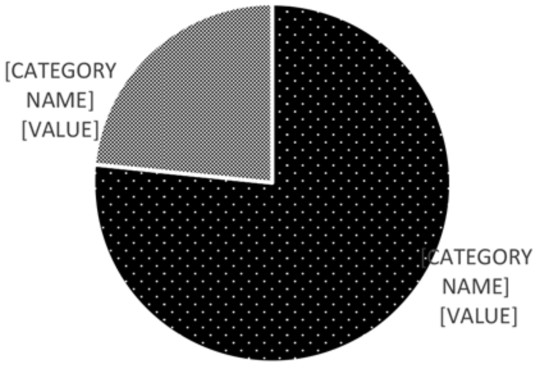
Source: authors' calculation

The data collected through a survey questionnaire were processed using Microsoft Excel and SPSS.

3. RESULTS

Further analysis is based on 78 (72%) managers of micro and small enterprises in Osijek-Baranja County with experience of outsourcing accounting services.

Figure 2 Accounting service providers according to the type of business



Source: authors' calculation

Most of the surveyed companies (59 respondents or 75.64%) have outsourced accounting services to service providers registered as companies (Croatian terms d.o.o., j.d.o.o.), while a smaller part (18 respondents or 24.36%) have outsourced services to entities registered as sole proprietorships.

As the companies grew, a trend towards setting up in-house accounting departments emerged (5 out of 78 companies surveyed). Although the survey questionnaire did not address this issue directly, some of the reasons for setting up an internal accounting department listed in the comments include dissatisfaction with the quality and cost of external services and the recruiting of employees who used to work for accounting service providers. Given the growth and average age of the surveyed companies, as well as the increasing amount of data and clients the service providers have to handle, this trend should not be surprising.

Table 1. Most commonly outsourced accounting services

Service	Share
Preparation of annual financial statements	85.90%
Payroll services	76.92%
VAT administration	76.92%
Entering of incoming and outgoing invoices – all	75.64%
e-Tax Administration and e-Regos	73.08%
Fixed assets accounting	60.26%
Bank statement management (giro account)	57.69%
Sumptuary tax	51.28%
Cashbook management	44.87%
Bookkeeping orders	43.59%
Payment orders	41.03%
Service contract accounting	37.18%
Flash reports	37.18%
Calculation of interest	33.33%
Cost calculations	26.92%
Manufacturing accounting	16.67%

Source: authors' calculation

The following five accounting services were reported as the most commonly outsourced: preparation of annual financial statements (86%), payroll services and VAT administration (77% each), and entering of incoming and outgoing invoices, (75.6%). One company reported outsourcing the registration/deregistration of employees with relevant social institutions, while another outsourced the preparation of quotations and estimates for customers.

It is difficult for smaller companies to keep abreast of the frequent legislative and regulatory changes in taxation as well as business reporting and payroll services. Moreover, considering the costs and time needed for training, seminars or workshops without which internal accountants would be unable to perform their tasks adequately and stay abreast of legislative changes[2], outsourcing these functions saves micro and small businesses money. Some of the service providers reported which payroll services are included"[P]ayroll calculations, bonuses, and payments in kind, including refunds for these payments and other income, as well as payments for posted workers; Completing all required forms and carrying out payroll transactions; Sending monthly and annual payroll slips to employees; Claims for sick leave refunds; Provisions for annual leave, bonuses, jubilee benefits, and retirement benefits; Processing travel expenses and establishing travel expense policy procedures and guidelines; Giving advice on legal and tax questions related to the Employment Act, health insurance and pension plans, and withholding tax"(Outsourcing | Kopun, 2020).

As reported by the surveyed companies, the least frequently outsourced services are cost calculations (27%) and manufacturing accounting. Since the survey did not inquire about the type of industry the companies are involved in, it was not possible to perform a detailed analysis of the need for these types of services, considering their specific nature. From a managerial point of view, the fact that only 37.18% of companies reported outsourcing the preparation of flash reports is a cause for concern as these periodic reports help a company continuously monitor its business performance.

2 Examples:

- a one-day seminar: Preparation of financial statements, income tax returns for 2019 and the latest developments in payroll calculation and social security, or three-day training: VAT guide organized by Croatian Association of Accountants and Financial Experts (https://www.rif.hr/seminari-i-edukacije/) ;
- Micro and Small Businesses - 2019 AFS or The latest developments in employment of aliens and seasonal work, Posted workers, or Three-day seminar on salary calculation organized by Accounting, Auditing and Finance (https://www.rrif.hr/seminari.html)

Table 2. Spearman's correlation coefficient between company age, number of employees and most commonly outsourced accounting services (N=78)

Company age	Correlation Coefficient	1.000	-0.155	0.183	0.072	-0.063	-0.119
	Sig. (2-tailed)		0.177	0.109	0.554	0.602	0.301
Number of employees	Correlation Coefficient	-0.155	1.000	-.239*	-0.187	-0.174	-0.004
	Sig. (2-tailed)	0.177		0.035	0.101	0.127	0.975
Entering of incoming and outgoing invoices - all	Correlation Coefficient	0.183	-.239*	1.000	.808**	.732**	0.198
	Sig. (2-tailed)	0.109	0.035		0.000	0.000	0.082
Payroll service	Correlation Coefficient	0.072	-0.187	.808**	1.000	.843**	.313**
	Sig. (2-tailed)	0.554	0.101	0.000		0.000	0.005
VAT administration	Correlation Coefficient	-0.063	-0.174	.732**	.843**	1.000	0.214
	Sig. (2-tailed)	0.602	0.127	0.000	0.000		0.060
Preparation of annual financial statements	Correlation Coefficient	-0.119	-0.004	0.198	.313**	0.214	1.000
	Sig. (2-tailed)	0,301	0.975	0.082	0.005	0.060	

Source: authors' calculation, SPSS

Furthermore, the analysis of the survey data shows that there is a strong correlation between payroll services, entering of ingoing and outgoing invoices (.808) and VAT administration (.843), as well as between VAT administration and entering of ingoing and outgoing invoices (.732). The study assumed that there would be a correlation between the age of the company and the number of employees; however, no correlation was found between these two factors. Similarly, no correlation was found between the age of the company and the outsourced services, or between the number of employees and the accounting services outsourced to external service providers.

In this context, it is important to consider the correlation between the outsourcing of accounting tasks by micro and small businesses and the quality of financial reporting. The quality of financial statements produced by small businesses cannot match the quality of reporting by public limited companies, which are under constant stakeholder scrutiny. To close this gap, accounting services are outsourced to external providers. Small and micro companies typically outsource bookkeeping and payroll services. One of the reasons why outsourcing accounting services increase the quality of reporting is that it eliminates possible opportunistic behavior by individuals seeking to obtain a preferred earnings number. Moreover, longer outsourcing relationships are positively correlated with reporting quality (Höglund, H. and Sundvik, D., 2016).

4. CONCLUSION AND DISCUSSION

It is very difficult for micro and small enterprises to operate, grow and thrive unless they have adequate control over their resources. When such enterprises outsource accounting services, they can be confident that their service provider is keeping up to date with all the changes in the tax system and legislation and is thus able to give them timely warnings about potential problems in business operations. There can be no such certainty when micro and small enterprises use *ad hoc* in-house solutions for the accounting function.

The results of the survey of micro and small enterprises in Osijek-Baranja County show that as their business grew, they set up internal accounting departments. The most commonly outsourced services were the preparation of annual financial statements, payroll services, VAT administration, and entering of incoming and outgoing invoices.

The survey did not look at the income, assets or profit of the surveyed companies to get a better insight into the outsourced services or client satisfaction with outsourced services. Further research is necessary to investigate these, and many other issues not addressed in this study. Moreover, the present study did not look into the industry in which the surveyed companies were involved.

The paper gives recommendations for both external providers of accounting services and companies outsourcing them. In particular, companies outsourcing accounting services should make sure that the accounting contract stipulates service provider's accountability and risk transfer, considering the possible consequences of failure to deliver quality services. This will not only add credibility to service providers and communicate to the prospective clients that they are a professional organization, thus increasing their attractiveness, but also reduce the business risks associated with legislative and regulatory changes for the company outsourcing services.

The relationship between external providers of accounting services and enterprise outsourcing to them should involve more than just communicating with the client and the tax administration. This business relationship should grow into a long-term partnership in which the service provider should help the company grow its business by offering them additional services, which will facilitate their business operation and improve communication. Given the increasing competition in the accounting services market, service providers should stay abreast of the clients' needs. They might refer their clients to available opportunities for entrepreneurial training and work on improving their communication with clients for mutual benefit. Adding new services to their portfolio such as the preparation of applications for EU funding programs can bring in more business for service providers, add more value to their clients, and as a result, increase the level of satisfaction of both sides in this partnership.

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DISCOVERING THE INEFFICIENCIES IN CONSUMPTION PLANNING AND MANAGING GAS SUPPLIERS' BUSINESS PROCESS ON THE VIRTUAL TRADING PLATFORM

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Abstract

The natural gas system in Croatia is based on accepted principles of the European Union's natural gas system management. This means that, although highly integrated, the system works by separating market, physical, information, and financial flows. The system was introduced to deregulate or de-monopolizing large state-owned energy systems. Customers who receive gas through distribution systems are provided with gas by the gas supplier. Suppliers, grouped into balance groups, use the capacity of transmission systems and determine by which distribution systems they will deliver gas to their end customers. Since the distribution systems act on unique operating principles (predefined constant pressure), suppliers must reserve the capacities of transmission systems daily. This implies that the suppliers must forecast the required amount of gas on daily basis, and if the forecasted quantity is less than or greater than the actual consumed quantity, imbalances in the transmission system will arise. The imbalances need to be resolved to preserve the system's continuity and to mitigate the risk of over or undersupply the clients. Suppliers have to pay imbalances (deviations) in the transmission system. Also, additional energy needed for imbalance removal, called balancing energy has to be used if imbalances go beyond the daily limits. National regulatory energy agency ensures the transparent market conditions under which transmission capacities are reserved, as well as the purchase and sale of surpluses and deficits of gas for a given gas *day or defined period. The gas-trading platform is given and led by Croatian Energy Market Operator.*

The paper aims to find out the deviation and consequently the inefficiencies and how they are affected by poor forecasts and misleading supplier's business activities (process) on the virtual gas-trading platform. We found relations among deviation, daily consumption, trading quantities and hourly consumption on the distribution system that can be used to improve prediction of gas consumption and process management of balance group on the virtual trading platform.

Keywords: *Natural gas, planning consumption deviation, business process, trading platform*

JEL Classification: M10, M19

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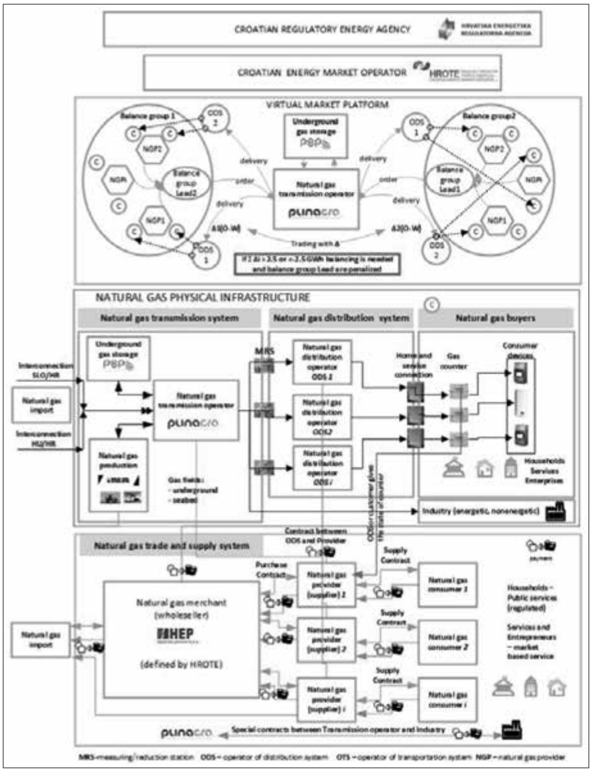
1. INTRODUCTION

The natural gas system of Croatia is a complex supply chain that, like any other complex supply chain has its material (physical), information, legal (contractual relations between participants), payment and financial flows (Chopra, Meindl, 2015, p. 17). Processes and activities of all participants are strongly ruled by the number of laws and regulations set by the European natural gas system. According to these rules, physical flows are separated from financial flows primarily to eliminate the monopolistic behavior of large energy companies that managed all flows and set prices for their products and services. The natural gas supply chain schema is shown in Figure 1.

Figure 1. Croatian natural gas supply chain



Source: Integrated map of Croatian natural gas supply chain (adapted and extended from http://www.gpz-opskrba.hr/korisne-informacije/shema-plinskog-sustava-i-trzista-plina-u-rh-55/55)

The focus of this paper are relationships among participants on the virtual gas-trading platform - the suppliers organized in balance groups and the transmission system operator. This relation appears to be the source of imbalances of the supply chain (namely transmission system and underground gas storage) resulted from differences in ordered by suppliers and used by end consumers. The participants of the trading platform are also energy balancing providers and Croatian operators of the gas market who are responsible to perform balancing and to ensure the principle of neutrality.

According to EC Directive, 312/2014 (Official Journal of the European Union, 27.3.2014) and The Gas Market Law, (Official Gazette 18/18, 23/20) suppliers (there are currently 35 in Croatia) together with their customers must be organized into balance groups. At least one supplier and one consumer form a balanced group whereby the supplier named as a direct and the consumer an indirect member of the balance group. The direct members of the balance group choose the leader of the balance group (BGL), who is in charge of ordering gas for each gas day from the transmission system operator (TSO). Planning the consumption for each gas day is a challenging task because the amount of gas that will be consumed depends on many factors, the most important being the outside temperature or season, and the rest is the day of the week, the time of day and the occasional specific requirements of a particular category of customers. Direct members of the balance group announce their demands for each subsequent day to the leader of the balance group. The leader nominates aggregate order to the TSO who reserves the necessary capacities for transmission of gas to the distribution system who delivered gas to the final consumers. The total order of one balance group is equally distributed on 24 hours of the next gas day. There are also huge consumers directly connected to the transmission system, but they are not within the scope of this research paper. Gas consumption of balance group members in the next gas day may be higher or lower than planned (nominated). In these cases, the deviation appears either negative (when the actual gas consumption is higher than the nominated) or positive (when the gas consumption is less than the nominated one). A balance in the transmission system exists when the input to the transmission system is equal to the gas output from the transmission system. When the inflow is greater than the outflow and vice versa, an imbalance in the transmission gas system will occur, which requires the transport system to be balanced. Both positive and negative deviations have threshold limits for each business day, which are determined for all balance groups until positive or negative balancing energy is activated. (There is also a threshold (tolerance) allowed (positive and negative) for each business day, determined for all balance groups until positive or negative balancing energy will be activated). This threshold is set between -2.5 and +2.5 GWh. The fluctuation between planned and consumed gas is higher in the heating period (October to April) than in the rest of the year. That is why this period is investigated in this paper.

The balance group leader and the transmission system operator can sell excess quantities or buy missing quantities on a virtual trading platform. Relations on the trading platform are regulated by the trading platform operator (TPO) which is a Croatian Gas Market Operator, who ensures transparency of each transaction between balance group or balance group and operator of the transmission system. (When the participant of the trading platform estimate that the moment is right, they can offer or request the required amount of gas. The price of gas sold on the platform will be lower than the ordered entry price and the price of gas purchased on the platform will be higher than the ordered entry price. If the sale does not result in a balancing of the system, the TSO must ask the balancing company for the required amount of balancing gas (balancing energy) (Rules on gas market organization, Official Gazette 50/18). Balancing costs are charged to the balance group leader. The price of the balancing energy is determined by the gas system-balancing operator (in our case it is a separate company designated by Croatian operator of the gas market (Gas Market Law, Official Gazette 50/18). The price is calculated according to a specific model, which is publically available in (Rules on gas market organization, Official Gazette 50/18). The balancing operator nominates balancing energy to the transmission system operator. The points of entry are interconnections on the transmission system and the points of exit are, as a rule, underground gas storage or two-way interconnection (Regulation of gas transmission net, Official Gazette, 50/18, 31/19, 89/19 (Rules for the use of gas storage systems, Official Gazette, 50/18). Other outflows are to the distribution system and specific users directly connected to the transmission system.

According to data for 2019, (Croatian operator of the gas market, 2019), balance group leaders were penalized for the deviation and balancing energy approximately for HRK 100,6 million (approx. EUR 15 million). It is evident that the sources of the inefficiency of operations on the trading platform are purchase and sale transactions due to deviation from the nominated quantities and balancing energy required for the normal functioning of the transmission system. There are few options to the leaders of balance groups for minimizing deviations:

a) Good consumption prediction and planning system;
b) Timely purchase (sale) of gas on a virtual trading platform at a reasonable price;
c) Re-nominations of the gas quantity for the rest of the gas day.

A reasonable price is the lowest price at which a balance group leader can buy the required additional quantities, the highest possible price at which it can sell surpluses, and the lowest price it will pay for balancing energy. Since consumption planning is dependent on a good forecasting model, activities of BGL on the virtual trading platform, defined in the Rules of the virtual trading platform (Croatian operator of the gas market, 2014) and the electronic platform of OTS (Capacity management system - SUKAP), depend on the proper functioning (managing) of the business process of BGL. The supplier cannot pass the costs of poor process management to the consumers due to a pre-defined (on an annual basis) gas price or the price agreed every quarter and his business will result in a reduced profit or even loss. Being effective in VTP requires the presence of a sufficient number of active participants to ensure market liquidity.

This paper aims to find out sources of inefficiencies in running the business process of the balance group leaders on a virtual trading platform and to try to reveal patterns that can be used in minimizing these inefficiencies.

2. MODELS, METHODS AND DATA SOURCES

The evaluation of the VBS process efficiency on the trading platform will be performed by analyzing the ratio of hourly deviations and hourly consumption in selected gas days, daily deviations and monthly deviations and activated balancing energy. Hourly, daily, monthly and annual consumption on distribution systems will also be investigated, and in particular the difference in daily consumption on day d_0 and day d_{-1}. For this purpose, a historical analysis of the data for one gas season will be made and includes the period from 1.4.2018-31.3.2019. The results will be presented graphically with a trend interpolation that best describes the phenomenon under study. The purpose of these representations will be primarily to identify the typical behavior patterns of individual participants in the supply chain and trading platform as part of it. These patterns will be useful for planning future activities of participants' business processes that will minimize deviations in orders and consumption and activated balancing energy.

The analysis will also cover consumption relationships on the distribution system and transactions on a virtual trading platform. The selected statistic indicators (t-test, variance analysis, and regression analysis) will determine the relationships among the studied variables.

3. OVERVIEW OF PREVIOUS RESEARCH

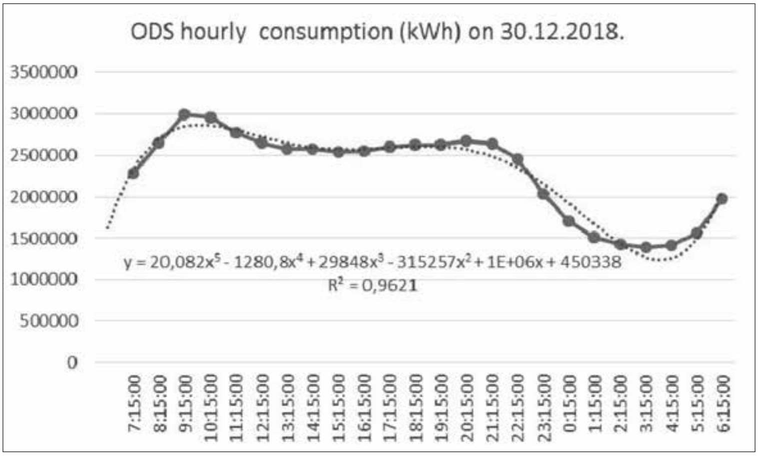
The idea of creating a gas-trading platform on which sales transactions will be conducted arose from the requirement for the internationalization of the gas business, as well as the requirement to separate physical flows from financial flows. Business transactions on trading platforms are much more dynamic than physical flows. Transactions planned and implemented, must undergo the balancing processes for the system to work under allowable conditions (Miriello & Polo, 2014).

The European gas system is a complex system of transmission and distribution pipelines that are interconnected unidirectional or bi-directional at points of transition from one country to another. Gas traders buy and sell gas located in other transportation systems. As transport systems operate on the same adopted rules, all EU countries have individually formed their virtual trading platforms with the primary objective of balancing transmission systems into international hubs that trade natural gas (EFET, 2013). The development of a virtual trading platform is determined by the number of market participants, the traded product (standardized or non-standardized product), trading volume, tradeability index indicating the market liquidity on the platform, and the churn rate - the ratio of traded volume to actual physical throughput. (Heather, 2015, 2019). As mentioned in the introductory chapter, the problem of inefficiency of using the gas trading platform arises from the inability of suppliers to make good predictions, especially in the conditions of hardly predictable fluctuations in gas consumption. The second is the problem of deciding when and under what conditions to trade at the virtual trading point (VTP). The third is when to re-nominate the remaining required quantities of gas for the gas day and minimize the balancing activities of the gas transmission system. As a result, research on the methodology of forecasting gas consumption of some categories of consumers will be highlighted below, as well as research on the processes that affect the performance of participants at the virtual trading point.

3.1. Forecasting of gas consumption

There are numerous methods for forecasting and predicting gas consumption (Šebalj, Mesarić, Dujak, 2019). The suitability of a particular model and method depends on the variables selected and their combinations, as well as the forecasting period. Based on a large amount of consumption data, consumption patterns have been observed for certain areas and certain categories of consumers. The differences are apparent for seasons of the year, for particular months of the year, for days of the week and hours of the day. In addition to variability in time segments, the key factor in consumption is certainly the outdoor temperature and airflow rate as well as other parameters related to consumer behavior. Figures 2, 3 and 4 show typical consumption of households and residences during the day, the week, the month and the year. Trend curve that best feet to real data are chosen based on R^2 value.

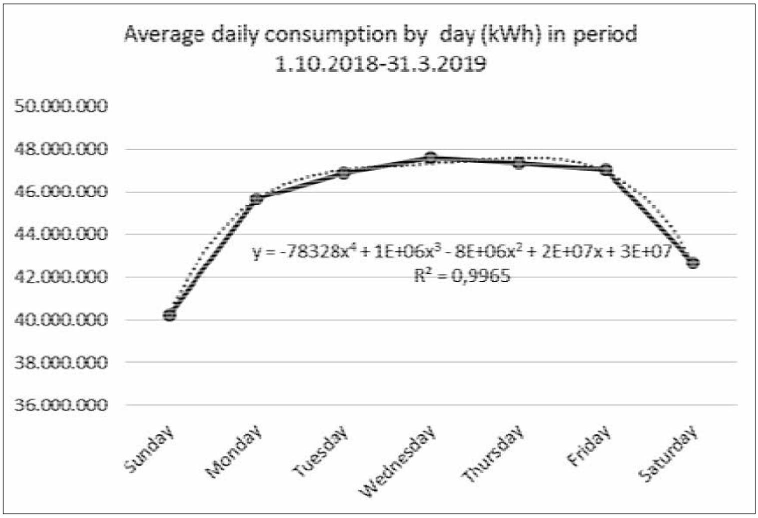
Figure 2. Typical hourly consumption of gas during the heating season



Source: Author, based on data available on PLINACRO: Consumption of distribution systems, https://www.plinacro.hr/default.aspx?id=799

We checked 7 days in January 2019 and polynomial curve of 5th order but slightly different coefficients fitted the best. The pattern repeated every 24 hours.

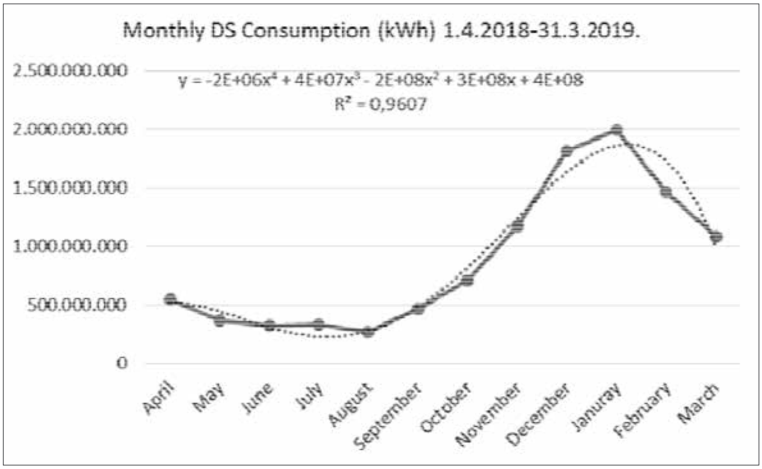
Figure 3. Typical consumption of the distribution system during the day of the week



Source: Author, based on data available on PLINACRO: Consumption of distribution systems, https://www.plinacro.hr/default.aspx?id=799

The polynomial curve of the 4th order fitted the best. The pattern repeated every 7 days. The same pattern but on the lower level and the slightly different coefficient is followed in the period April 2018-September 2018.

Figure 4. Typical monthly consumption during the gas year

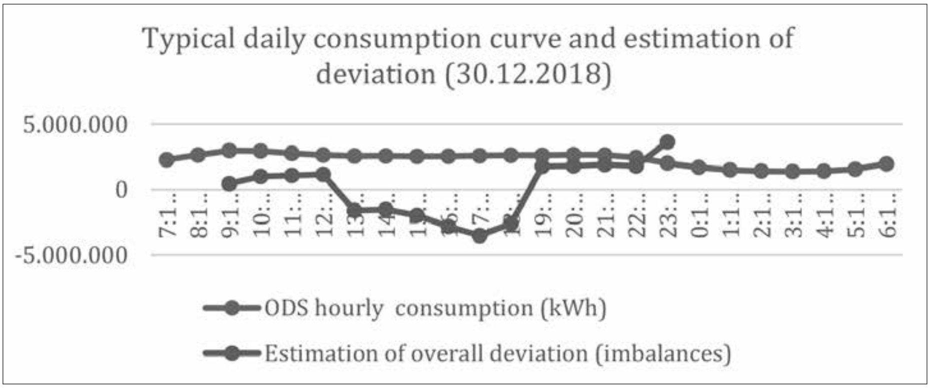


Source: Author, based on data available on PLINACRO: Consumption of distribution systems, https://www.plinacro.hr/default.aspx?id=799

The polynomial curve of the 4th order fitted the best. The pattern with slightly different coefficients repeated in season April 2019-March 2020.

Predicted and planned consumption for the day ahead and nomination of the transmission capacity is evenly distributed per hour of the gas day (starting from the 6 a.m. ending at 6 a.m. next day) but the actual consumption fluctuates according to the pattern shown in Figure 2. In such conditions, the balance group leaders are aware of the fact that at certain hours significant imbalances can occur in the transmission system. OTS provides 24 hours of data on the consumption of distribution systems. OTS (Plinacro, 2020).in the role of the so-called *forecasting side*, monitors consumption on distribution systems and makes publicly available hourly forecasting deviation of all balance groups from 9 a.m. to 11 p.m. (Figure 5). During that time, the balance group leaders decide to buy deficit or sell surplus gas. Imbalances can be resolved in the short term with approximating the cumulative actual consumption by the cumulative planned hourly consumption

Figure 5. DS hourly consumption and prediction of deviation among consumption and nominations of all balance group.

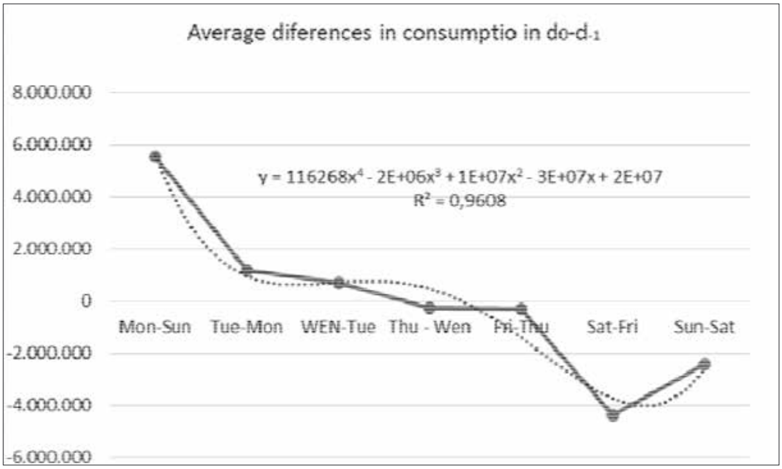


Source: Author, based on data available at PLINACRO: Consumption of distribution systems, https://www.plinacro.hr/default.aspx?id=799

This graph gives the information to BGL how the deviation is big and if the need for balancing energy will occur. This is a strong signal for BGL to start a transaction on VTP. Big differences in consumption and nomination are also an indicator of how the market is dynamically effective. If the supply and demand are too high the market is not liquid enough, ODS will participate in trading and energy balancing needs to be activated.

The key issue for balance group leaders is forecasting accuracy. Often the leaders of a balanced group (especially leaders of smaller groups) are not equipped with convenient sophisticated tools such as ANFIS neural network, support vector machines and hybrid AI methods proven to be among most reliable (Taspinar, 2013; Panapakidis, 2017) to support their forecasting. Instead, forecasting models are often based on simple linear extension of historical (day before) data. The typical curve of differences in average consumption by the days in the week is shown in Figure 6.

Figure 6. Differences in gas consumption of DS among days in a week



Source: Author, based on data available at PLINACRO: Consumption of distribution systems, https://www.plinacro.hr/default.aspx?id=799

The same pattern, but on the lower level and considerably lower variances of daily differences is followed in the period April 2018-September 2018.

3.2. Process analysis

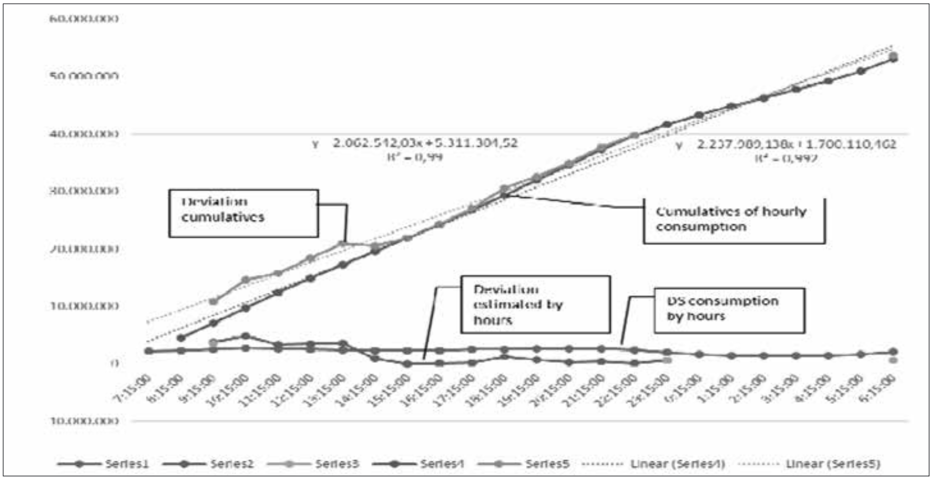
Gas systems are highly automated systems that operate according to technological requirements and firmly defined rules of particular subsystems: production, transmission, distribution, storage, trade, and consumption. Interventions into any of these subsystems are possible under the predefined rules and conditions (See: Gas Rules and regulation, HERA, https://www.hera.hr/hr/html/propisi_plin.html

The balance group leader faces the problem of consumption planning since the members of its balance group can take over gas at different exit points of distribution systems. OTS deliveries gas at the same distribution system (DS) entry point for more suppliers organized in different balance groups and the actual consumption of their final consumers is known only later when this consumption is measured. This usually happens at least once a month for consumers of tariff models TM1 to TM5, once a day for TM6, TM7 and TM8 and 3 times daily for consumers in tariff models TM9, TM10, TM11 and TM 12. Regular control measures are also conducted quarterly, at the half of the year and yearly. For consumers of tariff model TM1-TM5, BGL does not know exactly how much gas is consumed daily. Until then, the supplier and the end consumer operate on the projected consumption, which is a linear combination of the previous year and other parameters, assuming a slight change in certain consumption parameters. Balance group leaders cannot shift losses incurred on a virtual trading platform and balancing costs to the end consumer. These costs will be borne by the suppliers or the leader of the balance group.

The balance group leaders receive consumption data of all balance groups every hour of the gas day as well as the consumption of the distribution systems at which individual members are connected. Based on this information, they have to make decisions about buying or selling gas for which they have nominated the capacity of the transmission system. Interventions of balance group leaders are possible within certain time segments during the gas day. These include the realization of the decision to sell the excess gas about the quantity ordered or the purchase of more needed gas. These decisions are related to the sale or purchase when the transaction losses are lowest (selling gas at a price lower than that at which the gas was purchased or buying at a price higher than that at which it can be sold) and before the transmission system operator decided to balance the transmission system. Balancing of the transmission system is carried out no more than four times during the gas day at 9:30, 13:30, 17:30 and 20:30 o clock and OTS informs the VBS about it two hours before the start of the balancing process.

The sources of data for making these decisions are the projected (nominated) hourly consumption for particular balance group, summarized data of all balance groups, consumption of the distribution systems of all balance group and consumption on outputs of the distribution system for each leader for the places where suppliers have their final customers. Information on marginal sales and marginal purchase prices, the time at which and with what amount of gas (energy) the process of balancing the transport system will be carried out, as well as daily deviations from the total quantities ordered for each balance group and total daily deviations are also available (Figure 7)

Figure 7. DS consumption, deviation estimate, cumulative and trends by hours



Source: Author based on data available on PLINACRO: Consumption of distribution systems, https://www.plinacro.hr/default.aspx?id=799

Besides, in the middle of a working day, BGL can make re-nominations for the rest of the gas day, trying to match the predicted consumption with the actual consumption. The re-nomination is announced two hours before it started, and the effects of the re-nomination are manifested two hours after the designated time for re-nomination. The key question for any BGL is whether there are activities that a BGL can take to mitigate the consequences of poor gas planning during a gas day.

4. RESULTS AND DISCUSSION

Graphical representations of data from the VTP and the TSO electronic system show that there are patterns in the behavior of participants in the gas supply chain and on the virtual trading platform. The question is whether these are reliable models (rules) or at least good enough frameworks for balance group leaders to find out the modes of acting which minimize deviations and consequently inefficiencies of BGL processes on VTP. We investigate interdependencies between deviation in real and predicted (planned) daily consumption and activated balancing energy during the non-heating period (01.04.2018 - 30.09.2018) as well as in heating period (01.10.2018 - 31.03.2019).

Results for the non-heating period: $t=2.473<2,576$, $df=181$, $p<0.05$ show that there are no statistically considerable differences in variance of deviation in day d_{-1} and balancing energy in day d_0. This was expecting since the deviation is mostly small (positive and negative) and balancing energy is using rarely.

In heating period $t=5,88>1,96$, $df=182$, $p<0,05$ show that differences in variance of deviation in day d_{-1} and balancing energy in day d_0 are statistically considerable, which means that energy balancing used can't be explained by deviation registered in the previous day.

To explain what happened at VTP, we made the analysis shown in Table 1. Two year period (April 2018 - March 2020) was analyzed based on deviation and balancing energy used.

Table 1. Deviation of nominated and consumed energy and balancing energy used

Deviation	Balancing energy			Total	%
(MWh)	Positive	0	Negative		
<-2,5	13	20	7	40	
>-2,5<0	42	229	34	305	
>0<2,5	31	219	61	311	
>2,5	6	28	40	74	
	92	496	142	730	
Balancing energy used (not used) as it is expected				501	68,72
Balancing energy used when deviation has the opposite sign to deviation (conditionally properly used balancing energy)				103	14,13
Balancing energy used (not used) as it was not expected				125	17,15
Total				729	100

Source: Author based on data available at HROTE, https://www.hrote.hr/energija-uravnotezenja-109

"Mistakes" in balancing energy usage come because it is used during the gas days (even more than once a day) and deviation is calculated at the end of the day. It means that during the day balancing energy is used although at the end of the day total deviation is in range >-2,5and <2,5 MWh. In the analyzed period BGL tends to order more than the real consumption is (385 times and less than ordered 345 times. That causes a positive deviation of 610.281.436 kWh and -428.051.008 kWh negative deviation respectively. BGL can con count with 69% that the decision about balancing energy will be used. How BGLs can react? The data from VTP shows that there are very few transactions on the VBS_VBS relation. This means that most VBS behave very similarly to orders, so most have either a shortage or a surplus of gas, which means they will trade with OTS (under OTS terms!) and not with each other.

The results suggest that BGL has to expect greater mutual trade to reduce deviation and consequently need for timely entry into VTP. This also means that BGL should expect activation of balancing energy negatively proportional to the deviation in the day before.

We also investigate the relationship between activated balancing energy and differences in daily consumption of distribution system for January 2018. T-Test: Paired Two Sample for Means for differences in DS consumption in day d and d-1 (Variable 1) v.s. balancing energy used in day d (Variable 2) shows: $t=2,06 <2,08$, $df=28$, $p<0,05$. The relationship shows that BGL can adjust its behavior on a virtual trading platform (VTP) by knowing the differences in consumption in the day before and balancing energy in the day ahead. This means that BGL can expect activation (either positive or negative) in case of big differences in consumption in two consecutive days. Additionally, it means that BGS has to pay more attention to nominating gas for the day ahead.

The BGL can get an insight into the consumption of the ODS and status for those entering into the DS where it has its members attached. OTS, in the period between 9:00 to 23:00, makes an estimate of the deviation of all VBS based on the quantities ordered and delivered to the DS. Although OTS detaches itself from the accuracy of these data, it provides some information for the BGL to decide about some activities on the trading platform. Although the total nomination data of all VBS are not published, hourly, nomination data can be calculated based on ODS consumption data and deviation estimates. With this data calculated, the difference between the hourly consumption of

ODS and hourly nominations was computed. In the period from 30.12.2018 to 15.1.2019, it is observed that these differences range up to 50% in absolute amount. TS balancing is not performed after 18:00. The largest variations occur at the time of least consumption between 21:00 and 5:00. For BGLs', these data are important and serve for minimization of differences between hourly nomination and consumption. Besides, using the option of re-nomination, BGL will be able to further reduce the midnight surpluses and thus reduce the discrepancies between the quantities of gas used and nominated. The data analyzed applies to all BGLs. Knowing their hourly nominations, the quantities of gas taken at particular DS input, total DS inputs and total DS outputs, as well as the amount of gas the BGL is in the position to estimate the dynamics by which and when the OTS reacts to balance the system.

According to the data on purchase and sales of gas on VTP during the period October 2018-March 2019, it is evident that BGLs have a small number of transactions, while the majority of transactions - over 98% (buying and selling) take place on the BGL-OTS relation. In such conditions, OTS buys at a marginal purchase price and sells at a marginal selling price. In a BGL - BGL transaction, the buyer does so at a price less than the marginal purchase price and the buyer does so at a price higher than the marginal sale price. In such conditions, it is natural that the BGL who buys is behaving rationally, and will first seek an offer from OTS. If it does not exist, the sale will go on the BGL - BGL relation. If there is no supply and demand to close, balancing energy will activate. However, it is evident from the quantities available for sale by BGL that such transactions will be avoided or carried out in minimum quantities. Balancing energy is purchased at a minimum purchase price or higher and at that price, BGLs will be penalized when the balancing energy is allocated to each BGL. For this reason, every BGL should know if and when the balancing energy will be used. There are not enough BGL on the Croatian market platform to react more dynamically in terms of supply and demand, or the realization of mutual transactions on VTP. Small BGL simply acts on the patterns of larger suppliers and consequently market is not liquid.

5. CONCLUSION

The efficiency of the supplier or the balance group leader is based on a good system of forecasting the gas consumption and running the process at the virtual trading point. The research topic of this paper is the BGLs' process (activities) that enable a timely response of BGL to deviations from forecasted consumption. Although the VTP and information platform of OTS are tightly regulated systems and BGL's activities are defined by the rules of behavior of participants in the gas market, there are limited opportunities to improve the efficiency of BGL. These primarily come from discovering interdependencies between the activities (processes) of participants at the virtual trading point, through additional analysis of the data of their members and publically available data of other balance groups. In the period 01-04-2018 to 31-03-2019, the ratio of balancing energy (positive and negative) concerning gas consumption measured on distribution systems was 2.38%. Costs of deviation and balancing energy charge the BGL's profitability and they tend to eliminate it or to minimize it as much as possible.

Croatian virtual trading point is still in the developmental phase which means that it has no key characteristics of advanced trading hubs. Its major function is oriented to balancing the transmission system. The key question that the balance group leader tries to solve is to find out the most useful models and methods for consumption prediction and performing on-time reaction on gas virtual trading point.

The natural gas system will be further automated and guided by sophisticated forecasting and consumption planning systems on the one hand, and the timely activation of the process at the virtual trading point, on the other. Future research, therefore, will focus on the adoption of reliable models and methods of consumption forecasting and detecting process activities and their application on a virtual trading platform. This means that processes must undergo an in-depth analysis that reveals precise timelines for the start, duration, and end of individual participants' activities, the deficiencies of existing rules that underlie the work of individual participants, and the mistakes of individual participants in managing the process.

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Knowledge management

COHESION OF HIGHER EDUCATION INSTITUTIONS AND THE ECONOMY THROUGH THE PROFESSIONAL PRACTICE PROGRAM

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Abstract

The cohesion between higher education institutions and the economy is reflected in the fact that education has as its primary function the creation of a labor force that will direct a particular country or local environment towards a particular form of economic activity. Higher education programs create an intellectual capacity that will be able to apply acquired knowledge but also to create new knowledge. Besides the university as the most important institution of higher education, the emergence of globalization and the development of the modern economy in the second half of the twentieth century have led to the necessity of the creation of new, comparative institutions of higher education that will engage professional education. A polytechnic, whose professional education is preparing students to perform a specific, well-defined job, is such an institution in Croatia. Polytechnics include professional practice in their curricula as one of the final year courses. The purpose of this paper is to determine *the extent to which professional practice connects polytechnics as institutions of higher education with the economy. Besides, the paper aims to investigate whether the study programs of the Polytechnic are adjusted to the needs of the labor market. The research was conducted in the form of a survey between two groups of respondents - the first group is represented by the administration of polytechnics in Croatia, while the second group is represented by students of the same polytechnics. The survey shows that a large number of respondents consider that higher education institutions, through cooperation with entrepreneurs, should provide tailor-made programs to enhance their workforce. Also, the results show that there should be an opportunity for employment /professional practice in the private sector within the study program. Future research on this topic should examine the reasons for the poor supply and demand for professional practice.*

Keywords: *higher education, economy, professional practice*

JEL Classification: I23, I29

1. INTRODUCTION

Although some find students' internship to be a temporary student job in exchange for a good grade, its importance is primarily reflected in the fact that professional practice is the link between theoretically learned knowledge and practical application. With the help of practice, students have the opportunity to apply the knowledge acquired during their education to real business situations in real enterprises. The labor market in today's knowledge-based economy often expects from future employees to possess the certain specialized knowledge necessary to perform particular jobs. Today's economy is also characterized by the increasing representation of higher education, whose institutions should transfer the necessary knowledge to future participants in the labor market. Although their primary function is to transfer knowledge to their students, it is desirable to substantiate this knowledge with practical examples.

Higher education institutions in the Republic of Croatia are universities, polytechnics, and colleges. Polytechnic and college students, unlike those at universities, are obligated to engage in professional practice in the final years of their studies. As the purpose of this paper is to determine the extent to which professional practice connects polytechnics as institutions of higher education with the economy, this paper contains research in which the administration and the students of the polytechnics expressed their attitudes towards professional practice within their institutions and compliance with the labor market.

2. POLYTECHNICS AS PART OF THE HIGHER EDUCATION SYSTEM

Higher education institutions in Croatia are:

- Universities (and their constituents - faculties and academies of arts) - institutions organizing and delivering university study programs, and, exceptionally, professional study programs
- Polytechnics – institutions that organize and deliver professional study programs.
- Colleges – same as polytechnics (professional study programs)

When setting up the higher education system in the Republic of Croatia, the intention was to create a complete binary system, which implies that only polytechnics and colleges would be authorized to pursue professional studies, while universities and their constituents would only be able to carry out university studies. However, the differentiation of the binaries of study programs in the Republic of Croatia has never come to life, since universities carry out both university and professional studies. (Dragija, 2015, p. 62) According to Croatian's Agency for Science and Higher Education, currently, there are 119 higher education institutions in Croatia, namely: 8 public universities, 2 private universities, 68 faculties, and art academies and 1 university center at public universities, 4 private polytechnics, 11 public polytechnics, 22 private colleges, and 3 public colleges.

According to the Law on Scientific Activity and Higher Education, professional studies should provide students with an appropriate level of knowledge and skills that enable them to pursue professional occupation and enable them to be directly involved in the work process. Professional studies can generate highly educated professionals who possess the qualifications required in today's labor market. Professional studies should allow, on a formal basis, the acquisition of knowledge and skills to perform specific tasks. (Krivačić, 2010, p. 123-124)

The Republic of Croatia's higher education system has been in the process of reform for the last several years because of the perceived problems in the period before 2004. In 2001the Bologna Declaration was signed and the Plan for the Development of the Education System from 2005 to 2010 was adopted. The Plan defined the goals and priorities in higher education which meant improving the quality and efficiency of education. After 2005 was noted an increase in the number of newly established higher education institutions, thus establishing 30 higher education institutions. Most of them were private colleges and a large number of public polytechnics mainly in areas of special state care, following the strategic orientation of the Republic of Croatia towards polycentric development of higher education. The first private universities were also founded. (AZVO) As the most noticeable result of the higher education reform in the Republic of Croatia is the significant increase in the number of higher education institutions, students and teachers, and at the same time the increase of the number of graduates, both from professional and university studies. (Dukić, et. al., 2014, p. 360)

The advantage of professional studies is reflected in shorter-term programs focused on the current needs of the labor market, which, if completed within the required deadline, will allow students to adapt quickly. The introduction of the binary model in the higher education system enables the early acquisition of the so-called "first occupation" which enables employees in the professions and in jobs for which that first level of higher education is sufficient. Such a system also allows students to pursue higher education professional education in specialist graduate studies of a compatible study area. (Krivačić, 2010, p. 123) So far, it has not been adequately explored how far polytechnics have fulfilled their purpose and objectives and knowledge management at Croatian polytechnics has not yet become a reality. Study programs at polytechnics should be aligned with labor market needs. (Dukić et. al., 2015, p. 364)

Students believe that polytechnics are focused more on theory than on practice which is why satisfaction with the knowledge gained during their studies is not complete. One of the ways of improving teaching could be recruiting working professionals who would teach part-time at polytechnics. Students also find an important internship in companies as a tool to help them expand and affirm the knowledge acquired during their studies. (Dukić et. al., 2015, p. 364) Unlike the classic ex-cathedra lecture with a centrally positioned lecturer, the modern teaching style necessary for entrepreneurial education has shifted the focus from lecturer to student. The modern way of transferring knowledge is about active learning/teaching that involves everything besides their passive sitting and listening and it involves various activities related to certain materials given to students. In this way, the emphasis is on the acquisition of skills, values, and competencies that will contribute to the students' greater motivation and development of a higher level of thinking rather than the classic transfer of knowledge. (Ćorić, et. al., 2012, p. 351)

3. METHODOLOGY OF RESEARCH

The basic research method used in this paper is the survey which means that the primary research was conducted. Primary data were collected directly from the research participants, and in this case, through a survey, participants are invited to answer anonymously and with the ability to answer any question. The research was conducted through surveys for two groups of respondents. The first group consists of the polytechnic administration (deans, vice-deans, and heads of departments) while the students of the Polytechnics are the second group of respondents. The sample included in this study consists of 49 respondents from the first group and 434 respondents from the second group of the above-mentioned respondents.

Administration and students of the following higher education institutions participated in the research: College of Slavonski Brod, Karlovac University of Applied Sciences, Križevci College of Agriculture, VERN's University of Applied Sciences, Polytechnic of Međimurje in Čakovec, Bjelovar University of Applied Sciences, Virovitica College, Polytechnic in Požega, Polytechnic of Šibenik and the Polytechnic "Nikola Tesla" in Gospić.

4. RESEARCH RESULTS

The empirical research was conducted in the form of a survey on two selected groups:

- The first group is represented by the administration of polytechnics (deans, vice-deans, heads of departments) at polytechnics in Croatia,
- The second group is represented by students from the same polytechnics.

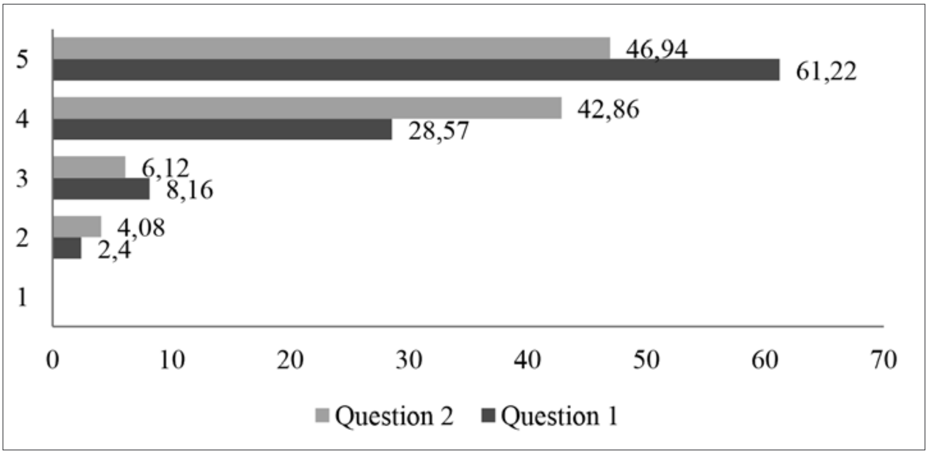
This research is part of a doctoral dissertation on "Competitiveness of the polytechnic in the regional market of higher education" (Stanić, 2016, 132-155), where the main objective of the empirical research was to identify the advantages and disadvantages of a polytechnic as a higher education institution in Croatia.

4.1. Administration of the polytechnics as the first group of respondents

The first part of the questionnaire is intended for the administration of the polytechnic because it is the deans, vice-deans, and heads of departments who are responsible for the organization of the polytechnic as a whole. They are responsible for the connection between the polytechnic and the labor market, courses, and fields of the studies at polytechnics, student selection, and others.

The number of respondents from the above-mentioned institutions of higher education who participated in the research is 49. Since it involves 10 polytechnics and colleges, the sample is credible and should include the standpoint of the leading people of the polytechnic, who are ultimately responsible for the program and functioning of the polytechnic and the college. Below is a graphical representation of the standpoint of the administration of the polytechnic on the relationship between the labor market and polytechnics, the competitiveness of polytechnics for professional education and the competitiveness of polytechnic students in the labor market.

Graph 1. Relationship between the labor market and polytechnics (5- strongly agree, 1 - strongly disagree)



Source: author's calculation

Graph 1 shows the polytechnic administration attitude on private entrepreneurship and it includes the ratio of two questions from the survey;

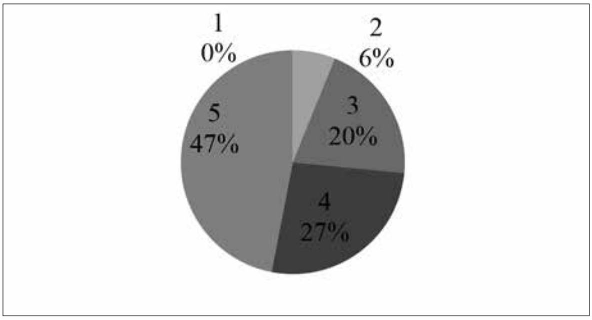
- Question 1 - To what extent do you agree with the statement that higher education institutions should provide tailor-made programs to enhance their workforce?
- Question 2 - To what extent do you agree with the statement that businesses should be more involved in higher education administrative structures, curriculum design and financing of higher education?

We can see that 61,22% of respondents fully agree with the statement that higher education institutions should provide programs tailored to entrepreneurs to improve their workforce. For the second statement, which is shown in the graph and according to which companies should be more involved in the administrative structures of higher education, curriculum design and financing of higher education, the number of those who fully agree with the statement is 46,94% of respondents. A small proportion of 2,04% of respondents disagrees with the first statement, while there is 4,08% of those who disagree with the second statement.

An interesting fact is that there is a higher percentage of respondents who think that there should be created programs tailored to entrepreneurs than those who believe that private entrepreneurs could be involved in the administrative structures and curriculum design. However, if we take into account that almost 90% of the respondents agree or fully agree with the second statement, we come to the logical conclusion that the administration of the polytechnic still accepts that they do not have sufficient capacities and knowledge to create such programs independently.

The statement that goes with Graph 2 which is shown below is set in such a way that it excludes the possibility that polytechnics are not competitive. According to the statement, polytechnics are competitive in the field of higher education because of their professional educational specialization. However, what emerges from it is that 47% of respondents fully agree that professional education makes the polytechnic competitive in the field of higher education. Only 6% of respondents disagree, while 20% neither agree nor disagree. The proportion of respondents agreeing with the claim is 27%.

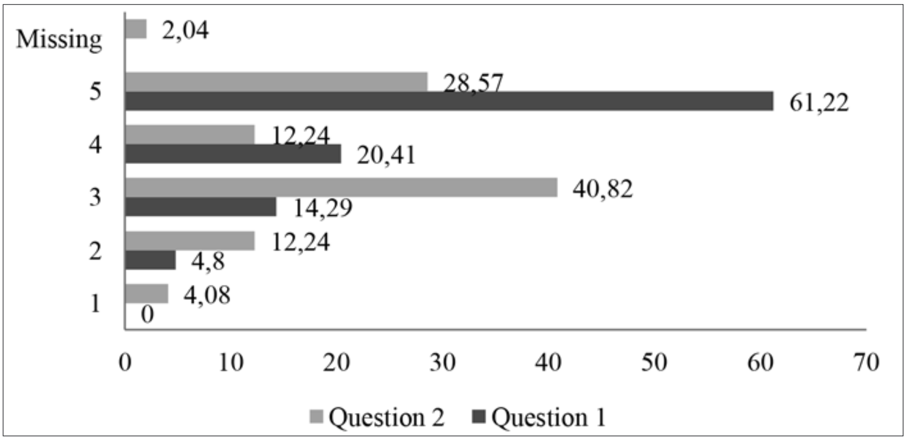
Graph 2. Competitiveness of polytechnics for professional education (5- completely agree, 1 - completely disagree)



Source: author's calculation

However, it can be concluded that 74% of respondents agree with the above statement, which assumes that there is an (overwhelmingly) awareness within polytechnics that polytechnics are institutions of professional higher education and as such, they have an advantage over universities. The fact that 20% of respondents neither agree nor disagree, and 6% disagree with this statement, we can try to explain either in response that professional education is underrepresented at polytechnics or as a tendency for polytechnics to retain properties as a smaller version of universities where education will not base only on professional.

Graph 3. Competitiveness of polytechnic students in the labor market (5- strongly agree, 1 - strongly disagree)



Source: author's calculation

Two questions from the survey whose ratio is included in Graph 3 above are:

- Question 1 - To what extent do you agree with the statement that students who graduate from the professional undergraduate study are more competitive in the labor market than secondary school graduates?
- Question 2 - To what extent do you agree with the statement that the programs of polytechnics and colleges in the Republic of Croatia are aligned with the needs of the labor market?

The statement from the second question best describes the current market position of the polytechnic. Undoubtedly, the answers would be similar or even more unfavorable to the question of university programs and labor market compliance, but a polytechnic as a professional education institution is by definition necessarily linked to the labor market. Therefore, the results according to which 4,08% of the respondents completely disagree, while 12,24% of the respondents disagree with the stated statement, and 40,82% of the respondents neither agree nor disagree with the statement, represent a clear reminder that polytechnics do not fulfill their basic task.

If we take the data from Graphs 1, 2 and 3, it can be seen how the administrations of the polytechnic see the polytechnic as an institution of professional higher education. However, although they see it as a professional, they do not see it as an education aligned with the labor market. Therefore, we could say that the fact that education is a professional does not necessarily mean it is more competitive because the learned profession must be able to be applied somewhere.

More than 80% of respondents agree or fully agree with the statement about the competitiveness of students with a university degree compared to those who have a university degree. Considering that professional education makes the polytechnics more competitive in the market, it is evident that the second category of competitiveness is fulfilled, and that students with a completed polytechnic still have a better chance in the labor market. Therefore, the tertiary economy is slowly emerging in our country, and the awareness of the need for tertiary education to gain better chances in the labor market is pronounced.

4.2. Students of the polytechnics as the second group of respondents

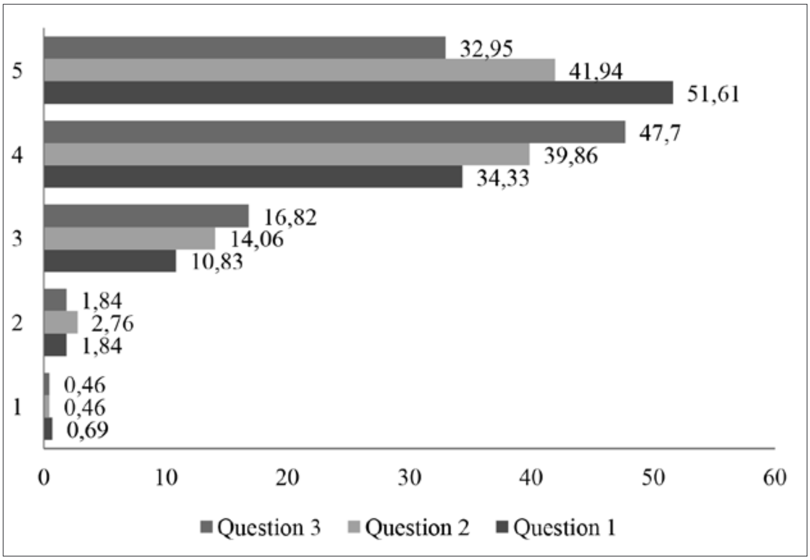
Students are beneficiaries of higher education services, and their opinion should always be at the forefront when deciding on polytechnic programs. The observed group of respondents is 434 students from 10 polytechnics and colleges which is a satisfactory number and can be considered as a credible number.

Below are graphs showing students' attitudes on student practice and attitude towards entrepreneurship, the competitiveness of polytechnic students in the labor market, the involvement of practice in the polytechnic programs and compliance of study programs with the labor market and the position on the labor market.

The following questions are shown in Graph 4 which follows:

- Question 1 - To what extent do you agree with the statement that there should be employment/practice opportunities in the private sector as a part of the study program?
- Question 2 - To what extent do you agree with the statement that higher education institutions need to help in developing innovation and entrepreneurial mindset among students and faculty?
- Question 3 - To what extent do you agree with the statement that higher education institutions should provide tailor-made programs to enhance their workforce?

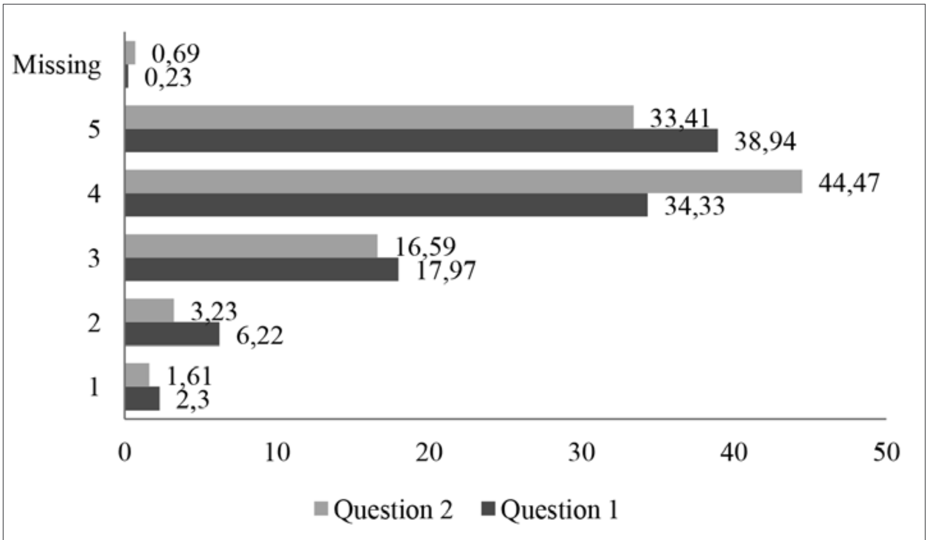
Graph 4. Student practice and attitude towards entrepreneurship (5 - Agree, 1 - Disagree completely)



Source: (author's calculation)

Graph 4 shows the student's attitude towards student practice and the attitude towards entrepreneurship. The first question they were asked in this area was related to the existence of employment/practice opportunities in the private sector as part of the study program, and the majority of students agreed with this statement – 51,61% completely agree and 34,33% students generally agree. The second question shows the extent to which they agree with the statement that it is important for higher education institutions to help develop innovation and entrepreneurial mindset among students and faculty and in this case, students mostly agree with the above statement, namely, 41,94% completely agree and 39,86% mostly agree. When asked if higher education institutions should provide tailor-made programs to enhance their workforce, 32,95% of the students fully agree and 47,7% of them generally agree with the statement. In all three cases, very few students generally or completely disagree with the claims from which we can conclude that student practice and attitude towards entrepreneurship is very important to students.

Graph 5. Competitiveness of polytechnic students in the labor market (5- completely agree, 1 - completely disagree)



Source: (author's calculation)

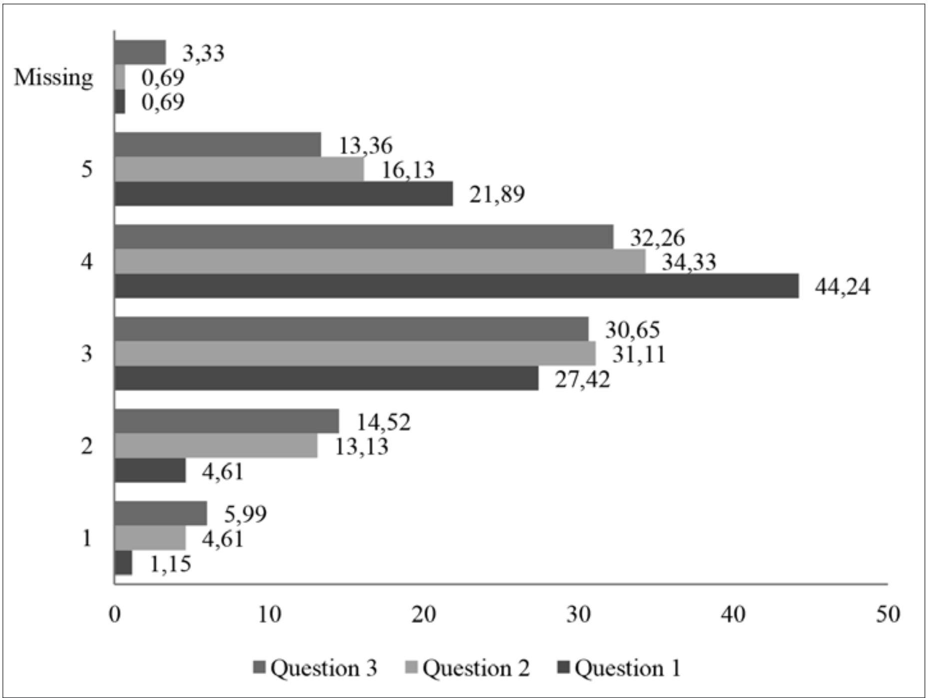
The questions from the survey presented in Graph 5 are:

- Question 1 - To what extent do you agree with the statement that polytechnics graduate students are more competitive in the labor market than secondary school graduates?
- Question 2 - To what extent do you agree with the statement that the programs of polytechnics and colleges in the Republic of Croatia are aligned with the needs of the labor market?

Graph 5 shows students' attitudes towards the competitiveness of polytechnic students in the labor market. Students first answered to what extent they agree with the claim that students who finish professional undergraduate study are more competitive in the labor market than secondary school graduates and 38,94% of students completely agree with this statement, 34,33% of them mostly agree and 17,97% of the students surveyed neither agree nor disagree. A rather small proportion of the 8.52% surveyed students consider that they are not more competitive in the labor market than secondary school graduates and the remaining 0,23% have not stated their opinion on this issue. The proportion of students who completely agree with the claim that the programs of polytechnics and colleges in the Republic of Croatia are following the needs of the labor market is 33,41% while 44,47% surveyed students mostly agree, 16,59% neither agree nor disagree and 4,84% mostly or completely disagree.

From Graph 3 we see the answers given to these same questions by the deans, vice deans and heads of departments of the institutions of higher education surveyed. When asked to what extent they agree with the first statement, 61,22% answered that they fully agree, 20,41% mostly agree and 14,29% of respondents neither agree nor disagree. Looking at the answers to this question in both groups of respondents, it can be seen that there is a much higher percentage of administration of the polytechnic than students who completely agree with this statement, but in the case of students, there is a higher percentage of those who generally agree with this statement, so we can conclude that they both agree that students finish professional undergraduate study are more competitive in the labor market than secondary school graduates. A more interesting situation is with the answers to the second statement, where the first group of respondents mostly (40,82%) stated that they neither agree nor disagree, 28,57% of them completely agree and 20,41% mostly agree with the above statement. If we compare this with the results of the second group of respondents, namely the research conducted among students who mostly agree with this statement (77,88% of students completely or mostly agree) it can be concluded that students believe that the programs of polytechnics and colleges in the Republic of Croatia are aligned with the needs of the labor market, and those working in these institutions are not so sure of this compliance.

Graph 6. Involvement of practice in the polytechnic programs (5 - fully justified/involved, 1 - not involved)



Source: (author's calculation)

Graph 6 shows the answers to, instead of the statements shown on graphs before, direct questions to the respondents regarding the most important competitive advantage of the polytechnic - professional education. The questions asked to students are:

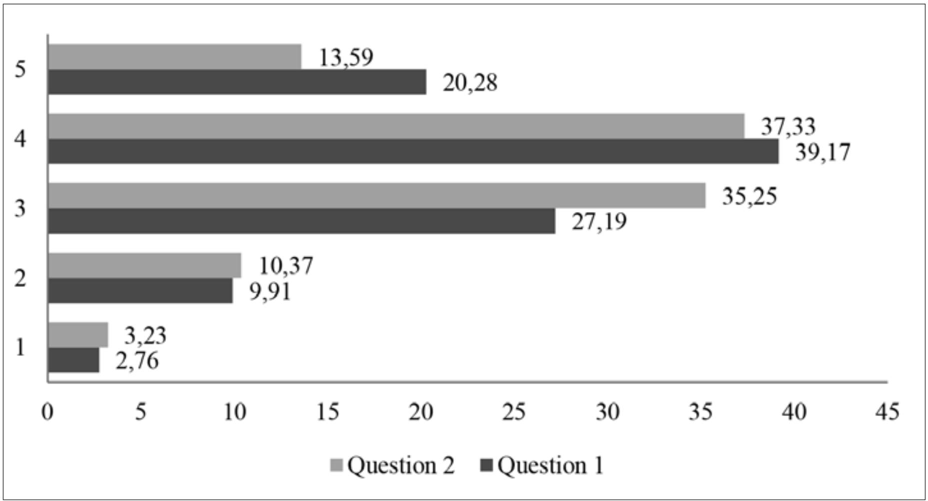
- Question 1 - To what extent does your polytechnic/college justify the title of professional study?
- Question 2 - To what extent are examples of practice incorporated into your education?
- Question 3 - To what extent is professional practice incorporated into your education?

From the results presented, we can see that the majority of respondents have positive answers to the questions about professional education. Thus, 21,89% of the total number of respondents believe that the title of the professional study is fully justified, while 44,24% of respondents consider it justified. The proportion of those who believe that it is neither justified nor justified is 27,42%. Only 1,15% of respondents consider that the polytechnic doesn't fully justify the name of the professional study, and 4,61% said that it doesn't justify the name. Therefore, we can say that more than 60% of the respondents consider the polytechnic to be a professional study. The fact is that the polytechnic as a professional study still has a lot of work to be done to avoid such questions. Therefore, it can be concluded that although it is 60% of respondents, the percentage is insufficient and awareness of the polytechnic as a professional study is not high enough. There are two possible reasons; the first reason can be that polytechnic is not even presented as a professional study to students, and the second, the more certain one, is that students understand that a polytechnic is not a professional study sufficiently but more just a smaller form of university.

The second question is related to the extent to which examples of practice are incorporated into their education. According to the results of the survey, 16,13% fully agree that the practical examples are included while 34,33% agree that they are included. The proportion of those who think the practical examples neither are included nor not included is 31,11%. Those who think they are not included at all present 4,61% of students surveyed and a proportion of those who think that they are not included in 13,13%. It is worrying that almost 20% of respondents think that practical examples are not included in education. This completely contradicts the very idea of professional higher education, where practical education is always assumed to be in front of theoretical education. Therefore, it is necessary to urge lecturers here to make greater use of practical examples in their education.

The third question, to what extent professional practice is included in their education, cannot be fully analyzed, because there is a significantly smaller number of respondents who could answer this question - only around 10% of third- and upper-year students. Professional practice is done in the final year of study. However, since students in most cases familiar with studying at a polytechnic and study programs, we can point out as a problem that 5,99% of students believe that professional practice is not included at all, and 14,52% that it is not included in their education. Thus, more than 20% of respondents believe that professional practice is not included in their education. On the other hand, 13,36% think it is fully included, 32,26% think it is included, and 30,65% think it is neither included nor not. We can conclude that less than 50% of respondents believe that professional practice is included in their education. Given that the statute and study program of each university and polytechnic contains practice as part of the program, it is completely unacceptable that as many as 50% of students do not consider the practice to be included in their education.

Graph 7. Compliance of study programs with the labor market and the position on the labor market (5- completely agree, 1 - completely disagree)



Source: (author's calculation)

The questions asked to students regarding the compliance of study programs with the labor market and the position on the labor market are:

- Question 1 - To what extent do you think that a polytechnic/college diploma will help you find a job?
- Question 2 - How much does your field of study, as well as other fields at your polytechnic/college, match the needs of the labor market?

Graph 7 shows that more than 80% of the deans, vice-deans, and heads of departments believe that polytechnic graduates are more competitive in the labor market than secondary school graduates. However, when we look at the attitude of the students, we see that they do not fully agree with them. There is only 20,28% of students surveyed who think a diploma will certainly help them find a job, while 39,17% think it will help them. Therefore, only 60% of respondents believe that a polytechnic diploma will help them find a job. The proportion of those who are not sure and who think that it would help them nor not is 27,19%. At the same time, 9,91% of respondents think that their diploma will not help them and 2,76% are sure that their diploma will not help them.

Regarding the extent to which the direction of the polytechnic is aligned with the needs of the labor market, 13,59% of respondents consider it to be fully compatible. Furthermore, 37,33% of students surveyed consider it to be adjusted to labor market needs. Just over 50% of respondents believe that the field of the study at the polytechnic is aligned with the needs of the labor market. The proportion of students who believe that neither is nor has not complied with the needs of the labor market is 35,25%, while 10,37% of them consider that it has not complied with the needs of the labor market, and 3.23% of them think that it does not comply at all.

5. CONCLUSION

Polytechnics and other forms of professional higher education have emerged in response to the needs of the labor market. Professional higher education as an education for a specific profession has many advantages, the most important of which is an easier entry into the labor market. The biggest drawback to this is that those who complete professional studies can hardly adapt to other professions beyond what they were educated for. Professional higher education institutions, unlike universities and besides their different study programs, have incorporated obligated professional practice in the final years of their studies.

The research within this paper was conducted to show how professional practice, together with specialized lectures, connects polytechnics with economics and how much it prepares students to enter the future labor market. The first part of the research was conducted among the administration of the polytechnic. When asked about the relationship between the labor market and polytechnics, the biggest part of them agreed or strongly agreed that higher education institutions should provide tailor-made programs to enhance their workforce and that businesses should be more involved in higher education administrative structures, curriculum design and financing of higher education. They were also asked to give their attitude about the competitiveness of polytechnic students in the labor market. In that part of the research, most of them strongly agree that students who graduate on the professional undergraduate study are more competitive in the labor market than secondary school graduates and the biggest part of them neither agrees nor disagrees that the programs of polytechnics and colleges in the Republic of Croatia are aligned with the needs of the labor market.

The second part of the research was conducted among the students of the same polytechnics. They were asked about student practice and attitude towards entrepreneurship. In that part of the research, the biggest part of the students strongly agrees or agrees with all presented statements - there should be employment/practice opportunities in the private sector as a part of the study program, higher education institutions need to help in developing innovation and entrepreneurial mindset among students and faculty and higher education institutions should provide tailor-made programs to enhance their workforce. They were also asked about the competitiveness of polytechnic students in the labor market. The biggest part of them agrees or completely agrees that polytechnics graduate students are more competitive in the labor market than secondary school graduates that the programs of polytechnics and colleges in the Republic of Croatia are aligned with the needs of the labor market. The above is interesting because of the answers to the same question by the administration of the polytechnics that mostly neither agree nor disagree with that statement. From the above, an overall conclusion could be made that these programs should be modified to become more effective and to give graduates a greater opportunity for later employment. Maybe the most important part of this research was within questions about the involvement of practice in the polytechnic program where the majority of respondents have positive answers to the questions about professional education. Answers to these questions are the best indicator of the current state of study programs at polytechnics and colleges. The results are not devastating, but they are a warning to the faculty at the polytechnic that students demand the fulfillment of the purpose of the polytechnic, which is professional education.

Although many consider professional practice only as a source of free labor, it nevertheless provides students and future employees with an insight into how businesses operate and represent a place where students can apply their knowledge gained during their studies. Another advantage is that students are sometimes offered the opportunity to work in companies after completing a professional practice which means that in that case, they would not have to go to the job market after graduation.

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FINANCIAL LITERACY OF CHILDREN AND YOUTH IN THE REPUBLIC OF CROATIA

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Abstract

Financial literacy is a very important milestone for reasonable money management, providing personal welfare both in the present time and the future and understanding basic principles of economy and market. In times of omnipresent consumerism, credit cards that make money and payments seem abstract and far, while loans and payment in installments for goods and services are easily available, the issue of personal financial awareness and healthy boundaries concerning personal finance planning still persists as one's attitudes and values are being formed since early school years. This very important topic has become a part of the educational standard in the Republic of Croatia in 2019, although its implementation began years ago through facultative activities and *youth education. This paper analyses the measures implemented in the Republic of Croatia regarding the financial literacy of children and youth in the last 5 years, by state and public institutions, non-profit organizations, banks, through EU projects and projects of local communities.*

Keywords: *Curriculum, education, young people, financial literacy, finances*

JEL Classification: G53

1. INTRODUCTION

A healthy economy and financial literacy are some of the key pillars of personal welfare. The consumerist culture we live in provides numerous possibilities for spending money and taking out loans, so one needs to be aware of the risks and learn basic fund management skills. Financial education needs to begin at an early age so that it incorporates a healthy perception of personal and family management of funds in the adult age.

„Financial education is the process by which financial consumers and investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being." (OECD, 2015, p. 13)

In 2012 the Republic of Croatia participated in the Organization for Economic Co-operation and Development's (OECD's) Programme for International Student Assessment (PISA) Financial Literacy assessment for the first time. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges. Financial literacy was one of the tested domains. Pupils from 18 countries participated in this competence test. The results showed that only one in ten students scored at the highest financial literacy proficiency level. At the other end of the proficiency spectrum, 15% of students, on average, scored below the baseline level of performance. At best, these students could tell the difference between their needs and desires, make very simple decisions about everyday spending. On average, financial literacy was higher amongst more socio-economically advantaged students whereas specific groups of the population such as immigrants and students living in rural areas on average displayed lower levels of financial literacy." (OECD, PISA Technical Report 2012). This first PISA 2012 financial literacy test showed that the financial literacy of youth in most participating countries needs to be improved. Results achieved by Croatian pupils were way below average in comparison to their peers in other countries as Croatia ranked 14th among 18 participating countries. In the second PISA test, which was carried out in 2015, Croatia did not participate so there is no score that would show whether any improvement was achieved. The 2012 PISA results pupils showed that the Croatian educational system should undergo a change and work on introducing financial literacy, among other important topics, to its educational system.

In 2015, i.e. three years later, the Croatian National Bank and the Croatian Financial Services Supervisory Agency, alongside the Ministry of Finance of the Republic of Croatia, conducted a study *Measuring Financial Literacy* based on the OECD methodology. The field research was conducted by Ipsos d.o.o. The study was conducted by a face-to-face method on a representative sample in the 18-79 years age group. This first survey on financial literacy included questions of financial knowledge, financial behavior and the attitude towards spending money. The results of the survey showed that the lowest level of financial knowledge was among citizens of less than 19 and more than 70 years of age, of primary school education, with family income lower than 3,500 kunas and living on the Croatian coast, in Istria and Dalmatia. The lowest level of financial behavior, according to the same survey, was among citizens younger than 30, of primary school education, with family income lower than 3,500 kunas. The highest level of financial behavior was marked in the cities of more than 100,000 inhabitants. The lowest level of responsibility in the attitude towards spending money was noticeable among the citizens younger than 19 years of age. The highest level was seen among the citizens of higher education, with income above 6,250 kunas and in the cities with more than 100,000 inhabitants. (Croatian Financial Services Supervisory Agency, 2015)

Consequently, measures aimed at improving the financial literacy of young people, both systematically and in the long run, were taken. This paper analyses the measures implemented in the last five years, leading to the recent start of implementation of Curriculum of the cross-curricular theme Entrepreneurship in primary and secondary schools, which covers the age-appropriate theme of finances. The paper also contains the analyses of an online survey *Financial literacy in Croatian schools*, carried out among teachers of primary and secondary schools in Croatia.

2. MEASURES IMPLEMENTED IN LAST FIVE YEARS

With the adoption of the "National Strategic Framework for Consumer Financial Literacy for the period 2015-2020" (Official Gazette 11/15) and accompanying "Action Plan for Improving Consumer Financial Literacy for the year 2015", a more systematic approach to the financial education of citizens in Croatia begins. Previous activities were dispersed, occasional and mainly organized by NGOs. The "National Strategic Framework for Consumer Financial Literacy for the period 2015-2020" aims to set the basis for financial education in Croatia, recognizing its importance, in particular in circumstances of social problems due to loans granted in Swiss francs, the globalization of financial products market and services and the imbalance of power between financial service and products providers and users. Bodies that are included in the process of financial education through this framework are state and public institutions (Ministry of Finance, Ministry of Economy, Ministry of Science and Education, Croatian National Bank, Croatian Financial Services Supervisory Agency, Education and Teacher Training Agency, local and regional government), NGOs, financial institutions. Education involves participants of all ages and it is included in the compulsory formal education and in various forms of informal education, like seminars and workshops. Implementation of the "Action Plan" is monitored by the Ministry of Finance and activities and measures are state-financed. Although the "Action Plan" covers all age groups, some of the measures are primarily aimed at children and youth. These are educational activities, publications for children and for teachers in secondary schools that teach personal finances, cooperation with youth portals, organized visits to financial institutions for primary and secondary school pupils, cooperation with higher education institutions, as well as introduction of topics related to financial literacy in primary and secondary school subjects through the implementation of programs of cross-curricular and interdisciplinary contents in civic education for primary and secondary schools.

Shortly after the adoption of the "National Strategic Framework for Consumer Financial Literacy for the period 2015-2020", Štedopis, Institute for Financial Education was founded. The mission of this NGO is to acquire knowledge, competences, and trust needed to make correct financial decisions for personal, family or business needs. Their vision is to improve the financial literacy of citizens and entrepreneurs, but they are especially focused on young people and encouraging their responsible attitude towards money. Their goal is to create a network of 10,000 teachers and educators by 2020 and to educate 500,000 primary and secondary school pupils by 2025. To that matter, Štedopis has implemented several projects so far.

As financial literacy is represented in the Program of cross-curricular and interdisciplinary content in civic education for primary and secondary schools, implemented in Croatian schools since 2014, the Štedopis has noticed a lack of teaching materials so they published a textbook *My money, my future* (Ivanov, Barbić, Lučić, 2017). This textbook has four sections: consumer protection, money, financial institutions, and financial products, personal finance planning. Ten thousand copies of this textbook have been distributed in schools across the country. Furthermore, *Teachers' Manual on Financial Literacy in Final Grades of Secondary School* was published as an addition to the previous textbook (Paštar, 2019).

Štedopis also organizes a number of activities within programs and projects concerning financial education, workshops on money management and understanding financial behavior, an e-learning program that helps raise the level of financial literacy through education on responsible and secure online shopping and consumer rights. Another project is *Štedopis TV* where young people can access videos on relevant financial topics described in an easily understandable manner. All of these projects are financed by the Ministry of Science and Education, Visa Europe and the City of Zagreb, and Štedopis co-operates with number of partners – the public sector, private companies, professional organizations, associations and academia. Štedopis has organized 87 workshops for 377 teachers and 58 workshops for 1,123 students by the end of the year 2018.

Another NGO promoting financial literacy is the Croatian Institute for Financial Education, an association established in 2011. They organize workshops for secondary school pupils called *Alphabet of Youth Finance* and *Entrepreneurship for Beginners*. Workshops *Alphabet of Youth Finance* provides basic financial education required for taking mature financial decisions. Workshops *Entrepreneurship for Beginners* gives guidance for the development of entrepreneurship ideas, business plan, and company registration. (Croatian Institute for Financial Education, 2020).

The platforms that include a number of activities in the area of financial literacy in Croatia are Global Money Week and European Money Week. Global Money Week was initiated by Child & Youth Finance International (CYFI) in 2012, but in recent years it was organized by the OECD International Network on Financial Education. Since 2015 another annual initiative, the European Money Week, has been organized at the same time as Global Money Week and coordinated by the European Banking Federation. Its aim is the improvement of the financial literacy of young people in 32 European countries. Marking the European and Global Money Week contributes to the implementation of the "Action Plan for Improving Consumer Financial Literacy for the year 2015" in Croatia and involves numerous institutions with the support of the Ministry of Finance.

Also, the Croatian Banking Association organizes European Money Quiz since 2018 in cooperation with the Education and Teacher Training Agency. The quiz is for teams of secondary school pupils aged 13 to 15. As part of World Money Week, which took place in Croatia in 2014 for the first time, a school field trip to financial institutions was organized at the initiative of the Croatian Banking Association to improve the financial literacy. In 2015, the European Money Week was organized in Croatia for the first time and 4,500 youth and children participated in the educational activities of the Croatian Banking Association.

Different banks carry out a number of financial literacy activities as well as part of their corporate social responsibilities policy and in cooperation with their partners, various associations and public institutions. Some of their activities are organized for citizens of all ages, but many activities are specifically aimed at children and youth.

Zagrebačka Banka continuously implements various financial educational activities. In 2015 they released a publication called *Financial Beginner* for secondary school pupils to educate them about banking services, savings, and safe online shopping. Over the next two years, the bank held workshops in its 60 branches in 39 cities across Croatia, in which 7,000 secondary school pupils participated. Although many of their financial literacy activities are focused on youth, Zagrebačka Banka also educates adult citizens and entrepreneurs as part of its *Banking with social impact* programs.

Erste Banka launched a program of socially responsible business through the School of Smart Finance. This program gives citizens an opportunity to learn about personal finances via educational videos and management workshops for adults and young people. Erste Banka also financed a well-attended interactive exhibition *Money Alphabet* which was held in the period from 2015 to 2017 at

Nikola Tesla Technical Museum in Zagreb. Through interactive models and children's games, children were getting insight into the basics of financial literacy and the role of money in everyday life.

Hrvatska poštanska banka was one of the first institutions to conduct financial literacy research and organize workshops on personal finances. In 2014, two hundred secondary school pupils took part in a survey called *Teens and Finance* as part of the World Money Week program, and the bank has also been implementing a financial literacy program for small and medium enterprises in the last few years.

Addiko Banka in partnership with Štedopis launched the project *Why Didn't We Learn This in School?* in 2017. The goal of the project was to educate citizens of all ages on how to plan their financial goals and to encourage them to make the right financial decisions.

Raiffeisenbank Austria implements financial literacy activities in accordance with the "National Strategic Framework for Consumer Financial Literacy for the period 2015-2020". Activities are organized within the European Money Week and include education of primary and secondary school pupils as well as students.

Privredna banka Zagreb organized a project *The Art of Savings* focused on the financial education of youth. Between 2017 and 2019, 57 schools took part in 200 volunteer-led workshops organized by PBZ. The workshops were designed for upper primary and secondary school pupils. The bank also participates in celebrating World and European Money Week as well as World Savings Day.

Since 2017, the project *More We Know, We Understand Better* has been implemented in Croatian schools. It was initiated by the Croatian Chamber of Economy in cooperation with the City of Zagreb's Office for Education, Culture, and Sports and with the support of the Ministry of Finance and Croatian Financial Services Supervisory Agency (HANFA). Pupils and teachers of secondary schools in Zagreb were the target audience, as they would acquire knowledge of financial literacy and skills necessary for managing their personal finances through a series of lectures.

Considering the fact that Croatian students have achieved below-average results in international tests (the PISA 2012 test), an open call for proposals

Improving literacy - the basis for lifelong learning was launched in December 2016 under the Operational Programme Efficient Human Resources 2014-2020, priority axis 3 Education and lifelong learning. Its general aim was to improve different types of literacy as a basis for acquiring key competences for lifelong learning. The Ministry of Science and Education, Intermediate Body level 1 responsible for this Call, issued the Decision on financing 21 projects in October 2017. Beneficiaries of the projects are primary schools, secondary vocational schools and art schools (Ministry of Science and Education, 2017). Nine projects in total focus on the development of financial literacy although financial literacy may not be their primary focus. These projects cover different types of literacy (financial literacy, media literacy, information literacy, mathematics literacy, linguistic literacy, natural sciences literacy, reading literacy, digital literacy, multicultural and intercultural education literacy). The target groups are students and educators. Eligible activities are vocational training of educators, development, and implementation of extracurricular activities and electives within the school curriculum for one or more types of literacy (e.g. curriculum development personal finance management, digital repository development, extracurricular activities, etc.).

Some institutions have been involved relatively recently in researching the level of financial literacy of young people with the aim of influencing educational policies to further develop financial literacy programs in schools and universities. One such institution is the Croatian Catholic University, which has in collaboration with the Croatian National Bank in 2018 implemented the project *Improving youth financial literacy with the aim of optimizing risk exposure and defining factors that influence the development of the entrepreneurial activity*. The main objective of the research, which is part of this project, was to determine the level of financial literacy and the tendency to take risks among Croatian students. The level of financial knowledge among 1,731 students from 35 studies conducted at seven Croatian universities. The research was conducted at seven Croatian Universities on a sample of 1,731 students studying at 35 different studies. The results show that as many as 2/3 of young respondents are not familiar with the concept of financial literacy, while about as many (63%) believe that they need to broaden their financial knowledge. (Šubić, 2019, 34) The study also found that young people were not sufficiently informed about finance-related topics (70% rarely or almost never).

Financial literacy programs for children and youth are also implemented by the Association of Pension Fund Management Companies and Pension Insurance Companies, University of Zagreb Faculty of Economics, Financial Agency (FINA), Ministry of Economy, Croatian Chamber of Economy, Croatian National Bank, Zagreb Stock Exchange, Croatian Insurance Association and other organizations and institutions.

3. CURRICULUM FOR THE CROSS-CURRICULAR THEME ENTREPRENEURSHIP

"Decision on adopting the Curriculum for the cross-curricular topic Entrepreneurship for Primary and Secondary Schools in the Republic of Croatia" was adopted in January 2019 and is applied from the school year 2019/2020. The Curriculum was developed within the frame of the Comprehensive Curricular Reform, along with the curricula of the other six cross-curricular topics as well as the subject curricula. Curricular reform is applied to all grades of primary and secondary school.

The curriculum defines entrepreneurship as a value that assumes the activation of personal potentials in a creative, constructive, responsible and innovative way in order to adapt to changing circumstances in different areas of life and in different social roles. It represents an individual's ability to translate ideas into results. It involves creativity, innovation, the ability to reasonably take risks, as well as the ability to plan, organize and lead projects to achieve specific goals. Entrepreneurship as a cross-curricular topic is complementary to all other subjects and cross-curricular topics and is included in all cycles, all subjects, and extracurricular activities. The purpose of learning and teaching entrepreneurship as a cross-curricular topic is to develop entrepreneurial competence by adopting entrepreneurial knowledge, skills, and attitudes necessary for preparation and participation in the world of work. The subject aims to develop students' understanding of economic processes, their organizational and managerial skills, to encourage their innovativeness, familiarise them with project proposal design, project management, economic concepts and economic environment, economic and financial literacy. (Decision on adopting the Curriculum for the cross-curricular theme Entrepreneurship for Primary and Secondary Schools in the Republic of Croatia, e Gazette 7/2019)

The Curriculum of the cross-curricular theme Entrepreneurship elaborates, among other things, the educational goals of learning and teaching, educational expectations, key contents and means of evaluation. Also, this document identifies three domains that are equally represented: *Think like an entrepreneur, Act like an entrepreneur, Economic and financial literacy*. In each domain, educational achievements have been defined. Twenty-seven of them are set for primary schools, of which 9 refer to the economic and financial literacy domain, and eighteen educational achievements are set for secondary schools, of which 6 relate to the economic and financial literacy domain.

The purpose of the first domain is to create an environment in which students' qualities like self-awareness, need for fulfillment, faith in oneself, tolerance and proactive thinking would flourish alongside research, creativity and systematic problem-solving. In other words, the first domain focuses on outcomes of learning to become an enterprising young person who understands basic economic principles affecting our everyday lives, as well as a young person who recognizes and understands the entrepreneurial environment. The focus of this domain is on recognizing and defining problems, problem-solving and implementation of innovative and/or creative solutions, handling risky and precarious situations and responsibility for the community and environment.

The second domain focuses on creating project proposals which are an impossible task without understanding basic economic and financial concepts. Acting like an entrepreneur implies project management and understanding of the value chain, a straightforward problem definition and brainstorming for creative, innovative and competitive proposals and, consequently, finalization of the project proposal. The key features of the second domain are teamwork, experimental learning, and practical experience. The outcomes of the second domain focus on students' ability to develop entrepreneurial ideas from concept to implementation, setting goals and articulating one's vision, development of planning skills and activity management finally resulting in career planning and management.

The third domain introduces students to the world of work and finance as well as result gain and distribution. Economic and financial literacy enables students' basic understanding of the economy and entrepreneurship as a process resulting in creating new values and market laws operation. The students learn how companies and businesses operate and how state, economic and financial institutions function. They also learn how to be responsible with money and create conditions to thrive personally and professionally.

Economic literacy is defined as a competency that identifies and assesses economic concepts in relation to personal finance and economic and political systems. Financial literacy implies knowledge of financial possibilities and risks, the capability of collecting relevant information and decision-making on financial services pursuant to one's needs. The outcomes of this domain are related to a basic understanding of economic principles and its implementation in everyday life, understanding financial products, services and concepts, and responsible money management.

Cross-curricular topic Entrepreneurship is to be incorporated in all school subjects at all stages as each subject has a number of possibilities for developing students' entrepreneurial competencies through project-based learning at the subject and school level. Such project-based learning enables schools to open up and connect with local communities, various professions, entrepreneurs, economic and financial experts, and the business community via cooperation with other schools, field trips to economic and financial institutions and direct learning experience.

Lower stages of the cross-curricular topic entrepreneurship focus on understanding the concept of a full entrepreneurial cycle, i.e. how an idea leads to the final result via simple examples from the students' surrounding and simple practical activities such as games, projects, examples, conversations, and school plays.

Higher stages of the cross-curricular topic encourage students to gain knowledge and planning skills, leadership and communication in teamwork. The collaboration with the local community and economic and state institutions is intensified and students learn actively via various activities like brainstorming, role plays, open-ended questions, cognitive maps, heuristic conversations, interviews, discussions and debates, presentations, simulations, projects and study cases and where possible organizing events such as business fairs, festivals or competitions or even introducing elective subjects and extracurricular activities such as pupil cooperatives and training companies.

The implementation of the Curriculum of the cross-curricular topics should be planned within the school curriculum, the Annual Performance Curriculum of each subject, and the Annual Classroom Plan (Ministry of Science and Education, 2019). An interdisciplinary approach to all subjects is particularly emphasized. All teachers are expected to include these topics in their subjects, primarily through forms of active learning, like project involvement, that would be conducted through subject teaching and classroom hours, and even at the school level.

For the first year of implementation of the Curricular Reform in Croatia 72 primary and secondary schools were selected (46 primary and 26 secondaries). It involved 8,500 scholars and 1,500 of their respective teachers. An evaluation survey was subsequently conveyed by Associate Professor Claire Sinnema with support from Justine Park, The University of Auckland, within the project Technical Support to the Implementation of the Comprehensive Curricular Reform in Croatia in February 2019. Over 1,000 teachers and principals/headmasters from experimental schools responded to the survey. A significant majority indicated that they understand the key changes that are part of the Curricular Reform and that they already practice them or intend to practice them in the future. Regarding the cross-curriculum topics, respondents ranked in order those cross-curriculum topics they are most likely and least likely to embed in their subject. Entrepreneurship and use of information and communication technologies were the cross-curricular topics that were low-ranked in this survey. (Summary of Monitoring and Evaluation Findings - Technical Support to the Implementation of the Comprehensive Curricular Reform in Croatia)

On the other hand, one is to seek the opinion of those for whom this all is done. What do pupils think about the reform and how do they perceive the change? An article "Pupil comments on the first month of School for life implementation", one month after the beginning of the school year 2019-2020, presented some comments of pupils on how they see *School for life*, known as the Curricular reform. Interviewees said that they had heard of the reform mostly from the media, but that they did not understand what it would really entail. They noticed some changes, a higher number of short written tests for the sake of formative assessment, more group work, encouragement of logical thinking, etc. They claimed that textbooks were very good, although not any easier than before. They also liked digital materials, but they did not perceive it as a major change as they were already regularly using mobile phones and computers. (Habek I., 2019)

4. SURVEY ON FINANCIAL LITERACY IN CROATIAN SCHOOLS

The authors carried out an online survey *Financial literacy in Croatian schools* among teachers of primary and secondary schools in Croatia. The survey was conducted in January 2020. It consisted of 12 questions. The survey was conducted in order to get the answers to the following questions that would provide insights into how teachers in Croatia perceive the topic of financial literacy:

1. Do you consider your students to be financially literate for their respective ages?
2. Before the Comprehensive Curriculum Reform in Croatia was implemented in Croatian schools the Financial literacy program was carried out in my school as part of the compulsory subject, elective subject, extracurricular activity, integral part of the curriculum for Economics subjects, was not carried out at all, other.
3. One of the novelties of the Comprehensive Curriculum Reform is the introduction of cross-curricular topics. Has the domain financial literacy as part of the cross-curricular topic Entrepreneurship been incorporated into Annual Implementation Curriculum and thematic planning for your subject?
4. If your answer to the previous question was affirmative, please write the names of the unit's financial literacy has been incorporated into. Also, please explain how financial literacy has been incorporated into your Annual Implementation Curriculum and the thematic planning of your subject.
5. Do you believe the domain Financial literacy of the cross-curricular theme Entrepreneurship to be relevant and useful in classes you teach?
6. Do you believe that the program of financial literacy in schools shall result in better financial management later on in life?
7. Do you have any suggestions on how to improve financial literacy in children and youth taking their age into consideration? Are there any specific measures to be taken which would result in better financial management in the long run?

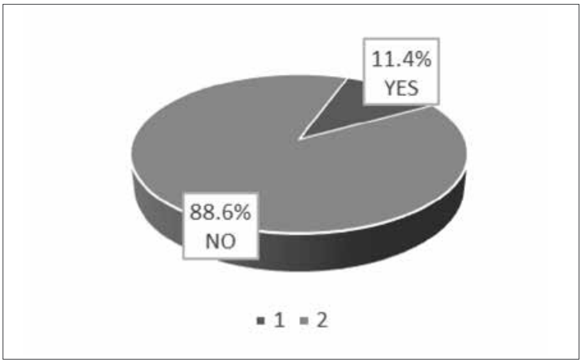
In total 219 responses were received, of which 203 respondents were female, 15 respondents were male and 1 respondent of undisclosed gender. Regarding work experience 45 respondents (20.5%) said they worked in school for less than five years, 39 respondents (17.8%) between five and ten years, 38 respondents (17.4%) between ten and fifteen years, 34 respondents (15.5%) between 15 and 20 years and 63 respondents (28.8%) stated their current work experience was of more than twenty years.

Out of 219 respondents that participated in the survey:
18.7% teach in lower primary school: Years 1-4,
36.5% teach in upper primary school: Years 5-8,
22.4% teach in secondary selective school Years 9-12,
3.2% teach in secondary selective school Years 9-11,
10.5% teach in grammar school Years 9-12 and
8.7% opted for others, without disclosing information on the type of school.

A vast majority of 92.7% of respondents are teachers and 7.3% are non-teaching staff i.e. school psychologists and educators. Overall, 63 respondents are from the STEM field (Mathematics, ICT, Science), 42 are primary teachers in Years 1 - 4, 29 teach modern foreign languages (English, German, Italian, Spanish, French, Hungarian), 19 teach Croatian language, 11 Engineering and Computing subjects, 10 teach History and Geography, 9 Economics subjects, 5 teach Computing and Applied Mathematics, 1 Physical Education, 2 Practical education and training, 1 Applied Mathematics, 1 medicinal subjects, 1 classical language (Greek), 1 design and technology. Several respondents chose not to answer or gave inconclusive answers. Answers to the questions are as follows.

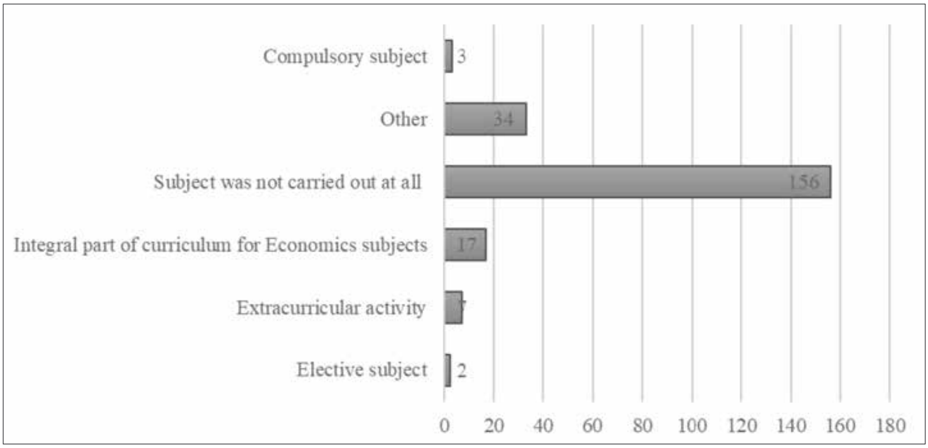
1. Do you consider your students to be financially literate for their respective ages?

Respondents generally believe their students are not financially literate for their age (88.5%). Only 11.5% believe the opposite.



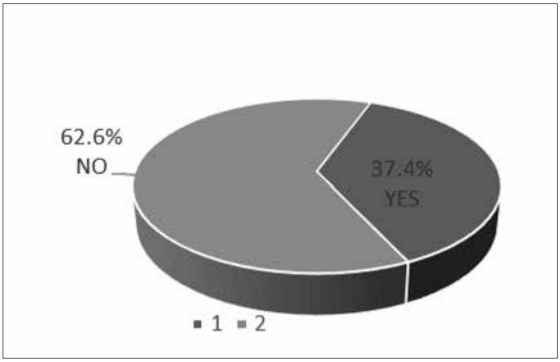
2. Before the Comprehensive Curriculum Reform in Croatia was implemented in Croatian schools the Financial literacy program was carried out in my school as part of the compulsory subject, elective subject, extracurricular activity, an integral part of the curriculum for Economics subjects, was not carried out at all, other.

156 out of 219 respondents (71.2%) said the program of financial literacy was not implemented in any form in their respective schools before the Comprehensive Curriculum Reform. Only three respondents (1.4%) said financial literacy was a compulsory subject in their schools, two said it was an elective class and seven of them said it was an extracurricular activity in their respective schools. Seventeen respondents said financial literacy was an integral part of the curriculum for Economics subject. Thirty-four respondents opted for others without disclosing how financial literacy was implemented.



3. One of the novelties of the Comprehensive Curriculum Reform is the introduction of cross-curricular themes. Has the domain financial literacy as part of the cross-curricular theme Entrepreneurship been incorporated into Annual Implementation Curriculum and thematic planning for your subject?

82 persons (37.4%) stated that the domain financial literacy has been incorporated into the Annual Implementation Curriculum and thematic planning for their respective subjects. Almost two-thirds of participants said it wasn't incorporated in their AIC and thematic planning.



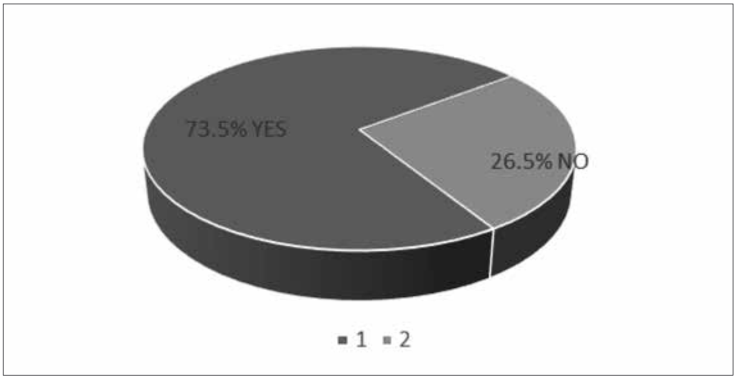
4. If your answer to the previous question was affirmative, please write the names of the units' financial literacy has been incorporated into. Also, please explain how financial literacy has been incorporated into your Annual Implementation Curriculum and the thematic planning of your subject.

Participants that stated that the domain financial literacy has been incorporated into Annual Implementation Curriculum and thematic planning for their respective subjects listed following topics:

- Mathematics: percentages, simple and compound interest, linear equations problem-solving, addition, subtraction, multiplication, division, currency conversion
- decimal numbers, data analysis
- business ICT: use of Microsoft Excel
- Statistics
- foreign languages: numbers and money lessons – taught indirectly
- money savings
- class teacher lessons: workshops on saving, school fairs,
- Economics subjects - units: VAT, payroll calculation
- the order book (trading) -in-class teacher lessons

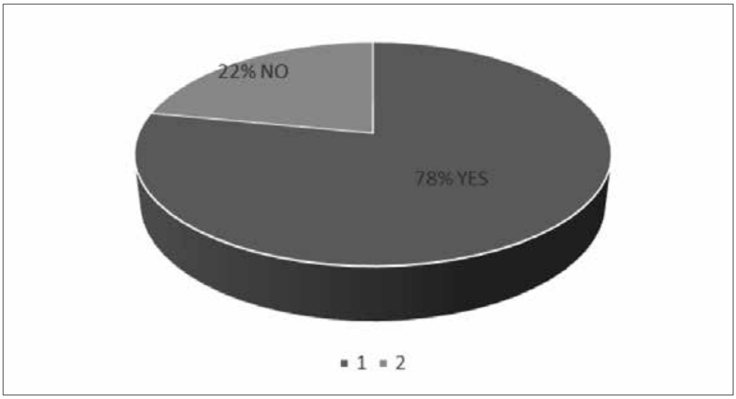
5. Do you believe the domain financial literacy of the cross-curricular topic Entrepreneurship to be relevant and useful in classes you teach?

A majority of 73.5 % (161 respondents) believe the domain financial literacy of the cross-curricular topic Entrepreneurship is relevant and useful in classes they teach whereas only 26.5% (58 respondents) consider it irrelevant and impossible to implement in their subjects.



6. Do you believe that the program of financial literacy in schools shall result in better financial management later on in life?

It is important to notice that the majority of 78% of participants believe that the program of financial literacy in schools shall indeed result in better financial management later on in life. That underlines the importance of this topic and further investments into its progress, especially when taken into account the perception of the current insufficient financial literacy of children and youth.



7. Do you have any suggestions on how to improve financial literacy in children and youth taking their age into consideration? Are there any specific measures to be taken which would result in better financial management in the long run?

Suggestions received are as follows:

- parent-children communication at home

- enabling class teachers to include financial literacy in their classes
- interdisciplinary collaboration with Politics and Economics teachers
- introducing financial literacy as a compulsory subject in secondary education
- modify the curriculum for Mathematics, ICT and Design and Technology to include financial literacy
- educate teachers on how to be financially literate
- financial literacy begins at home, make them think about money
- school projects, workshops, extracurricular activities, elective classes, financial counseling
- family budget workshops
- introducing financial literacy as a compulsory subject in primary and secondary education
- educating parents on financial literacy
- European money quiz (see https://www.ebf.eu/europeanmoneyquiz/)
- collaboration with Štedopis
- field trips to financial institutions
- introduce home economics in schools and include financial literacy in its curriculum
- modify the Mathematics curriculum so as to include financial literacy.

Received suggestions show that more needs to be done in educating children and youth on financial topics, both at home and in school. Synergy approach of family, school, financial and educational institutions would result in better financial management in the long run.

5. CONCLUSION

Financial literacy is one of the pillars of healthy living for every individual, for every family. Financial education is, therefore, necessary and needs to start in early life, with age-appropriate lessons, systematically and continuously. The PISA 2012 financial literacy test showed that in most participating countries financial literacy of youth is not substantial enough, and among those Croatian pupils ranked below average. Realizing the importance of this financial literacy and the need for change in education, the "National Strategic Framework for Consumer Financial Literacy for the period 2015-2020" was adopted in the year 2015 accompanied by the "Action Plan for Improving Consumer Financial Literacy for the year 2015". Those documents gave a basis for a more systematic approach to the financial education of citizens in Croatia.

The Curriculum for the cross-curricular topic Entrepreneurship for primary and secondary schools is implemented in the Croatian educational system from the school year 2019-2020 within the frame of the Comprehensive Curricular Reform. It involves three domains: Think like an entrepreneur, Act like an entrepreneur, Economic and financial literacy. The third domain introduces pupils and students to the world of work and finance, economy and entrepreneurship. They learn how companies and businesses operate, how state, economic and financial institutions function and how to be responsible with money.

An online survey *Financial literacy in Croatian schools* was carried out among teachers of primary and secondary schools in Croatia in January 2020. It was conducted in order to provide insights into how teachers in Croatia perceive the topic of financial literacy in schools. The results of the survey show that the vast majority of teachers that participated in the survey generally believe their pupils are not financially literate for their age. More than two-thirds said the program of financial literacy was not implemented in any form in their respective schools before the start of the Comprehensive Curricular Reform. One third stated that the domain financial literacy has been incorporated into the Annual Implementation Curriculum and thematic planning for their respective subjects in the school year 2019-2020. Around 75% of the teachers believe the domain Financial literacy of the cross-curricular theme Entrepreneurship is relevant and useful in classes and that the program of financial literacy in schools shall indeed result in better financial management later on in life.

The survey and the analysis show that the topic of financial literacy of primary and secondary school pupils is very important and, taking into account the perception of the current insufficient financial literacy of children and youth, further measures need to be taken to improve the knowledge of finances among young generations. Those measures start at home, in the family surrounding, but should also continue in school, involving a more systematic approach. Teachers should also be instructed and advised, especially through teacher training programs. The following years are going to show whether the measures included in the new Curriculum will show results and improvements. Financial education of all generations, with the focus on younger generations, remains a crucial element of family and national welfare.

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Information Technology Management – Geographic Information System (GIS)

IMPLEMENTING ENTERPRISE RESOURCE PLANNING (ERP): COMPARING EXPECTED AND ACHIEVED OUTCOMES

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Abstract

Companies are known to implement Enterprise Resource Planning (ERP) to lower costs and improve efficiency, reduce customer response time and improve loyalty, better manage enterprise stakeholders, which all leads to improvements in profitability. However, the majority of research has been conducted in developing countries. In this research, the same methodology was used to identify and compare expected and achieved outcomes of ERP implementation in developed countries and in Brazil as a developing country. It was found that the reason to implement ERP could be attributed to a combination of endogenous and exogenous factors. This research did not confirm previous findings that ERP implementation results in significant performance improvements relative to cost reductions and an increase in productivity. However, access to real-time information enabled higher employee empowerment and satisfaction in developed countries. ERP was considered a tool that had the potential to contribute to future growth and development. ERP system that has been implemented and is fully functional could be considered a successful ERP implementation project. From this standpoint, it could be concluded that the examined companies successfully implemented the system. Further research is also needed to elucidate outcomes of the ERP implementation process in even more detail and to include even more explanatory variables.

Keywords: *Enterprise Resource Planning, outcomes, large companies, developed countries, developing countries*

JEL Classification: M15

1. INTRODUCTION

The success of modern companies is highly dependent on their ability to acquire and use knowledge, or in other words to learn, innovate and change their behavior. The importance of this capability is even more pronounced in the networked economy (Perry, 1999). ERP enables effective visibility of resource usage and flow and provides real-time information originating in various departments and units, consolidated in one database. Previous studies mostly focused on ERP implementation and result in developed countries, especially in the United States. However, not much evidence is available regarding ERP implementation in developing countries. Developed and developing countries still differ significantly in this regard in that their expected and achieved results differ, which could be contributed to the differences in their socio-economic conditions and availability of technological infrastructure (Mukti, 2000; Jennex & Amoroso, 2002). Al-Mashari *et al.* (2006) especially pointed to problems when implementing ERP in developing countries. In addition, there are no studies that used the same methodology to study ERP implementation in both developed and developing countries with the purpose to compare results and reach conclusions regarding their differences. Considering these arguments, by focusing on comparing the expected and achieved outcomes in developed and developing countries this study represents a contribution in this regard.

2. LITERATURE REVIEW: BENEFITS AND THREATS OF IMPLEMENTING ERP

ERP has been found to lower costs and improve efficiency, especially by reducing operation and inventory costs and manufacturing lead times, significantly reducing customer response time and improving customer loyalty, as well as improving the ability to manage enterprise stakeholders, which all leads to improvements in profitability (Michel, 1997; Goodpasture, 1995; Brakely, 1999; Park & Park, 2015). In some cases, ERP has enabled reductions in inventories in manufacturing up to 35% (Gupta, 2000), reduction of lead times by 60%, increase of inventory turn-over by 30%, reduction in cycle time by 80%, and a target of 99% on-time shipments (Shehab, 2004). That is reflected in optimizations in inventory management, reductions in working capital, improvements in resource utilization, sales management and customer relations, which enabled companies to increase delivery speed and drastically reduce errors (Chen, 2001;

Siriginidi, 2000). Implementation of ERP systems often results in the reduction of personnel requirements, contributing to the gains in efficiency (Stein, 1999; Poston & Grabski, 2001).

Implementation of ERP systems also results in an increase in customer satisfaction due to an increase in response time regarding ordering and complaint management. In that way, the cost and time of keeping existing customers and attracting new ones are reduced. The system can also enable accurate tracking of customer behavior, which can prompt intervention in order to improve their loyalty and satisfaction. ERP systems could thus be helpful in estimating the revenue potential more accurately, which could be beneficial in negotiating credit line conditions. ERP is a system that can enable companies to be simultaneously flexible and efficient.

However, by examining performance over a three-year period after implementing ERP systems, Poston & Grabski (2001) found a reduction in the ratio of costs to revenues but no significant improvement in the ratio of selling, general and administrative expenses to revenues or residual income (net operating income minus interest). Despite increases in efficiency in some areas, the cost-to-revenue ratio increased elsewhere and tended to offset initial gains. Hunton *et al.* (2003) examined the longitudinal impact of ERP adoption in firms by comparing financial performance indicators of adopters and nonadopters. The results indicated that ERP adopters performed significantly better than non-adopters (especially regarding ROA and ROI). However, the reason was the declining performance of non-ERP adopters, while the performance of adopters did not change significantly. The findings indicating the positive impact of investments in ERP on performance are therefore still ambiguous and inconclusive. It seems that by widespread usage of those systems the definite answer would remain elusive because if the system is used by many it ceases to contribute to competitive advantage and becomes a business norm.

IT investments have been found to cause significant benefits in productivity and stock market value of firms (Brynjolfsson & Hitt, 2000; Hayes, 2001). It is interesting to note that financial markets reward adopters with higher market valuation not only after the platform has been implemented, but also during its implementation, expecting superior results once the system is put in practice (Hitt *et al.*, 2002). However, ERP implementation has also caused a significant array of problems. In some studies, it was reported that the number of cases in which ERP implementation could be considered a failure ranges from 40% to 70%, sometimes even higher (Langenwalter, 2000; Sivunen, 2005; Kwahk & Ahn, 2010). Failure in implementing an information system can be defined as "the inability of an IS to meet a specific stakeholder group's expectations" (Lyytinen & Hirschheim, 1987). When they are not considered a failure, ERP implementation projects in nearly all cases exceeded their budgets (Adam & O'Doherty, 2000) and ran behind schedule (Scott & Vessey, 2002). It is interesting to note that Mabert *et al.* (2000) found that 70 percent of the companies surveyed in the U.S. considered the ERP implementation project successful. However, when the budget aspect was taken into account, the success rate fell to below 50 percent because more than 55 percent of companies exceeded their budgets, by an average of 60 percent.

In addition, several years after implementation, companies face problems of maintenance and upgrade, which could also be an iterative process. However, Huang *et al.* (2009) found that benefits are evident in the long run. Process efficiency and profitability increase in the fourth or fifth year of ERP implementation. It is interesting to note that Huang *et al.* (2009) found that there are differences relative to firm size. They found that big firms enhance their business processes through process efficiency and financial performance, medium-sized firms raise operating income only in the first five years, while small firms show no improvement. These findings contradict those by Park & Park (2015) who on the sample of small Korean Property/Casualty (P/C) insurers found a decrease in efficiency and profitability during the first and second year after ERP implementation, followed by a subsequent increase. It should also be mentioned that non-adopters are likely to implement the system later due to competitive pressures and benefit from upgraded systems and solid implementation of the knowledge base.

The benefits of implementing ERP systems can generally be summarized as significant improvements in decision-making due to the availability of real-time information and improvements in information accuracy. Generally, intelligence gathered by ERP systems enables forecasting by using time series based techniques. However, linear programming is still rarely a part of standard packages. Improvements in decision-making are not related only to management. By standardizing various business practices and by gaining access to accurate and timely information, the authority to make operative decisions can be delegated to workers in any area of the value creation process. The availability of information can also enable greater job flexibility and employee empowerment (Davenport, 1998), leading to an increase in their motivation and creativity due to job enrichment.

ERS systems also contribute to organizational knowledge conversion and learning. ERP database can be considered an organizational knowledge repository, especially as the storage of explicit knowledge that can be used by everyone connected to the system. Implementation of ERP contributes to the decrease in the risk of organizational knowledge loss. Companies that have implemented ERP systems can rely less on human resources as carriers of knowledge. That is true mostly for explicit knowledge, while implicit knowledge is acquired, developed and refined by individuals and is organizationally integrated through collective action. However, when implementing a highly integrated ERP system many managers have a privacy concern due to the fact that the modules are integrated not only within a single company but across the entire supply chain. The information that might be considered confidential could become visible to partners that could take advantage of them and become competitors.

To emphasize the learning dimension, many companies implement knowledge management (KM) systems along with ERP, which then serves as an important tool for ERP and enables more accurate decision-making. However, it should be noted that the implementation of ERP affects the individual level in the way that employees' knowledge becomes more divergent with requirements to learn about diverse areas that have become increasingly interrelated. Individual and organizational learning becomes enabled and mediated by ERP systems, which can result in increases in flexibility and adaptability. In addition, the convergent learning organizational perspective and divergent learning individual perspective enabled by ERP represents powerful leverage for successful empowerment. Individual users should master the principles of the system well to be able to contribute operationally, but also strategically. Morris and Venkatesh (2010) found that ERP implementation moderates the relationship between three job characteristics (skill variety, autonomy, and feedback) and job satisfaction. That is why extensive training should be followed by the education which could help individuals transcend the *how* phase to the level when they can understand *why* the system is used, and ultimately *how* and *when* it could be used to contribute to operative and strategic changes that could strengthen the competitive position. Employees empowered through ERP and KM systems could increase their employability but also value to the organization due to their irreplaceability as key organizational resources, which could be reflected in compensatory mechanisms.

Implementation of ERP systems can, therefore, be viewed as a learning process on the individual but also on the organizational level. Attewell (1992) also described the adoption of IT solutions as a learning process. In this regard, it is interesting to mention the mission statement of SAP in 2000: "*To connect those who know with those who need to know. To convert personal knowledge to organizational knowledge*". Implementation of ERP has significant effects on organizational behavior and development. ERP implementation can also be considered as an organizational learning process. By implementing ERP systems and redesigning business processes in order to automate them, companies can undergo single- and double loop organizational learning. In case the processes are automated by performing small adjustments based on the existing knowledge base, an organization is undergoing single-loop learning. In case an organization reevaluates process principles and assumptions on which they are based in order to reformulate them, an organization is undergoing double-loop learning (Argyris & Schön, 1978). Besides new process design, an organization can engage in double-loop learning when new goals, business assumptions, and routines emerge. While in single-loop learning an organization is predominantly exploiting the existing knowledge, in second-loop learning an organization is engaging in explorative learning, which results in significant changes in the organizational behavior and serves the purpose of organizational development.

3. RESEARCH METHODOLOGY

Expected and achieved outcomes regarding ERP implementation in developed and developing countries were investigated from the standpoint of the exploratory approach. The study used a survey questionnaire based on the literature review. As frequent in exploratory studies, the goal was "to learn what is going on here?" [Schutt, (2006), p.14]. This study is therefore based on the interpretative method of research. Wynekoop & Russo (1997) defined interpretative research as "An attempt to understand a phenomenon by studying it in its natural context from participants' perspective." Data was collected from two consultants that have gained international experience in implementing ERP in large companies for at least a decade. Contacts were obtained from the LinkedIn database. To preserve anonymity, the names of the consultants are not revealed. Surveying a single informant per country or region raises doubts of personal bias that could distort findings. However, the suitability of informants was carefully examined. The suggestion by Huber and Powere (1985) was followed when selecting the respondents. They noted that the person most knowledgeable about the issue of interest should be identified. The unit of analysis was projects of implementing ERP by consultants. Respondents were asked to answer closed (yes/no) question, selects items which were relevant according to their experience and indicate the extent of agreement with the questionnaire items (statements) on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) or in percentages of cases. The majority of questions had a section that enabled the respondents to provide additional comments if considered relevant. General information regarding the respondents is presented in Table 1.

Table 1. General information regarding the respondents

	Consultant 1	Consultant 2
Area of operations	U.S., South Korea, and Germany	Brazil
Sector	Service	Manufacturing
Years of experience	11	20
Educational background	Bachelor of Arts	Master of Business Administration
Level of customization	80% customized	60% customized

4. RESULTS

The respondents were first asked questions about the goals that companies they worked for wanted to achieve by implementing ERP. For the purpose of building a theory about the reasons for implementing ERP systems, they were asked to provide an opinion regarding several assumptions about their clients' expectations. Similarly, the source of the initiative to implement the system was also one of the questions. The results are presented in Table 2.

Table 2. Goals and assumptions of implementing ERP systems

	Developed countries	Brazil
Initiative came from:	Top management (70%), external partners (related enterprises (10%), employees (operative employees 10%, IS employees 10%)	Top management (80%), consultants (20%)
Assumption 1: The system would automate our operations to make them run faster	100%	10%
Assumption 2: The system would help us catch up with the competition	50%	40%
Assumption 3: The system would help us improve our operations in the way to make it superior relative to our competitors	50%	10%
Assumption 4: The system would help us better connect with external stakeholders	30%	10%
Assumption 5: The system should be implemented because it is requested by another party	10%	30%
Goal 1: Reduction of costs	Reduction in resource usage (80%), reduction in inventories (85%)	Reduction in resource usage (40%), reduction in inventories (35%), reduction of production costs (30%)
Goal 2: Increase in customer satisfaction	100%	5%
Goal 3: Integration of operations	100%	10%
Goal 4: Connection with external stakeholders	Suppliers 80%, key customers 85%, related enterprises 50%	Suppliers 20%, key customers 30%, related enterprises 50%

As expected, the initiative to implement ERP predominantly came from top management regardless of the country of origin. It is interesting to note that the consultant with the experience in implementing ERP in the U.S., South Korea, and Germany also identified employees, especially operations employees and IS experts as initiators of the idea to implement ERP. In those countries, the idea never came from the consultants, which was reported in 20% of cases in Brazil and can be attributed to the lower level of economic development and usage of these systems. The greatest difference was identified regarding the first assumption prior to implementing ERP ("The system would automate our operations to make them run faster"). The consultant for large companies in the developed countries identified this assumption to be valid in 100% of cases under their supervision, while that was marginally important in Brazil. Catching up with the competition was almost equally and partially important in all countries. While companies in Brazil did not view ERP as something that could help them become superior to their competition, in the developed countries that was the case much more frequently. While connecting with external stakeholders was of minor importance in Brazil, in the developed countries that were of higher relevance. However, companies in Brazil were prompted to implement ERP as requested by another party much more frequently, probably by their related companies (companies that are a part of the same business group). This conclusion could be corroborated with the fact that companies in Brazil wanted to connect with related companies as their external stakeholders in 50% of cases. While companies in the developed countries sought to connect with suppliers and key customers by using ERP, that was of lesser importance for companies in Brazil.

For companies in both groups of countries, the reduction of costs was important, even though companies in the developed countries had much higher expectations. While the reduction in resource usage and reduction in inventories was very important in the developed countries, these aspects were of lesser importance in Brazil. The huge discrepancy was detected regarding the goal of operation integration and customer satisfaction, which was immensely important in the developed countries, while marginally significant in Brazil. These findings could indicate that companies in Brazil were not very familiar with benefits that ERP has to offer and their introduction of the system either stemmed from the vague idea of management or the persuasion by the consultants. The companies in the developed countries were much more convinced of the possibilities and the expected benefits. In addition, as revealed in the comments section, these companies were introducing more and more modules (Finance Module, Customer Management, Asset Management, Funds Flow, Cost Module and Product Cost Accounting, Sales Module, Production Module, Materials Management Module, Quality Module, Plant Maintenance Module, Service Management Module, and Human Resource Module). So it is not surprising that their expectations regarding faster response times and a further reduction in costs would greatly affect customer satisfaction and hence competitiveness. On the other hand, the implementation of ERP in large companies in Brazil was still in its infancy. That is evident from the fact that these companies focused only on implementing the modules related to the production process (Production Planning Module, Materials Management Module, Quality Module, and Plant

Maintenance Module). It is interesting to note that Consultant 2 added that standardization of business processes across divisions was important in 30% of cases, which is a logical and expected for large companies.

The respondents were asked next to state their estimates regarding the achieved goals and outcomes of ERP implementation projects (Table 3).

Table 3. Estimates regarding ERP project outcomes

	Developed countries	Brazil
Initial cost estimates were exceeded	Yes, to a great degree (more than 50%) (60%) To some degree (less than 50%) (40%)	Yes, to a great degree (more than 50%) (10%) To some degree (less than 50%) (80%) No (10%)
Overall satisfaction with the previous fact	3	2
Management satisfaction with ERP usage	4	4
Employee satisfaction with ERP usage	5	4
Growth and development potentials that could be attributed to ERP	4	4
ERP usage in general	5	4
Outcomes: Cost reductions	10%	20%
Increase in productivity	20%	20%
Customer satisfaction	N/A	N/A
Improvement in supplier relationships	50%	20%
Employee satisfaction due to access to accurate and real-time information	50%	N/A
Increase in delegation	30%	N/A
Increase in empowerment	50%	N/A
Increase in the quality of decision-making: Operative decisions	10%	20%
Strategic decisions	25%	20%
Single-loop learning	N/A	N/A
Double-loop learning	N/A	N/A
Fear of information theft	N/A	N/A
Other?	Improved audit capability	-
The project as justified	Yes, completely (100%)	Yes, completely (70%) Yes, to a moderate degree (30%)

Companies in Brazil seem to have engaged in more thorough planning because costs were exceeded to a great degree (more than 50%) in only 10% of cases compared to companies in the developed countries in which that was the case in 60% of cases. Contrary to the experience in the developed countries, costs were never exceeded in Brazil in 10% of cases. It seems that companies in Brazil were also operating under a tighter budget and more investment was not allowed. However, this fact could also be explained by the scope of the ERP implementation project because companies in Brazil mostly focused on only a few modules and they were related to production. Exceeded costs could be related to the level of customization of the implemented system. Managers were aware of the necessity to keep the budget under control and their satisfaction was not great. It is interesting to note that even though the companies in Brazil achieved better results relative to project costs, their managers showed a lower level of satisfaction with this fact compared to their counterparts in the developed countries. This finding could again be attributed to the scope of the ERP implementation project and budget constraints.

The most intriguing part of the survey pertains to the outcomes of the ERP implementation process. Management in both groups of companies showed above-average satisfaction with ERP usage. The same opinion was shared by the employees, even though they were more satisfied in the developed countries. This finding could be explained by more abundant training programs that their employees had on their disposal, which ensured a wider system usage. Managerial satisfaction with the implemented ERP systems should be examined relative to several key performance indicators. First, both consultants estimated that growth and development potentials that could be attributed to ERP implementation were above average in both groups of countries. However, the consultant responsible for implementing ERP in the developed countries though that ERP usage, in general, was excellent compared to very good in the developed countries. Lesser availability of training programs could again be found as the most likely culprit. Even though one of the key goals for companies in the developed countries was to reduce costs, especially costs regarding resource usage, costs were eventually reduced in only 10% of cases. A slightly better result was achieved in Brazil. Productivity also rose slightly – in 20% of cases in both groups of countries. This finding could probably be related to initial problems of process adjustments and human errors. However, in cases supervised by Consultant 2, the system contributed to better supply chain management. Both consultants could not estimate benefits brought by the system regarding customer satisfaction, which is quite understandable considering the number of operations and customers. Similar to costs and productivity, customer satisfaction could come later after the program has been in use for some time. However, better integration of information flows contributed to significant improvement in supplier relationships, which was evident in 50% of cases in developed countries.

The next elements of the survey focused on changes in human resource management. The system contributed to a significant increase in employee satisfaction due to their access to accurate and real-time information in developed countries. That enabled increases in delegation and empowerment. Large companies are known for their high reliance on teams, especially cross-functional teams, whose work depends on information access. It is quite understandable that Consultant 2 could not estimate such effects of ERP implementation because the work of a consultant is finished when the system is put to use. The way in which it would later affect the work design might be out of their reach and interest.

Another important finding refers to the effect of ERP on decision-making. Large companies did not significantly benefit in this regard. Large companies in the developed countries benefited slightly more regarding the quality of strategic decision-making as it was improved in 25% of cases. It is interesting to note that operative decision-making improved only in 10% of cases. The reason could be found in the fact that their business processes were established and running, supported by previously implemented management information systems.

Special emphasis was placed on investigating the effects of ERP implementation on organizational learning. Both consultants could not give their estimates for either of the aspects of organizational learning. This fact could be attributed to their lack of understanding of the concept. However, it could be assumed that neither single-loop organizational learning that refers to changes in the existing processes nor double-loop organizational learning in terms of modifying business assumptions, introducing new goals and policies were significantly affected because of the quality of operative and strategic decision-making was also not significantly affected. This finding could be related to the companies' size. Large companies usually have well-established processes and operations which are not likely to change overnight or by the introduction of an

IT system. Such changes are more likely in SMEs. Vendors have focused more on SMEs by offering ERP systems that are designed to suit their needs. That trend has resulted in ERP reference models based on identified best practices. By implementing ERP designed according to best practices, SMEs can compare their current business operations to best practices and redesign them by implementing ERP. For SMEs, that means the process of ERP implementation includes a knowledge transfer perspective (Lee and Lee, 2000), which is not likely for large companies. However, the consultant in large companies in the developed countries reported improved audit capability due to the implementation of ERP modules, which could be attributed to the accessibility of abundant real-time information. Fear of information theft was not reported.

5. CONCLUSION

The initiative to implement ERP predominantly came from top management regardless of the country of origin, which is consistent with the finding by Ehie & Madsen (2005) who found in their study that in over two-thirds of the surveyed companies the key initiator of implementing ERP was top management. The reason to implement ERP could be attributed to a combination of endogenous and exogenous factors. Buonanno *et al.* (2005) found exogenous factors (competitive pressures) to be more related to ERP implementation in large companies. In this study, this finding was only partially confirmed. In the developed countries endogenous reasons (internal weaknesses) such as integration and automation of processes and operations was the most important reason, while in Brazil catching up with the competition was only slightly more important than implementing the system as requested by another party (related companies). Ehie & Madsen (2005) also found that the majority of respondents identified the need to streamline their internal business processes as the key driver when implementing ERP. Cost accountability was of great importance for companies in developed countries. Those companies also significantly valued the goals of customer satisfaction and connection with external stakeholders, especially suppliers and key customers. It is not quite clear what the major reason for introducing ERP in Brazil was as none of the results were striking. It could be speculated that the key reason lies in an aspect not covered by this research.

This research did not confirm previous findings that ERP implementation results in significant performance improvements relative to cost reductions and an increase in productivity as found by Huang *et al.* (2009), despite high expectations. However, ERP enabled better coordination with suppliers, which was also stressed by the consultant in Brazil who mentioned that ERP contributed to better supply chain management. As stated by Davenport (1998), access to real-time information enabled higher employee empowerment and satisfaction in the developed countries, with lesser effects on delegation. This finding is expected as information availability could lead to authority delegation in decision-making consistent with empowerment. Operative decision-making was not significantly affected by ERP, which is consistent with similar findings regarding efficiency and productivity. Strategic decision-making was slightly more affected in the developed countries, which is consistent with the outcome of integrating value creation with the suppliers. However, in both cases, ERP was considered a tool that had the potential to contribute to future growth and development. This is consistent with the finding that the system was not fully in use after implementation, as seen by managers. Considering these arguments, the results are contrary to those by Wood & Caldas (2002) who found that 45 percent of companies ERP systems yielded no improvements.

Even though the surveyed goals were not achieved to a great degree and costs were exceeded, both consultants were quite optimistic regarding project justification. For the consultant in the developed countries, the project was completely justified in 100% of cases, while the consultant in Brazil was a bit more cautious and stated that the project was completely justified in 70% of cases, while there were no cases in which the project was not justified. It is currently unclear if this finding could be attributed to their personal bias or to some other factors not included in this research. A successful ERP project is one that is completed within budget, on time and according to schedule. However, such success criteria might be too strict in the case of ERP implementation considering a high failure rate. It was found previously that ERP implementation projects in nearly all cases exceeded their budgets (Adam & O'Doherty, 2000). However, similar to findings in this research, Mabert *et al.* (2000) found that 70 percent of the companies surveyed in the U.S. considered the ERP implementation project successful. That is why any ERP system that has been implemented and is fully functional could be considered a successful ERP implementation project. From this standpoint, it could be concluded that the examined companies successfully implemented the system. This finding is consistent with the finding by Ehie & Madsen (2005) who found in their research that 72% of the respondents rated the satisfaction level of ERP implementation from "somewhat satisfied" to "very satisfied". In a study on SMEs by Šimunović *et al.* (2013) in Croatia, only 46% of respondents stated that ERP fulfilled their expectations.

The major limitation of this study is the research method, which means that the results could not be generalized to the entire population. The response acquisition method could raise doubts about the results' validity due to social bias. That is why future studies are suggested that could use different methods to grasp more data regarding ERP implementation in large companies in developed and developing countries. Further research is also needed to elucidate outcomes of the ERP implementation process in even more detail and to include even more explanatory variables. Multiple case study approach could be suggested. Researchers could also target multiple sources within a single enterprise to triangulate the data and increase their validity. Quantitative research comprising a series of ERP implementation projects could be the most reliable method, albeit the most difficult regarding the generation of data.

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MODELING OF INFORMATION SYSTEMS IN SPORT – AN EXAMINATION OF THE SATISFACTION OF SPORTS EMPLOYEES WITH THE INFORMATION SYSTEMS

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Abstract

This paper presents the modeling process of an information system at the local level on the example of the information system of the Sports Association of the City of Zadar. Each organization, including a sports organization, has its own information system that is dependent on its environment, and which needs to be continually improved and modeled. Therefore, modeling represents the knowledge necessary for documenting and understanding the processes within a system. The purpose of this paper is to analyze the author's research regarding the effectiveness of existing IS relating to the support of the valuation of sports and sports associations through the PSFP of the SACZ, as well as the satisfaction of the respondents. Furthermore, based on the results of the research, the aim of the paper is to present the proposed principles and guidelines for *the modeling of a more efficient IS. The research indicated that the first work hypothesis was only partially confirmed that it was, that the SACZ information system used to evaluate sports and sports associations through the Public Sports Financing Programs was only partially satisfactory. Since the conducted research is far from being undermined, while simultaneously being very important to all participants in the process of evaluating sports, it is expected that the research results will contribute to the development of new paradigms in the field at a theoretical level, while within the practical segment will serve to further elaborate the principles and guidelines for modeling the information system, making it more effective and appropriate to the needs of sports communities at the local level, while reducing the misunderstanding of sports employees.*

Keywords: *Information systems, modeling, sport, sports association, satisfaction.*

JEL classification: G20, L83

1. INTRODUCTION

The paper, based on the example of the Sports Association of the City of Zadar (SACZ), has explored the process of modeling an information system (IS) to support the processes of evaluating sports and sports associations at the local level. For the purpose of examining the satisfaction with the IS by sports employees, a survey method was used to support the evaluation of sports and sports associations and an appropriate questionnaire was created. The questionnaire represents a special form of research that sought to gather different views and opinions of authorized persons to sports associations in the public. It is a quantitative type of method that was conducted on the sample of the entire membership of the SACZ covered by the research topic. In the Republic of Croatia (RH), the application of the IS in the overall activity of sport has not yet sufficiently come to life, and its construction is a complex job, given the comprehensiveness of the field of sport (Milanovic,2000). The totality of social changes that have engulfed modern society, including the field of sport (Gruic, I., et al. 2005), is reflected in the frequent daily use of terms such as systems, information, data and information systems, etc. , therefore, experts in the field of information sciences and kinesiology emphasize: how the use of present and affordable devices and sophisticated, specialized procedures have deeply introduced us to the information society, in which exact information is determined as a basis (Miočić,2017). Successful management in all segments of sport, and in particular the increase of efficiency in order to achieve the set goals, is possible only under the assumption of excellent knowledge of the internal structure of all levels of the sports system and the application of the IS and how it operates. This paper is a product of the author's dissertation Modeling Information Systems to Support the Valuation Process in Sport.

2. THE INFORMATION SYSTEM

The information system collects, stores, keeps, protects and delivers information relevant to the organization and its successful operation so that it is accessible and usable by anyone who needs it. (Milanović, et.al. 2005). For the purpose of the paper, it should be emphasized that the IS may or may not use information technology, given the environment (Simović, 2010). The IS is an integral part of a goal-oriented system, whose basic function is the permanent supply of necessary information of all levels of management and decision-making in a given organizational or technological form. To be clear about what the IS is, it is worth noting what the term system itself means (Žugaj, Strahonja,1992). The concept of systems in different sciences is defined differently, and often serves to denote very diverse content, thus it is important to be familiar with the paradigms of system theory in different sciences (Jakupović, 2013). For example, the term system can be defined as a set of elements and relations between them or a specific spatial, that is, functional isolation of one of the parts from the whole. The part of the whole that is not covered by the system represents the environment of the system (Miočić, 2017). The characteristic of systems that are the subject of human practical interest is the ability to operate them. In the paper, the IS refers to the set of documentation, procedures used for the PSFP.

3. SPORTS ORGANIZATIONS AND THE INFORMATION SYSTEMS MODELING

A sports organization is emerging as one way of forming groups within the field of sport (Sports Act.19/16). According to the general theory of the system, a sports organization is defined as a system with management, which is very complex, dynamic and open, consisting of subsystems and elements as interdependent parts of the whole (Bonacin, 2008). The reason for the founding of sports organizations is to perform sports activities, with the aim of involving the membership and sympathizers as widely as possible, and achieving notable sports achievements. A sports organization is a part of the social system, that is, it is a form of social upgrade, and it relies on the environment and the connections it has with it, and as such represents a segment of the general sports system (Malacko and Rađo, 2004). A sports organization is made up of certain subsystems that have properties and attributes that determine it as an independent system and separate it from other subsystems. In line with the foregoing, it can be said that modeling is one of the basic processes of the human mind, which is closely related to the way people think and solve the problems of sports associations in the overall system of sport (Jukić, Milanović and Šimek, 2005). Modeling allows people to spot structural patterns, evaluate and predict, manage processes and objects, and find the purpose and meaning of the problem. It is precisely from the foregoing that it can be seen that modeling is most often perceived as perhaps the most significant conceptual tool at man's disposal.

4. PURPOSE, OBJECTIVES AND HYPOTHESES

The purpose of the paper is to examine the authors' research related to examining the effectiveness of the existing IS to support the evaluation of sports and sports associations through the PSFP of the local sports community, i.e. the SACZ, and the satisfaction of the respondents with the same (Bronić, et.al., 2012). That is, based on the research results, to present the proposed principles and guidelines for modeling the more effective IS. For the purpose of the research, the following objectives have arisen: analysis of the existing legal and legal framework of the IS to support the evaluation of sports and sports associations according to the PSFP in sport of the SACZ; analysis of a part of the content of the existing IS to support the evaluation of sports and sports associations according to the PSFP in sport of the SACZ; examine the satisfaction of the IS by the SACZ sports employees in supporting the evaluation of sports and sports associations; examine the intelligibility of the existing default evaluation criteria, indicators, and procedures in the processes of evaluating sports and sports associations at the local level by the sports employees of the SACZ; examine the correlation between indicators, default evaluation criteria and the effectiveness of the IS to support the evaluation of sports and sports associations; propose principles and guidelines for modeling a more effective the IS of the SACZ to support the evaluation of sports associations at the local level.

Based on the purpose and objectives, the following hypotheses were set throughout the study:

H1. IS to support the evaluation of sports and sports associations through the PSFP of the local sports community is not satisfactory for sports professionals.

H1.1. In the IS to support the evaluation of sports and sports associations through the PSFP of the local sports communities, the evaluation criteria, indicators and procedures are not clear.

H1.2. There is a misunderstanding (or misinterpretation) of the process of evaluating sports and sports associations through the PSFP of the sports employees of the local sports community.

H2. There is a correlation between the given evaluation criteria, indicators and the effectiveness of the IS to support the evaluation of sports and sports associations.

H2.1. There is a correlation between the given evaluation criteria and the IS indicators to support the evaluation of sports and sports associations.

H2.2. There is a correlation between the indicator and the effectiveness of the IS to support the evaluation of sports and sports associations.

H2.3. There is a correlation between the given evaluation criteria and the effectiveness of the IS to support the evaluation of sports and sports associations.

5. RESEARCH METHODS IN THE PAPER AND DURATION AND SAMPLE OF THE RESEARCH

The basic method used throughout the paper is a case study of the SACZ in the frame of which the following methods were used: content analysis method, questionnaire method, in-depth interview method, and modeling method. The research paradigm, methodology, test methods formed the backbone of defining the research design, while the beliefs, attitudes, and experience of the researcher were in the background (Wilson, 2000). The research resulted in the development of principles, guidelines, and flowcharts for the IS modeling purposes, and used primary and secondary data sources, with primary data being collected during the research. The study set up dependent and independent variables. The dependent variable is the indicators of the evaluation of the IS, and the independent is the default criteria for the evaluation of sports and sports associations.

Prior to the research, contacts were made with the competent, authorized persons in each sports association that are a member of the SACZ, and with prominent persons in the field of sports of the City of Zadar, in order to familiarize them with the research issues and obtain consent for its implementation and participation. Subsequently, an analysis of the existing legal and legal framework of the IS to support the evaluation of sports and sports associations under the PSFP of the SACZ was carried out. The next phase of the research was related to the method of content analysis of the existing information system of the SACZ, which analyzed the Program reports of sports associations under the program item trainings and competitions, submitted by sports associations to the competent sports bodies during 2014 and 2015, according to the requirements of the Public Sports Financing Program. In total, 182 Program reports of sports associations of the SACZ were analyzed.

Furthermore, as a focus of this paper, a survey questionnaire consisting of 15 questions was conducted in the research. The content analysis method included the Program reports of 97 sports associations/members of the Sports Association of the City of Zadar, which were obliged to write and submit them to the competent sports bodies according to the requirements set by the PSFP of the City of Zadar in 2014 and 2015. The questionnaire included 93 sports associations members of the Sports Association of the City of Zadar. In the end, six eminent sports experts and stakeholders of the sports system in the City of Zadar participated in the in-depth interview (Tkalac Verčić, et al. 2010).

6. DESCRIPTION OF THE IMPLEMENTATION OF THE SURVEY METHOD

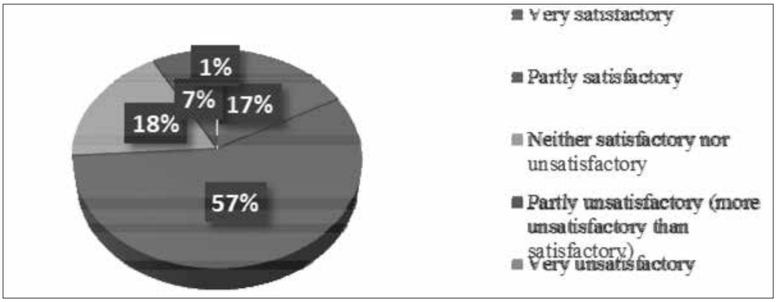
The research, which is the focus of this paper, examined the satisfaction of the sports employees of the SACZ with the existing information system, as well as the correlation of indicators, given evaluation criteria and the effectiveness of the SACZ's information system to support the evaluation of sports and sports associations. As part of the questionnaire method, the survey questionnaire was used as a survey instrument completed by the employees of sports associations of the SACZ who applied to the PSFP of the City of Zadar for the program area of training and competition of athletes in 2014 and 2015. The survey was completed by representatives of 93 of the 97 sports associations in September 2016. Initially, the questionnaire was tested and then completed by all other research participants. The questionnaire examined the views of sports employees authorized to represent sports associations on the existing information system, on the given criteria and the attached evaluation indicators for the needs of the City of Zadar the PSFP. The sections of the questionnaire were made on the basis of previous experience and previous research by different authors in the paper. The questionnaire provides a synthesis of theoretical and practical knowledge of the subject matter of the research and the need to collect measurable data on the research objective (Miočić, 2017).

The questionnaire consisted of 15 questions grouped into two sections, a general one – an introductory and a research unit. The first part of the questionnaire refers to the general data, while the second part deals with the questions that are intended to answer the hypotheses in the paper, and relate to the satisfaction of the respondents with the information system of the SACZ, and, in part, to the correlation of indicators, the given evaluation criteria, and the effectiveness of the information system to support the evaluation of sports and sports associations. After the survey method was implemented, the completed questionnaires in hard copy were entered into the LimeSurvey program and then exported to a specialized statistical program for the processing of SPSS data.

7. RESULTS OF THE QUESTIONNAIRE

As noted in the paper, the survey questionnaire in the overall survey consisted of 15 questions, while questions addressing the structure of participants and issues related to the IS satisfaction were addressed here. The results showed that more men (81.5%) than women (18.5%) participated in the study and that those between 36 and 45 (37% of respondents) prevailed. In terms of the distribution of the status of respondents in the sports system, the President of the Association represents the most represented status (or role in the sports association) of respondents in the sports system (60%), followed by the Secretary of the Association (39%) and, finally, a member of the Association (1%). In response to the question "How many times have your Association applied for the Public Sports Financing Program of the City of Zadar?" The highest percentage of respondents (63%) answered 12 or more times, on the basis of which it can be concluded that a large number of sports associations have been involved in the Program for many years and is well versed in it. It should be noted that the percentage obtained from 3% of the organizations that participated in the competition only once is extremely small, that is, there are not many sports associations that have only once applied to the PSFP in previous years. With the question "How satisfactory or not is the data collection method (for the IS of the SACZ) for the purposes of evaluating the work of sports associations?", The majority of respondents consider the data collection method to be partially satisfactory (57%). A significantly smaller percentage of respondents (18%) believe that the data collection method is neither satisfactory nor unsatisfactory, while only 17% say that the data collection method is completely satisfactory. The reason for this is probably collecting data in hard copy. Mostly considered unsatisfactory by (7%) of respondents and as satisfactory by (1%) of respondents.

Figure 1. Distribution of the respondents' answers to the question about their satisfaction with the way of collecting data for the purpose of evaluating the work of sports associations of SACZ.



Source. Miočić, Josip. Modeling Information Systems to Support the Valuation Process in Sport doctoral thesis. Zadar. University of Zadar, 2017.

By asking "What problems do you encounter in securing data (for the IS of the SACZ) for evaluating the performance of your sports association?", Respondents identified the overwhelming amount of data required from associations as the biggest problem in collecting data for the purposes of evaluating the performance of sports associations. (46.2% of respondents). A problem in collecting data for the purpose of evaluating the work of sports associations of the SACZ was the problem of not collecting data electronically (43% of respondents indicated this option), which may be the main reason for the relatively small number of respondents (17.1% in answering to the previous question) who are completely satisfied with the way the data was collected. The existence of important data on the work of the sports association, which are important for the evaluation process but are not required in the data collection process, were identified as the problem by 21.5% of respondents. As a problem faced by sports associations in securing data (for the IS of the SACZ) for the purpose of evaluating the performance of sports associations of the SACZ, 43.0% of respondents indicated the possibility that there is a general misunderstanding of the process of evaluating sports and sports associations through the PSFP. 9.7% of respondents stated that they do not understand the purpose of collecting data for the purpose of evaluating the work of a sports association, while 21.5% expressed a view that they do not understand the process of evaluating a sports association as a member of the SACZ for funding, which represents a significant number. As a problem faced by sports associations in securing data (for the IS of the SACZ) for the purpose of evaluating the work of the SACZ's sports associations, 41.9% of respondents indicated that there is a general misunderstanding of the process of evaluating sports and sports associations through the PSFP, and finally 8.6% of respondents indicated that they did not encounter problems in collecting data for the purpose of evaluating the performance of the sports association (for the IS of the SACZ). By the question "To what extent do you understand the data related to the indicators (measures) of the activities of sports associations collected by the SACZ? (Examples of indicators: the number of members of the Association, the sports results of the Association, the number of medals won at official championships, the number of categorized athletes, the number of articles published about the Association in the public media, etc.) the greatest number of respondents (54%) considered data as partially clear (more clear than unclear), a significantly smaller number of respondents (21%) said they were completely clear, while a smaller but significant number of respondents (17%) said that they were neither clear nor unclear. Finally, the smallest number of respondents (8%) indicated that the data was partially unclear (more unclear than clear).

8. DISCUSSION ON THE RESULTS OF THE QUESTIONNAIRE

Based on the conducted research and the gained results from the survey questionnaire, a number of topics were raised, which were stimulated by the questions from the survey questionnaire. The survey questionnaire examined the attitudes and satisfaction of sports employees and authorized persons to represent sports associations on the existing IS. By conducting a questionnaire, it was found that men (81.5%) are significantly more represented in the governing structure of sports associations (included in this survey) in the City of Zadar than women, which is a worrying fact considering the EU guidelines on gender equality and women's representation in the governing structures of sport.

According to the results of the questionnaire, the first hypothesis of the work was partially confirmed, i.e. on the basis of the questionnaire method, it was determined that the IS to support the processes of evaluation of sports and sports associations through the PSFP was only partially satisfactory for sports employees. The results of the survey indicate that the majority of respondents have criteria, indicators and procedures in the IS for supporting the evaluation of sports and sports associations through PSFP local sports communities, mostly or partially clear, which partially confirmed the hypothesis of H1.1. Testing the H1.1 hypothesis, it was found that the evaluation criteria (52%), indicators (54%) and procedures (47%) (only) were partially clear to most of the respondents, i.e. that only to a minority of respondents aforementioned was completely clear (evaluation criteria - 26%, indicators - 21%, procedures - 40%). In this way, sub-hypothesis H1.1 was also partially confirmed.

The results of the questionnaire also revealed that sports employees have a partial misunderstanding (or misinterpretation) of the process of evaluating sports and sports associations through the PSFP, thus partially confirming the hypothesis of H1.2. Examination of the H1.2 hypothesis revealed that the majority of respondents had the process of evaluating sports and sports associations through the PSFP fully or partially understood (74%). On the other hand, 41.9% of respondents stated that there was a general misunderstanding, and 43% of respondents said that there was a general misunderstanding of the process of evaluating sports and sports associations through the PSFP. Therefore, we can conclude that the thesis that there is a misunderstanding (or misinterpretation) of the process of evaluating sports and sports associations of sports employees of the local sports community, is neither confirmed nor disproved, or only partially confirmed. At the same time, it should be noted that the respondents' answers revealed that they were not satisfied with the way of collecting data and, as a reason, stated collecting data in hard copy. It should be noted once again that in most questions addressed to misunderstandings (or misinterpretations), the answer was "partially", which ultimately means that the respondents really only have a partial misunderstanding (or misinterpretation) of the process of evaluating sports and sports associations through the PSFP. The study resulted in the development of proposals for principles and guidelines for IS modeling at the local level in order to achieve the highest possible level of efficiency.

9. PRINCIPLES AND GUIDELINES FOR THE INFORMATION SYSTEM MODELING

The principles for modeling the more effective IS at the local level should be adhered to and governed by all those who participate in the PSFP process at the local level, as well as all those who participate in the PSFP either directly or indirectly. The following principles have been proposed for modeling the IS of the SACZ through the PSFP: ease and simplicity of use / implies ease of use of all the IS components, applicability / implies the ability to apply the IS in sports associations, communities, etc., standardization of procedures/need to introduce standardized procedures in dealing with the IS used to support the PSFP evaluation processes at national and local level, respecting the specificity of a particular sport/need to respect the specificity of a particular sport and sports associations and educating users / the need for continuing education of system users, as the results of the questionnaire show that there are only partial understanding of default evaluation criteria and the IS indicators.

In accordance with the stated principles and results of the research, the following guidelines for modeling the IS at the local level are proposed: periodic analysis of the Sports association program reports and the detection of new problematic situations, periodic examination of the satisfaction of the sports employees with the IS of the SACZ to support the process of evaluation of sports and sports associations, institutional support for counseling and training of employees in sports communities and associations, universality, simplicity in application, use and monitoring and evaluation of the information system at the local level, and introduction and development of the SACZ's IS e-application to support the evaluation processes through the PSFP.

The guidelines for modeling the more effective IS at the local level, in contrast to the principles outlined previously, prescribe specific procedures that need to be implemented to achieve the more effective IS level at the local level, in a general sense.

10. CONCLUSION

The purpose of the paper is to present the satisfaction of sports employees with the IS and the processes of IS modeling in sport, on the example of the local sports community, which uses it to support the processes of evaluating sports and sports associations through the PSFP at the local level. It has been established that previous research in the field of the PSFP has not sufficiently addressed the modeling of the IS to support the processes of evaluation in sport, and in particular for the needs of the PSFP of local sports communities in the Republic of Croatia. Given that the SACZ is an organization, it is important to emphasize the relationship between the organization and the information system, which requires a theoretical approach to the notion of organization. In the field of sport, organizations are formed as "interest-based associations" whose aim is the conducting of sports activities of interested parties through various legal forms as determined by legal regulations pertaining to organizations in a particular society. Each organization, including the sports organization, has its own IS that is dependent on its environment and needs to be continuously improved.

The questions from the questionnaire were intended to confirm the hypotheses in the paper, which relate both to the satisfaction of the respondents with the information system and the general understanding of the indicators, the given evaluation criteria to support the processes of evaluation of sports and sports associations through the Public Sports Financing Program of the City of Zadar. Based on the method of the questionnaire, it can be concluded that the first hypothesis of the paper was partially confirmed, i.e. that the IS to support the evaluation of sports and sports associations through the PSFP of the local sports community is only partially satisfactory. Examination of hypothesis H1.1 revealed that the evaluation criteria (52%), indicators (54%) and procedures (47%) (only) were partially clear to most of the respondents, that is, only to a small number of respondents were completely clear (evaluation criteria - 26 %, indicators - 21%, procedures - 40%). In this way, hypothesis H1.1 is partially confirmed. Examination of the H1.2 hypothesis revealed that the majority of respondents had the process of evaluating sports and sports associations through the PSFP fully or partially understood (74%). On the other hand, 41.9% of respondents stated that there was a general misunderstanding, and 43% of respondents said that there was a general misunderstanding of the process of evaluating sports and sports associations through the PSFP. Therefore, it can be concluded that this thesis, which claims that there is a misunderstanding (or misinterpretation) of the process of evaluating sports and sports associations of sports employees of the local sports community, is neither confirmed nor refuted, or that it is only partially confirmed. The research presented suggestions for principles and guidelines for IS modeling in order to achieve the highest possible level of efficiency.

Given the insufficient research of this type, which is important for all participants in the process of evaluating sports, it is expected that the research results will contribute to the development of new paradigms in the field at a theoretical level, while within the practical segment it will serve for the further elaboration of the principles and guidelines for the modeling of the information system, making it more effective and appropriate to the needs of sports communities at the local level, while reducing the misunderstanding of sports employees.

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TOWARDS THE NEW MODEL OF HERITAGE MANAGEMENT – POTENTIALS OF ICT IN INTERPRETATION AND PRESENTATION OF URBAN LEGACY

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Abstract

In recent years, ICT has become one of the key tools in the presentation and interpretation of cultural heritage. With continued technological advances and relative reductions in overall costs, cities, regions, and nations are increasingly turning to the concepts of virtual reality (VR), augmented reality (AR), mixed reality (MR) and gamification when creating cultural content for citizens and visitors. Cities are turning into urban playgrounds as heritage becomes a platform to discover the hidden history, with citizens and tourists turning into explorers/discoverers. Technology tools like VR goggles and mobile phones *with applications installed are now key tools for a complete experience of the location. Content is the most important element a digital product can offer to users. ICT enables the reconstruction of the former appearance of urban complexes and the display of digitized tangible and intangible cultural heritage, enhancing the touristic potential of cities. Historians, librarians and curators, tourism professionals, urban planners, and computer programmers are involved in creating these new tourism products for potential users, ensuring professional engagement, job creation and instant access to all forms of digital content. On the other hand, there is a risk of banalization and misinterpretation, false authenticity, superficial digitization and inability to store and other negative phenomena that the meeting point of heritage and tourism can bring. The paper provides an overview of key trends in the application of ICT in the interpretation, communication, digitization and presentation of heritage - a theoretical framework and practical application, as well as proposals for the adequate application of these concepts in cities in the Republic of Croatia. The paper also proposes a new model of cultural heritage management based on digital platforms as a new form of fluid communication.*

Keywords: *cultural heritage, ICT, urban legacy, heritage management development model, touristic development*

JEL Classification: M15, M19

1. INTRODUCTION: THE CONCEPT OF MODERN CULTURAL TOURISM AND FUTURE PERSPECTIVES

Cultural tourism is a global trend and one of the fastest-growing forms of tourism worldwide. Share of GDP generated by tourism and travel in 2019 was 10,4 percent total, with a two-decade peak in 2000 (10,9 percent) and low in 2010 (9,3 percent). (Statista, 2020) Touristic numbers are in constant rise at a global level. "2017 was a record year for international tourism. International tourist arrivals grew for the eighth consecutive year, a sequence of uninterrupted growth not recorded since the 1960s. Destinations worldwide welcomed 1,323 million international tourist arrivals, some 84 million more than in 2016." (UNWTO, 2018, 10)

There are some issues concerning separating cultural motives of travel from other motives, because of the complex nature of tourists and one's needs. One of the most precise nomenclatures of cultural tourists separates them into five segments (McKercher & Du Cros, 2002, according to Richards, 2003, 10)

1. "The purposeful cultural tourist - cultural tourism is the primary motive for visiting a destination and the tourist has a very deep cultural experience.
2. The sightseeing cultural tourist - cultural tourism is a primary reason for visiting a destination, but the experience is shallower.
3. The serendipitous cultural tourist - a tourist who does not travel for cultural tourism reasons, but who, after participating, ends up having a deep cultural tourism experience.
4. The casual cultural tourist - cultural tourism is a weak motive for travel and the resulting experience is shallow.
5. The incidental cultural tourist - this tourist does not travel for cultural tourism reasons but participates in some activities and has shallow experiences."

The reasons for the popularity of cultural tourism in recent decades could be found in demographic trends. (OECD, 2018) The level of education is on the rise. The number of people with a college degree leads to an increase in cultural demand, meaning that there are more travels motivated by cultural reasons. Another global trend, specific for European countries, is the aging of society. More elderly people retired, but still active (predominantly baby boom generation), which implies the increase in cultural contents and an increase in demand for travel experiences. Touristic demand from the Asian market (especially China) is also in the constant rise, with people from Asia starting to travel, discovering cultures from other continents. Processes of globalization, followed by a high level of information flow and cuts in prices of travel created a new touristic demand, in which cultural tourism holds a high place.

1.1. The Future of Cultural Tourism

The future of cultural tourism development and cultural tourism experiences is inevitably digital, with a large influence on technological development. "New, digital technologies (e.g. crowdsourcing of recommendations, digital substitutes and complements to consumption) and aging populations may affect how we participate in cultural tourism". (Noonan & Rizzo, 2017, 105) Until the end of the 21st Century, the new sorts of cultural institutions will be emerging, taking over the concept of cultural tourism we know today. "Digital museums and theaters will become increasingly common, and physical displays will be supported by augmented and virtual reality. The growth of digital technologies will also generate new forms of heritage. Outdated technologies will become the basis for 'technological heritage', and there is also likely to be growing nostalgia for the analog world." (Richards, 2020, 233)

This emerging technological concept of culture will have a large influence on (cultural) tourism. The holographic presence or other technologically supported customer experiences could have a significant impact on the travel itself, allowing the tourists to fully experience the place they want to visit without leaving their homes. Although this could have a negative influence on transportation companies and today's touristic offices and agencies, new business models will inevitably emerge, creating completely new forms of touristic trips. Lack of need to physically visit the heritage sites will also have a positive impact in at least two ways:

- Traveler security – The first two decades of the 21st Century were significantly influenced by security issues, with the threat of terrorism overshadowing touristic and heritage sites. The technology could eliminate this threat.
- Site preservation – Overtourism or too many visitors to a specific location (Francis, 2018) is becoming a problem for popular touristic destinations, with a negative impact on the location itself. The negative phenomenon of overtourism could have an impact on both city residents and their quality of life and on cultural heritage itself. Venice is one of the most endangered heritage cities with a negative touristic impact, resulting in the ban of large cruise ships. (Rodriguez, 2019) Next, potentially endangered overtourism locations are Barcelona and Dubrovnik, cities that could redefine their current tourism concepts until 2030. This negative trend could be surpassed by technologically supported tourism of the (near) future.

However, as Richards (2020) claims, (over)technology could lead to new trends in cultural consumption, driven by nostalgia, which could create a new cultural tourism trend, based on the concept we know and recognize as dominant today. Future physical visits to the sites could become very expensive, reserved for the elite exclusively, which could bring tourism to its very beginnings and the Grand Tour concept of travel, existing from the 17^{th} to 19^{th} Century.

As part of cultural heritage, locations suffer from overtourism, there are still some undiscovered destinations with the potential of sustainable touristic growth and they could prosper with implementing technological solutions in their offer, making the cultural heritage more attractive, visible and interactive.

2. DIGITIZATION OF HERITAGE – TOURISTIC INTERPRETATION AND PROMOTIONAL POTENTIALS

Thanks to the rapid and dynamic development of modern technology and science from the 1970s until the second half of the 20th century and the beginning of the 21st century, continuous development of computer science and information and communication sciences (Terras, 2010), the process of digitization was defined as an important form for the cultural protection of materials. By their media openness and possible interactions, the digital formats and online environment (Kenney & Reiger, 2000), are proving to be a fairly open form for mediation and documentation of older and rare heritage materials limited by user syntagma and the "here and now" requirement. The term digitization itself refers to the process of translating analog content into the digital version (Lee, 2002), various content forms of information (image, text, sound) are converted by digital equipment and computer peripherals into binary code or digital data. The material changes its format and medium by digitization, but it does not change the content (Leščić et al, 2012). The digitization of material is important because the digital environment represents a significant area and an important medium in the exchange and acquisition of new knowledge, insights, values, and experience. The process of digitization significantly increases the availability and reuse of materials, and consequently further networking, sustainability, durability, interoperability (Vrana, 2012), as well as a simplification for users. It should be noted that the process of digitization also involves the transfer of already existing digital material from old to new media to avoid permanently lost data. However, the copy cannot replace the original (Hughes, 2004). By moving on to its digital version, the documentation is being touted as a surrogate of the life it has stored and preserved, turning the vent into indexing, listening, and eventual commentary or interaction with a truly remote audience this time (Jakšić, 2012).

Digitization offers new services since the digital switchover opens a whole host of new possibilities – from an exchange of data between institutions, which significantly speeds up the process of digitalized material, through full-text search and various analyses of all material, all the way to the virtual merging of various physical content, perhaps very remote, sources, thus creating virtual collections or exhibitions (Stančić, 2009). The importance and benefit of digitization in the protection of cultural heritage have been recognized and intensively pursued in the European Union as part of the creation of a modern information society, a society of knowledge and progress based on modern technologies. In line with the eEurope Initiative Information Society for All, the European Commission and the Member States have established trans-European mechanisms to coordinate digitization policies and programs in the field of cultural content and applications.

Lund Principles (Lund Principles, 2001) and Lund Action Plan (Lund Action Plan, 2001) defines the basic objectives, which can be summarized in four basic recommendations:

1. development of mechanisms to promote good practices to harmonize and optimize the initiatives at the European level,
2. dissemination of European scientific and cultural content,
3. development of reference criteria for digitization processes,
4. promotion of quality and accessibility of content to the citizens of Europe.

The final product of the entire engagement in the digitization of Europe's cultural heritage was realized and was visible within the Europeana project and the portal that carries the same name, through which the fascinating cultural treasure of Europe in the digital form was presented to the public in November 2008. In line with the European directives, the process of digitization of the cultural heritage in Croatia was planned and systematically initiated based on the National Digitization Program and the Croatian Cultural Heritage project. According to Horvat (2012), the digitization of old and rare material in the Republic of Croatia breaks down standard library walls and makes it accessible to users anytime, anywhere. As argued by Jurčić (2013), new technologies have contributed to the development of heritage in all of its forms, enabling us to develop virtual collections of old materials and collect digital copies in one virtual place. In his paper, Katić (2007) states that shifts are also evident in the bibliographic sense of census of old and rare material, especially in the international sphere.

The National Digitization Program is of great importance for the presentation and preservation of Croatian cultural heritage. The purpose of the project is to create and make easily accessible a set of digital collections of recognizable and nationally valuable content, and by working in synergy with stakeholders to strengthen the institutional capacity of the cultural institutions themselves. The National Digitization Program of archival, library and museum materials is intended as a project that seeks to encompass a set of activities with the following aims:

1. digital collections resulting from the digitization of archival, library and museum material are of high quality and usable for the protection and improvement of accessible material,
2. digitization takes place within properly planned and managed projects, following known principles and priorities, and according to established standards,
3. digital collections are available to users by the applicable rules of use,
4. digitization of the material as a whole lead to the creation of recognizable and relevant content and service systems in the electronic environment in the long term,
5. digital collections are in an organized management system that provides sufficient assurance that they will be permanently preserved and made available.

Thanks to the latest information and communication technology, the society as a whole will achieve better and more productive communication and collaboration at all levels of activity, and more successful interaction between individuals and the AKM (ArchivesLibraryMuseum) institution, and therefore a decisive and vital factor in modernizing and furthering progress, relying on what James J. O'Donnel wrote in his book Avatars of the Word: The dream of the virtual library comes forward now not because it promises an exciting future, but because it promises a future that will be just like the past, only better and faster.

2.1. Osijek Fort (Tvrđa) – Touristic Promotion Through Digitization of Heritage

One of the contemporary tools for creating online archives of local history and/or theme has become the digital platform Topoteka, which is based on the cooperation of heritage institutions (Lemić, 2019) with the community, and the purpose of such interaction is to sensitize the public to protect archival materials, to open private collections to the public and connect heritage and educational institutions. Topeka easily digitalizes and publishes a variety of historical sources and uses interactive IT tools to describe, present and search them. Digital platforms were used to digitize and process archival sources, photographs, documents, monographs, and all other collected material and publish them on a digital platform according to international standards. Scientific research is thus popularized, as it is available for use over the internet, open to the public, and through the aforementioned digital platforms, this material is published in Europeana digital platform.

In this way, it contributes to the common construction of European heritage and history. Initiated in 2017 in cooperation with ICARUSO Croatia, Topoteka Osijek – Tvrđa (Osijek Fort) is an example of good digitization that provides accessibility of material and promotion of the tourism potential of the City of Osijek as it preserves and makes Osijek's history and culture accessible to the public.

This virtual collection (https://osijek-tvrdja.topothek.at/) was created in interaction with local institutions, associations, communities to popularize, protect and publicly presenting the research of Osijek's Inner City (Tvđa/Fortress). 96 unites were digitized and processed in the first phase, and the plan is to continue to supplement Topoteka with new materials to ensure the visibility of this material with modern information technology and digitization process, respecting the principle of democracy – availability of material within the invisible and closed spaces of Tvrđa. In the further process of digital convergence, archival material will be used – photographs, records, archival recordings that mark the city as a document. The heritage of Osijek's Tvrđa will no longer be determined solely by location but will become a potential within the creative industry, recognizing its identity as the most important factor.

Another example of good digitization and accessibility of heritage materials to create the creative potential of tourism offer and exploration of the city space to get to know the culture of life of the population based on relevant and often poorly used historical sources is the archival heritage documentation of the parish St. Michael in Osijek, which is one of the oldest churches in Osijek. These are the photographs and documents stored in the Archives of the St. Michael parish in Osijek, which are: memorials, obituaries, photographic material, and archival documents, created from 1893 to 1934. The archive becomes the starting point of the cultural memory of the area, and the guardian of the personal and collective identity of the Inner City at the turn of the 19th and the first half of the 20th century. By popularizing this material, cultural heritage is recognized for its important role in surviving the identity of the individual and the city of Osijek. In this way, valuable archival material is no longer a hidden collection but has become a source of culture and identity for the parish and the city, as the archival documents of the parish have been digitalized, presented and analyzed, recording not only the religious but also the civil live of Osijek in the period before and during the World War I until the collapse of the Austro-Hungarian Monarchy, the creation of the Kingdom of Yugoslavia and the assassination of King Alexander I. Karadjordjevic in Marseille in 1934.

For digitization and registration of material, a digital archive of the parish was created, programmed as a relational database consisting of eight interconnected tables. The digital archive (http://localhost:3000/) stores 331 documents, 49 photos, 166 pages of Memorials and 10 death certificates. A total of 55 legal entities, 523 natural persons, 135 cases and 223 agent roles were enrolled, and a digitized version of the document was added to each catalog record in the digital archive. The users of the digitized version are users of communication with the parish archive. The digital record becomes the holder of the documentation.

3. VIDEO GAMES AND HERITAGE PRESENTATION – GLOBALIZATION AND PROMOTION OF HERITAGE THROUGH DIGITAL PLATFORMS

Rapid and continuous development of computer technology resulted in a continuous rise in the quality of digital content available to consumers. Videogames are one of the fields of the entertainment industry, viz cultural and creative industries, that record the constant growth in the number of users, creation of new sustainable jobs, increase in revenues, progress in the quality of products and rise of overall global impact. From humble beginnings of industry in the late 1970s, videogame production has risen from banal arcade single-player games into serious products that employ experts from different fields – i.e. programming and coding; visual arts; management, sales, and promotion – engaged in producing visually rich gaming products, with narratives often more complex than in film industry, for single or multiple players and intended for more platforms (PC, tablets, consoles, smartphones). According to WEPC statistics for 2020, the video games market is expected to be worth over 90 billion U.S. dollars by 2020, from nearly 78.61 billion in 2017, with over 2,5 billion gamers worldwide. Asia Pacific market is the largest with 51,2 billion USD revenues. Smartphones and tablets as gaming platforms are on the rise, but most of the game development jobs are still related to PC and Mac: 53 percent of all game developers were developing games for PC and Mac, with 38 percent of game developers developing games for smartphones and tablets and 5 percent of them developing content for VR headset gaming. (WEPC, 2020)

The videogames industry has more impacts than just economic measurements. It also has a huge innovative potential. "Video games are more than just a booming entertainment business — they're reshaping the way we interact with the world. The gaming industry inspires innovation by constantly pushing the boundaries of what's possible, driving companies like Google and Microsoft to create new technology to serve the billions of gamers around the world." (Webb, 2019) Industry predictions for the near future are also very optimistic, in the manner of Compound Annual Growth Rate – CAGR. Virtual reality and the concept of immersive gaming are on the rise. "The gaming industry is expected to register a CAGR of 12%, during the forecast period (2020 - 2025). Though people have been talking about it for years now, it is now inevitable that virtual reality will become a major cornerstone piece of the gaming industry. By 2020, players will spend USD 4.5 billion on immersive gaming. It is 20 times more enjoyable and convenient than traditional alternatives." (Mordor Intelligence, 2019) On the other hand, there are some issues concerning the growth of VR usage in gaming, with the growth rate not on the expected scale. "The main reason is the lack of adoption due to VR's high requirements. Not everyone has a high-end PC capable of VR, nor the budget to buy such a rig and purchase an expensive headset on top. Even those who did often felt limited due to wires breaking the immersion and limiting movement." (Daws, 2020)

3.1. Historical Videogames – Heritage Presentation Potentials and The Problems with Inconsistencies

With or without significant growth of VR usage in gaming, videogames industry and its global growth still represent the field with great potential and the possibility for spill-over effect on other industries and the society itself. One of the fields with growth potential is the presentation of cultural heritage within videogames. With the market of 2,5 billion gamers around the world, the touristic exploitation of heritage presentation through videogames also has the potential of significant growth. There are already some successful examples of videogames (re)presenting the cultural heritage, with 'Assassin's Creed' videogame series published by Ubisoft leading the way. From 2007 until 2018 Ubisoft has released a total of 22 different videogames, that are part of the 'Assassin's Creed' series and made for different platforms: PC and Mac, game consoles, tablets, and smartphones. The series is known for its representation of history and cultural heritage from different periods and different parts of the world. 'Assassin's Creed' series have dealt with:

- Crusades and presented Jerusalem and the Arabic world from the end of the 12th Century (original 2007 edition);
- Renaissance and 15th Century Florence with a cameo role for Leonardo da Vinci as a historical character (Assassin's Creed II released in 2009 and some later spinoffs);
- American Revolution and Colonial America in the second half of 18th Century, with historical figures like George Washington, Thomas Jefferson and Benjamin Franklin (Assassin's Creed III from 2012);
- Golden Age of Piracy in the 18th Century Caribbean (Assassin's Creed IV released in 2013);
- Seven Years War; mid-18th Century, representing northeast North America and the North Atlantic (Assassin's Creed Rogue from 2014);
- French Revolution, set in Paris in late 18th Century, with historical figures of Marquis de Sade, Napoleon Bonaparte and Maximilian Robespierre (Assassin's Creed Unity released in 2014);
- Victorian-era London, with historical figures Charles Dickens, Charles Darwin, Alexander Graham Bell, Karl Marx, Florence Nightingale and Queen Victoria (Assassin's Creed Syndicate from 2015). (Ubisoft)

Recent editions of the game (from 2015 to 2018) bring different historical periods with fictional plots in authentic settings of Ancient Egypt (Ptolemaic Period), 16th Century China, Sikh Empire in 19th Century India, October Revolution in Russia and Peloponnesian War with mythological history elements in Ancient Greece. (Ubisoft) Historical accuracy is sometimes bypassed in the series, but there are exact presentations of built heritage in Assassin's Creed games, made with 3D mapping technology. Assassin's Creed Unity from 2014, set in the French Revolution-era Paris showcase the city with precision and details that could be used to rebuild the original Notre Dame church destroyed in 2019 fire. (Gilbert, 2019)

History is often represented in other videogames with fewer details and accuracy than one in Assassin's Creed series. World War II period is the main setting for 'Call of Duty' series in globally recognized games in the first-person shooter genre, but also for many military tactics games, with accurate historical events, battle's geography and military vests as part of immaterial heritage presented. One of the pioneers in history and cultural heritage videogame integration is the Civilization series, first released in 1991. The game lets the players create and rule the whole societies, starting at the dawn of recorded history, at 4,000 B.C., and the founding of the first cities – then nurture the created society toward the Space Age. A recent edition of the game, Civilization VI (released in 2018) follows the same concept as the original form 1991. (Civilization)

Ubisoft is positioning itself as the main producer and developer of videogames with a historical setting. 'Ancestors: The Humankind Odyssey' is a videogame set 10 million years ago in history, in the world of Neogene Africa at the dawn of humankind. The game is trying to recreate humankind's journey at the beginnings of the evolution. (Ancestors, 2019) The game development process was inspired and lead with anthropology in the minds of the creators. "Ancestors' relatively small development team of 35 people, headed by Désilets – used up-to-date scientific research, but decided to let players chart their courses through human history. You might invent weapons or discover fire earlier than real-life hominids." (MacDonald, 2019) Giving the player the freedom to develop faster than the evolution process took time, in reality, leads the game to anachronisms that are very characteristic for videogames. On one side, there is a realistic surrounding and setting of the videogame, with a detailed display of historical background. On the other side, the player's liberty to create its path through the gaming process leads to historical inconsistencies.

There is no lack of criticism on the accuracy of historical representations in Assassin's Creed series. Arab architecture is well represented in Assassin's Creed I, but in the manner of character design there is a limited representation of the people of the region and the language is heavily western influenced. (Balela & Mundy, 2011) Assassin's Creed II, set in Renaissance-era Florence, contains many recognizable landmarks, including the Palazzo Vecchio, the cathedral, the church of Santa Maria Novella, and the Church of Santa Croce, but also the monuments that had not been built in the period in which the game is set. (Dow, 2013) This is an obvious anachronism in the game that historians could not overlook.

Some authors differentiate four different approaches to cultural heritage in games – commercial games, serious games, culture-centric games, and player-developed modifications. "Commercial games are oriented to entertainment and mass-market appeal. Cultural heritage is used here to enhance the believability of the game world. This can apply both to fantastic and realistic virtual worlds." (Majewski, 2015, 3) Serious games, on the other hand, practice the non-entertainment approach and are more realistic and precise, while culture-centric games rely on cultural heritage as a draw factor. Player-developed modifications allow the gamers' interventions in content creation according to their interests, with cultural heritage as one of the possibilities. (Majewski, 2015)

With all its potential problems with inconsistencies and lack of historical precision, videogames have a great potential in the development of both awareness of cultural heritage and cultural tourism itself. Creating a videogame with a historical setting could lead to global visibility of the destination. That could result in an interest in gamers for visiting the locations from the videogames. I.e. Assassin's Creed videogame series was played by 95 million unique players from 2007 to 2019 (VGS, 2019), and this number could be monitored as a potential market of 95 million cultural tourists.

4. TOWARDS AN IMMERSIVE CULTURAL TOURISM MODEL

As we discussed earlier, the future of travel and (cultural) tourism is almost completely digitalized and virtual, leaving physical traveling to the elite tourists of tomorrow. However, at this development phase of digital content and its implementation in the (cultural) touristic offer, there is still a lot of place for improvement. We suggest creating an immersive cultural tourism hypothetical model for future researchers and interpretations. For the understanding of the immersive cultural tourism model, we need to explain the culture 1.0 – 3.0 shift and the cultural tourism 3.0 concept.

Culture 1.0 represents culture as a by-product of industrial growth, with merchants and industrialists investing in cultural production. Culture 2.0 views the culture as an industry, and economic field creating jobs and stimulating growth. In the final stage of development, culture 3.0 interprets culture as a source of new values, with culture creating an identity, stimulating social cohesion and supporting creativity. (Sacco, 2011, in Richards, 2014) Cultural tourism 3.0 system, in compliance with culture 3.0, bringing the new challenge with "…tourism industry, local authorities, Couchsurfing hosts, local guides, creative venues, Internet platforms, and local citizens, in general, have all become part of the tourism system". (Richards, 2014, 33) Hypothetic immersive tourism model represents an upgrade to the cultural tourism 3.0 concept and is grounded in the creative tourism concept, with the active participation of users in cultural and touristic content.

Immersive cultural tourism model contains the following key elements:

- Cultural heritage – the basis of cultural tourism, built objects and immaterial heritage at the location;
- Cultural organizations – basic attractors of (cultural) tourists, providing cultural and heritage content (i.e. museums, archaeological sites, theatres, etc.);
- Cultural events – special events produced by cultural organizations, which could give the cultural heritage a new range of attractiveness;
- Digital content (virtual reality, augmented reality, mixed reality, and videogames) – allows the tourists to explore the original (or altered) looks of the sites; VR, AR, and MR expand the experience at the location, while videogames could be used in two ways: as so-called serious games at the location (i.e. museum) and as distance experience of the location (classical videogame with heritage implemented in the scenario).

The use of digital content at the location leads to immersive cultural tourism, with a high level of attractiveness, even for incidental cultural tourists. Digital technology also has potential in audience development, and cultural organizations should consider its potential for future development.

5. CONCLUSION

Digitization is inevitably changing touristic perceptions and experiences, especially related to historical sites, cultural heritage and overall cultural content of the visited location. Digitally altered reality concepts, such as VR, AR, and MR, are on the constant rise, both in terms of technological progress and content creation. Videogames with historic setting are also becoming a global trend, raising the awareness of cultural heritage within-population not necessarily considered as cultural tourists. These two trends open an opportunity for further cultural tourism development. Digitization (and gamification) of heritage sites would lead to:

- the emergence of new (cultural) touristic markets, with new forms of cultural tourists, with technology enthusiasts on one side and 'retro' cultural tourists, inspired by 'Grand Tour' concept on the other;
- stronger implementation of digital technology in heritage sites and traditional cultural institutions, resulting in the rise of new cultural content consumers and new ways of cultural consumption;
- greater awareness of heritage sites, a higher level of interactivity, direct visitor interaction with history and more realistic experience of the past, especially with ancient history and prehistory, which have small or no preserved content for presentation.

Digitization and especially gamification of heritage, on the other hand, could lead to the creating of historically inaccurate touristic attractions, favoring entertainment and attractiveness of experience in front of the facts. To avoid the creation of fake history touristic products in new, immersive cultural tourism, different levels of expertise should be involved. Educational models for current tour guides could become a baseline for new models of historic and cultural education for programmers, developers, storytellers, game artists and all other content creators in emerging touristic tours.

Further research on immersive cultural tourism should focus on specific case studies of the implementation of technology in creating (cultural) touristic products. Specific focus should be set on the segment of gamification of (and in) heritage sites and its great potential in touristic underdeveloped or undeveloped regions, who could prosper from the emergence of new touristic concepts and business models.

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CREATING INFRASTRUCTURE CONDITIONS AS THE BASIS OF DIGITAL TRANSFORMATION OF SPORTS ORGANIZATIONS MANAGEMENT IN CROATIA

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Abstract

Digital tools use in daily operations of every legal entity, sports organizations included, is today considered an obligation, rather than simply an optional upgrade. The purpose of this paper is to determine the degree of use of basic digital tools as prerequisites for the digital transformation of sports organizations' operations. Securing the infrastructural preconditions is the basis of every process that results in positive change, and it is the same for the sports organizations' digital transformation process. Only after the basic infrastructural conditions have been secured can commence the training of management structures and the use of various digital technology solutions aimed at improving the business processes and results of a sports organization. The digital transformation of sports organization management is considered to be the availability of digital tools such as internet access, company computer, printer or scanner. The survey designed to determine the degree of use of such tools aims at finding the varia-

tions in the application and use between individual cities, but also between individual sports organizations, depending on their sport, competition level, membership figures, as well as whether it is an individual or team sport. The survey has encompassed Croatia's four largest cities in terms of population, given the assumption that sport is best developed in those cities precisely because of their population figures. The analyzed sports organizations are among the top-ranked according to the categorization of sports associations in the four cities.

Keywords: *digital tools, digital transformation, sports management, Croatia, sports organizations*

JEL Classification: M15, Z29

1. INTRODUCTION

This paper aims to determine the importance of digital tools used in the everyday work of sports organizations, analyzing the current infrastructural level in the digital transformation of sports organizations. Digital transformation of the society means getting to grips with it for sports organizations too, especially from the perspective of sports organization management and management in the sports industry in general. Within the context of digital transformation, this paper deals with the infrastructural level, which is essential for further phases of digital transformation, since it is impossible to implement complex phases of digital transformation or use digital tools which are based on a particular infrastructural level without providing the infrastructural preconditions. The aim of this paper is, consequently, to determine the status of infrastructural preconditions of the sports organizations in Croatia's four biggest cities in terms of population. It is to presuppose that particularly in these cities, because of the highest population, the number of sports organizations is the highest and that they have the largest number of members.

Although the main focus of this paper lies on the infrastructural level of digital transformation, that is, on the level of basic digital tools used in everyday work of sports organizations, it is very important to provide a wider context of the infrastructural level of digital transformation. Wider context means the fact that digital transformation takes place in each segment of the operating of sports organizations. Due to globalization, the market is constantly expanding and competition is getting stronger each day, which means that survival is becoming a challenge. In information and communication terms, because of the harsh competition, sports organizations are facing huge amounts of data that need to be processed, due to the growing number of decisions that sports organization management needs to make each day. Considering all this, one can conclude that timely information is the center of all activities in today's business operations, which urges business operators, including sports organizations, to find different ways and methods to promptly get information crucial for their business.

The sample group consists of sports organizations in the first category. The categorization of sports organizations is determined by the sports community of each city, according to previously established criteria. Due to specific categorization in Zagreb, this research encompasses sports organizations of the second and third category too. The results of this research should provide a view of the real situation of the infrastructural level of the digital transformation of sports organizations, i.e. of the infrastructural level concerning digital transformation and digital tools. The acquired data show an interesting comparison of different sports organizations in an individual city, but also structurally equal organizations in different cities. Digital transformation is not an ad hoc process, but rather a continuous process of digital tools application in everyday operations. Considering that digital tools themselves go through transformation phases to improve their efficiency or user characteristics, digital tools used in sports organizations' operations is also a continuous process. The intensity of digital transformation can vary depending on the complexity and impact of digital tools introduced to the operations.

2. THEORETICAL PART OF THE PAPER

2.1. Digital Tools in Contemporary Environment

Digital tools are today present in all segments of our lives, so it is possible to claim that we are witnessing the digital transformation of everyday life. Digital transformation is often not considered as such; it is rather that digital tools usage is simply 'a must' in various aspects of life. Since we live in a digital environment, where we come across digital devices and processes all the time, we often do not even notice that we are part of this digital transformation of society too.

Digital transformation is most often associated with Internet usage, online shopping, websites, social networks, and electronic mail. According to Eurostat statistics, around a million and a half of people in Croatia shop online, precisely 1.41 million people, which is half of those who use the Internet. Compared to 2008, 150,000 people shopped online, which is one-tenth of the current number. According to predictions, by the year 2020, the number of people shopping online will have increased by 10% annually (Business daily Poslovni Dnevnik; 2017). Another example of digital transformation in everyday life are bank cards and nowadays contactless payments as well as mobile and Internet banking. A life without bank cards is unthinkable and they have become so popular that some European countries decided to phase out paper money usage until it is in its entirety eliminated. Carrying your bank card replaces money completely and makes shopping easier because you do not need to worry about bringing money with you and whether the amount you have in your pocket would be enough for a purchase. Studies show that 93% of Croats own at least one bank card, while the average number of bank cards per data subject is 2.7 bank cards. When talking about the frequency of bank card shopping, the study implies that 82% of subjects use their bank card twice a week, while 25% of them uses bank cards each day. Accordingly, cash payments, used primarily for payments up to 100 HRK, are the first payment option (Hrturizam.hr; 2016).

Digital transformation in the educational system shows the necessity of ensuring infrastructural preconditions for further activities which increase the quality of education. Digital boards, computers, tablets, digital exams are more and more present in everyday education. E-learning also enables distance education via digital platforms. The tourism sector has also recognized the advantages of digital transformation which offers new approaches to the presentation of its potential to a larger market. Digital platforms for reservations of accommodation, such as Booking.com, are revolutionary and bring a whole new spectrum to planning a journey. Digital transformation of communication by the creation of digital communication platforms via the Internet has brought about a drastic decrease in conventional communicating methods, such as calls and text messages, due to many users switching to digital communication platforms. Another example that highlights the impact of digital transformation and the importance of quality infrastructure in everyday life is the digital transformation in health service, i.e. in pharmacy and primary health care system. After an examination of a patient, if needed, the physician prescribes a drug in electronic form, since both the physician and the pharmacy are connected through the same IT system. After examination, the patient does not get a paper prescription, but goes to the pharmacy with his health insurance card instead and gets his drugs. If the above-named informatics system does not work, or there is no Internet access it comes to a delay in drug prescription and therefore to a delay in getting these drugs. Such services that depend on continuous Internet access, often use dual Internet access via two different connection technologies and two different Internet providers, where one access is primarily, and the other one is secondary in case there is a disruption to the primary Internet access.

From everything mentioned, it is possible to conclude that digital business models "include all business activities that occur electronically and with the help of digital technologies which, through extensive electronic integration with the surroundings, generate new value and utilize benefits of running business operations in the digital economy" (Spremić; 2017:38). Since the key technological elements are (modified according to Garača; 2008:14-17):

- Hardware
- Software
- Databases
- Telecommunication and computer networks

This paper and its research will particularly address hardware, that is, the material component of IT systems.

2.2. Management of Sports Organizations

Different authors define the management of sports organizations in various ways. Some use the term management in sports, while others use the management of sports organizations. For this paper, the potential difference between these two terms will not be discussed, but rather they will be considered as an identical term used in the context of the digital transformation of sports organizations.

Bartoluci and Škorić (2009:71) state that the task of sports management is to analyze demands in sports, establish the reasons for a particular condition, choose different, alternative solutions to achieve objectives as efficiently as possible. The objectives of sports management are specific, and can be classified as follows:

- Achievement of sports objectives within a specific time
- Achievement of sports objectives of the sports organization

These objectives are often connected since sports objectives are often not achievable without achievement of business objectives through ensuring of necessary resources, while achievement of business objectives is often not possible without achieving sports objectives that generate increased income. There are different definitions of sports management, although all of them define the management of sports organizations approximately the same way, as "a process of organizing and managing sports or sports organization to achieve sporting or other objectives with rational usage of limited resources" (Bartoluci; 2003:154).

On the other hand, sport as a competitive activity has specific characteristics that separate it from other activities in some aspects. These characteristics are (Beech and Chadwick; 2010:16):

- The existence of competition
- The existence of competition supervision
- The event itself is in the center of the activity
- The existence of competition system
- Seasonality of direct revenue
- Creation of indirect revenue stream

Management of sports organizations, of course, coordinates all aspects of operations of the organization in its operational terms. Accordingly, the digital transformation of sports organizations utilizing transforming the way of management affects all aspects of the organization in operational terms. For instance, the impact of digital transformation on everyday management reflects foremost in the usage of digital tools which enable usage of digital tools in managing finances, way of communicating and data exchange among employees of the sports organization and ways of communication to its members. Digital transformation of management causes a different approach to the management of the relationship with their consumers, i.e. members and fans, and with anyone having any interaction with this sports organization. Sports organizations listen to the needs of their members and use them as the center of their management, which results in member-oriented decisions and activity. Digital tools such as different software programs enable the sports organizations to follow and record all the relevant data about their members and supporters easily, which results in qualitatively better relations among all participants. If consumer relations management is considered as a process that helps to link numerous information about consumers, sales, marketing efforts and market trends (Meler and Dukić; 2007:103), then a good company owes its long-term success to its overwhelming satisfaction of its clients' demands (Muller and Srića; 2005:11). It is possible to observe sports organizations in the same context.

In contemporary management of sports events organization and sports facilities management, digital tools are an indispensable element of each event. It is often not possible to physically buy a ticket for big sports events, as it has to be purchased online, and the entrance into the venue is impossible without a digitalized verification of a ticket. In many sports facilities, video supervision is compulsory, scoreboards are becoming more and more sophisticated, the time and the result being only a side thing they give an insight into.

Marketing activities have a different basis and function on a different set of circumstances. The establishment of and a growing shift to the digital market require additional competencies for digital marketing. The potential market expands from a physical place, with a limited number of people who can attend an event taking place there, to a global market and each person who has Internet access. That also means the differentiation of the market group, differentiation of communication toward that group, but also the differentiation of products, services, and content offered to that market group. With the emergence of e-marketing, new relations occur concerning the marketing mix due to new terms about never mentioned factors being introduced. Mootee (2007) therefore defines the new marketing mix considering the new 4P:

- Participation,
- Personalization,
- Predictive modeling,
- Peer-to-peer communities (P2P). All these challenges constitute the mix of activities that managers of sports organizations need to tackle

Different types of products can be efficiently distributed via online shopping (ecorner; 2011:4):

- Official jerseys and equipment
- Essential equipment such as balls, goals, nets
- Club or organization membership
- Match and event tickets
- Fan gear and souvenirs

- Books and video material
- Photos and pictures from matches and events

All these elements are important for the definition of a strategy of sports organization management. This strategy is defined as setting fundamental long-term objectives of the company and acquiring of the direction of action and allocation of resources necessary for the achievement of these objectives, that is, it can be considered a certain form of organization which helps manage the company (Buble et al.; 2005:13).

2.3. The Importance of Digital Tools Usage in Sports Organizations

In its institutional terms, it is possible to say that sport consists of specific components, which authors divide into 4 categories (Xian, Hedman, Tan, Tan, Lim, Clemmensen, Henningsson, Mukkamala, Vatrapu, van Hillegersberg; 2017):

- The organizational component
- The technological component
- The symbolic component
- The educational component

The aforementioned authors believe each of these components went through a digital transformation of their own as a result of necessary adaptation to today's digital way of life and functioning of the society as a whole. This leads to the conclusion that each of the mentioned components has undergone a specific phase of digital transformation, meaning that the digital transformation of sports contains its organizational, technological, symbolical and educational components.

Digitalization of the organizational component reflects in the use of digital technologies in administration which eliminates the need to carry out processes by hand and hence reduces the chance of making mistakes. It is possible to mention here digital technologies that started a completely new market, primarily television and media rights market which offer new revenue streams for sports organizations. Communication and marketing-wise, digital tools, especially social media, enable the sports organizations a whole different way of communication with their members and fans, which is a new communication channel for informing, tickets and club gear sales.

The digital transformation of the technological component also has a major impact on the operation of sports organizations, but also on the sports competition in competitive terms. Technological evolution due to digital transformation is noticeable due to completely new digital sports that rely on real-world player's performances which are being transferred into a video game. Player monitoring and monitoring of their fitness by different means of wearable technology have enabled a digital transformation of the analytical component. The result of this can be facilitated impact on player performance improvement, easier observation of shortcomings, but also a much better analysis of opposition players or teams. Digital tools in individual sports have even become part of the game and are supposed to solve ambiguous situations, which can, eventually, decide who the winner is.

Digital transformation of the symbolic component has enabled for the sports organizations to broadcast sports contents or events all over the world with the help of digital tools. This does not only affect the time when a specific sports event takes place, but it also encompasses all events taking place in a specific sports organization. This can include training sessions, a new player presentation, a new team jersey presentation or any other event relevant to the sports organization. By wiping out the barrier between the physical and online support of a team, organizations increase their fan base, but fans also increase their attachment to these sports organizations.

The digital transformation of the educational component improves the understanding of the medical condition of athletes and their fitness, which enables different training methods. It is also important to mention that the digital transformation of the educational component enables the exchange of educational content, ways of transmitting knowledge among coaches. Using education globalization geographical and language barriers disappear, which results in better accessibility to the educational material and enhanced competencies of coaches, which also brings about better sports results of these organizations. All these changes carry specific requirements that sports organizations need to fulfill, especially when it comes to their employees' competences on all levels, but, as mentioned before, the foundation for that is securing quality infrastructural preconditions.

In business terms, electronic business is described as:"...a set of tools, methods, and techniques supported by informatics technology, together with an operating strategy and established operating procedures necessary for contemporary management of operating with electronic assets. This is not only a computer application but also an asset for the construction of network operations which helps information to be electronically sent from one place to another." (Ružić, Biloš, Turkalj, 2014:21). Marketing-wise, Kotler, et al. (2006:134) define e-marketing simply as the marketing side of online shopping.

3. RESEARCH PART OF THE PAPER

3.1. Sample and Methodology

When talking about the research part of this paper, it is important to mention that part of the research was done from April to June 2019, while the analysis of websites took place during January and February 2020. To understand the way of defining the sample, it is necessary to clarify how each sports community in each of the cities defines the categorization of sports organizations in their city. In most cases, categorization is based on the same principles such as the results from the previous season, several members, sports status in Olympic terms and similar. There is typically a division into three categories, while Zagreb has five categories due to a large number of sports organizations. This study encompassed all sports organizations of the first category in Split, Rijeka, and Osijek, while in Zagreb the second and the third categories were included too since the first category consists of one sports organization only. As visible in Table 1: Representation of the sample structure according to cities the realized number of sports organizations in all cities exceeds 60%, which means that out of 82 sports organizations, 60 of them, or 73%, were interviewed.

In terms of methodology, online survey and phone survey methods have been used. All participants received an online version of the survey to their e-mail addresses available on their club websites or in the address book of their sports organization communities. Because of the poor response to these surveys, respondents were contacted by phone and the survey sent per mail was done by phone. After that, all data were statistically analyzed to obtain the data used in this paper. The secondary part of the research referred to the analysis of websites of sports organizations and the time of the last update on any information on their website. That means when the latest news was published and for what period the published news is related. Since sports news usually has a chronological sequence as the season passes, this was considered as a good indicator. This survey assumed that the site owners did not manipulate with post dates.

Table 1: Representation of the sample structure according to cities

City	Sample	Realized	%
Zagreb	34	21	62%
Split	20	18	90%
Osijek	17	13	76%
Rijeka	11	8	73%
Total	82	60	73%

Source: Author's research

In Table 2: Structure of the sample depending on sports it is possible to see the structure of the sample depending on sports.

Table 2: Structure of the sample depending on sports

	Total
ATHLETICS	6
BOCCE	2
WEIGHTLIFTING	1
FUTSAL	3
GYMNASTICS	3
SAILING	2
JUDO	2
KAYAK-CANOE	2
BASKETBALL	4
BOWLING	2
FOOTBALL	6
VOLLEYBALL	5
SWIMMING	4
BASKETBALL	1
HANDBALL	6
TARGET SHOOTING	1
TAEKWONDO	2
TENNIS	1
WATER POLO	5
ROWING	2
	60

Source: Author's research

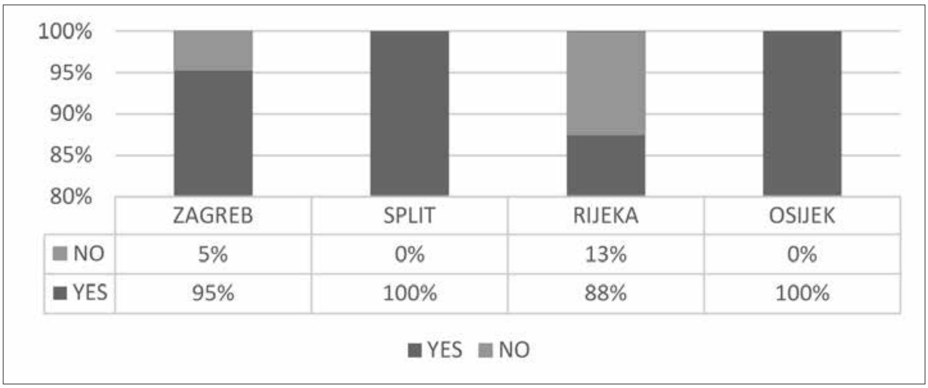
When talking about limitations during the research, as already mentioned in the first part of this chapter, limitation applied to the difference in the categorization of sports organizations and the absence of a unique register of sports organizations which would classify all organizations in Croatia identically. The second limitation, also previously mentioned, applied to the poor response to the received surveys, which could be a result of the false e-mail address, ignoring received e-mails, or lack of interest for participation in this survey.

3.2. Research Results

For this research that seeks to establish the infrastructural level of the digital transformation of sports organizations, digital tools that are considered to be crucial for basic functions have been studied: computer, scanner, printer, and Internet access. After the establishment of the existence of these basic elements, their organization will be compared to the usage of the website as a basic digital tool. It is, of course, possible to expand this research with a whole scale of different tools, but for this paper, we will adhere to the above-mentioned criteria.

As visible from Figure 1: Ownership of a company computer, a high percentage of sports organizations owns a company computer. In Split and Osijek, it is 100%, while in Zagreb and Rijeka this number is slightly lower.

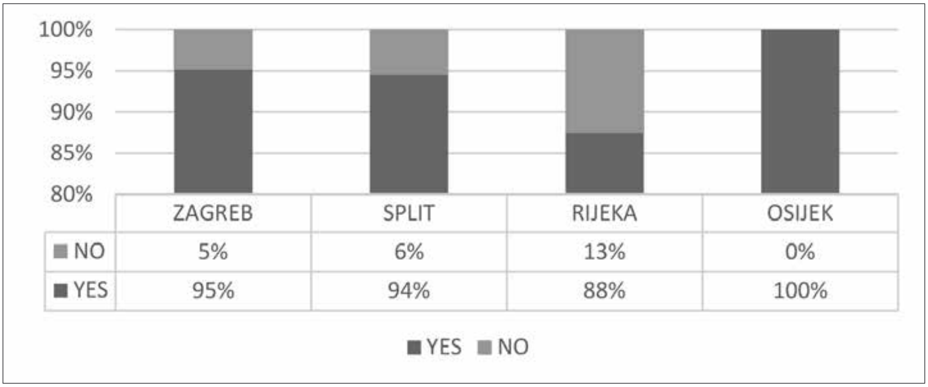
Figure 1: Ownership of a company computer



Source: Author's research

In terms of owning a company printer, as visible in, the percentage of sports organizations that own a company printer is also very high. Compared to those owning a company computer, only sports organizations in Osijek own additionally a company printer.

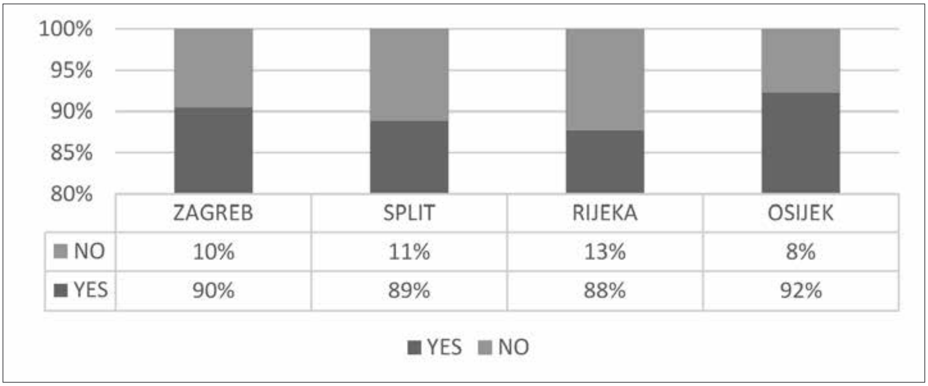
Figure 2: Ownership of a company printer



Source: Author's research

Opposite to the previous two figures, Figure 3: Ownership of a company scanner shows that in none of the cities 100% of sports organizations own a scanner, but even though this percentage a bit lower is, these numbers are still very high. Sports organizations in Osijek have the highest percentage of 92%, although the difference of 4% of all four cities is not considered as a big difference.

Figure 3: Ownership of a company scanner

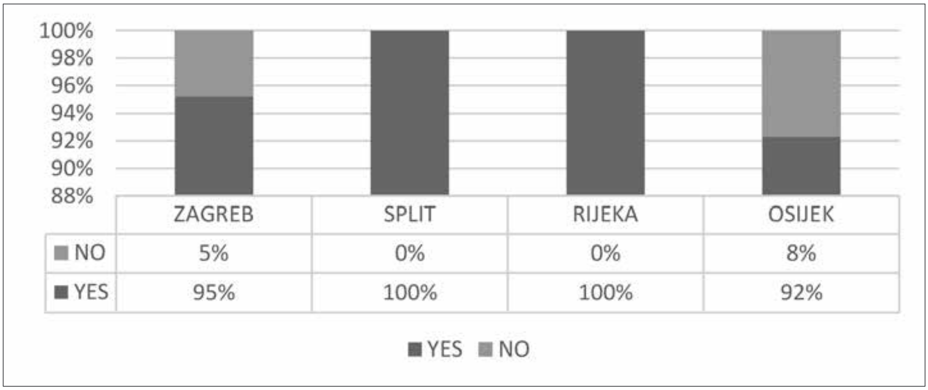


Source: Author's research

Internet access is surely the basis of all digital activity and is an indispensable element of each organization, including sports organizations. As visible in

Figure 4: Internet access in the office, the number of sports organizations that have Internet access in their office is very high. Along with the 100% in Rijeka and Split, Zagreb has a slightly smaller percentage of 95%, and there are 92% of sports organizations in Osijek that have Internet access in their office.

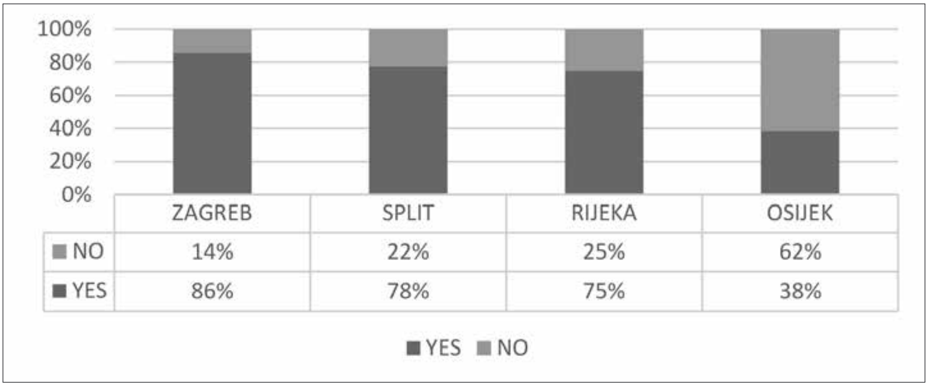
Figure 4: Internet access in the office



Source: Author's research

Having established the basic infrastructural preconditions, the question of whether sports organizations own a website arises. Since the website could be considered as a digital address and a specimen presentation in the digital world, the question that arises is, to which extent sports organizations recognized this. As visible in Figure 5: Ownership of a website, the figures here are somewhat different compared to previous answers. In Zagreb, Rijeka and Split the percentage of sports organizations that own website is very high. Sports organizations in Zagreb are leading with 86%, followed by Split with 78% and Rijeka with 75%. What is noticeable is the fact that sports organizations in Osijek do not follow this example, since only 38% of them own a website. Sports organizations in Osijek are particularly interesting because they have the highest average share in owning a computer, scanner, printer and Internet access in their office. On the other hand, less than 40% of them recognized the necessity of editing their website.

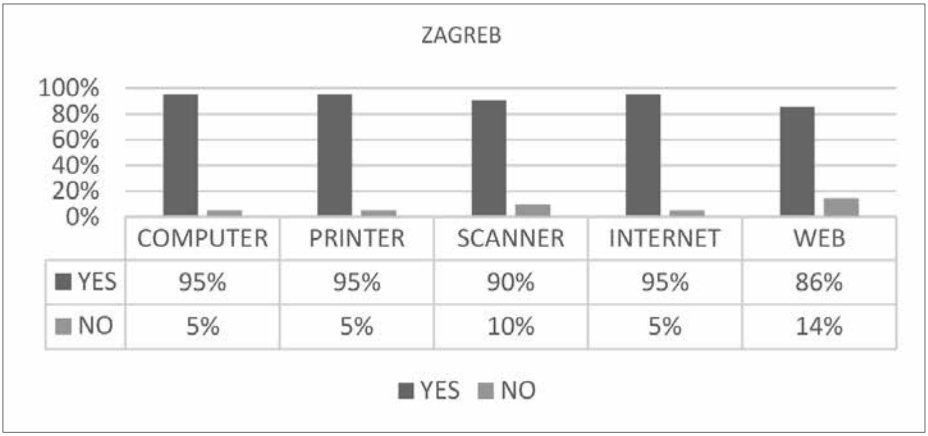
Figure 5: Ownership of a website

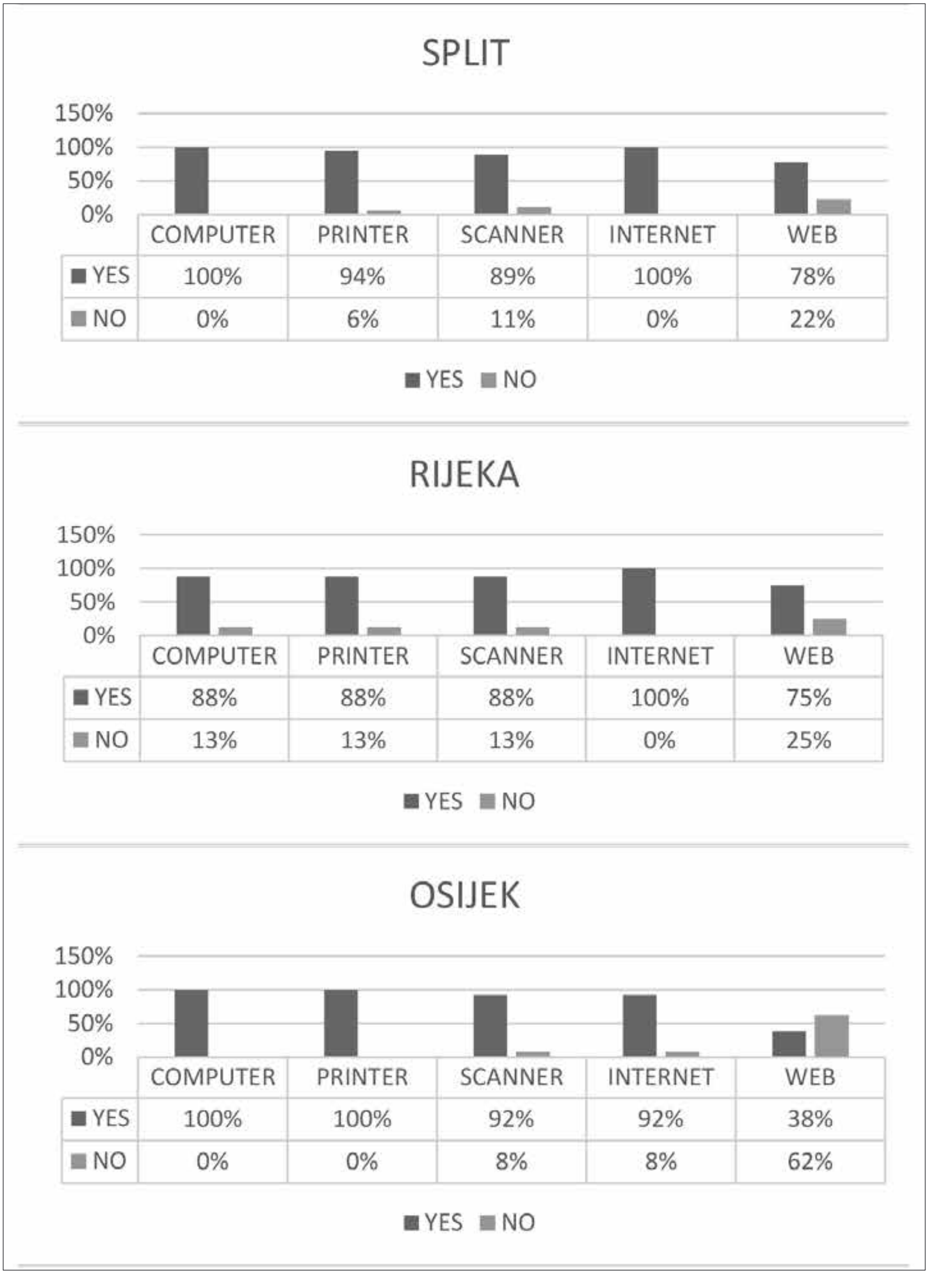


Source: Author's research

In the following figures, the structure of answers according to cities can be seen.

Figure 6: Representation of answers in Zagreb, Split, Rijeka and Osijek

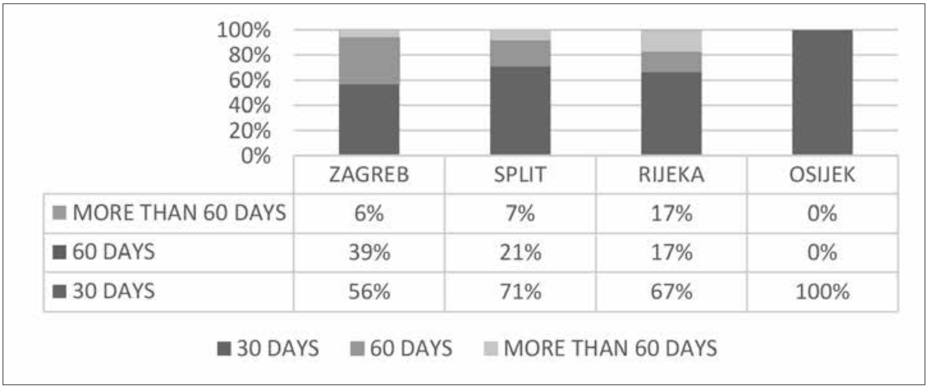




Source: Author's research

To establish the general activity of sports organizations in terms of their websites, an analysis was done to find out how much time passed since their last notice, as one of the indicators of updating their website. This research has shown that the least number of sports organizations in Zagreb has had an update in the last 30 days, while 100% of organizations in Osijek has had an update within the last 30 days. 17% of sports organizations in Rijeka had not had any update for more than 60 days. These data are extremely interesting when considering the percentage of sports organizations in each city that has a website.

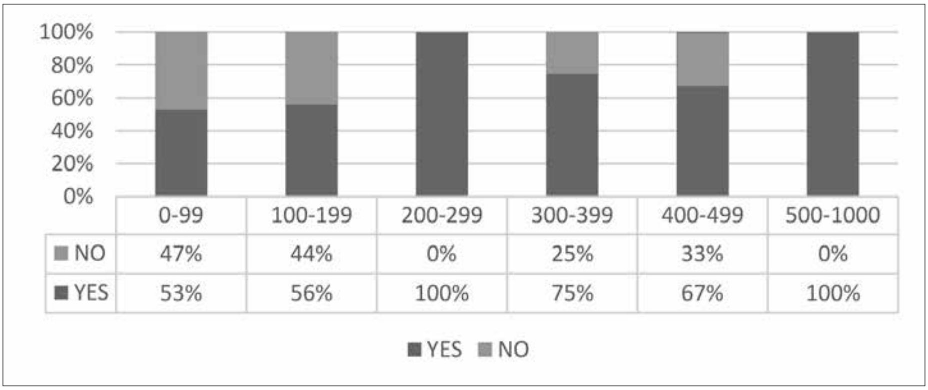
Figure 10: Representation of last updates on the website of a sports organization



Source: Author's research

If an analysis of website usage compared to the number of members of the organization was to be done, the data visible in Figure 11: Representation of website usage according to the size of the sports organization shows that smaller sports organizations have a smaller share in the ownership of a website.

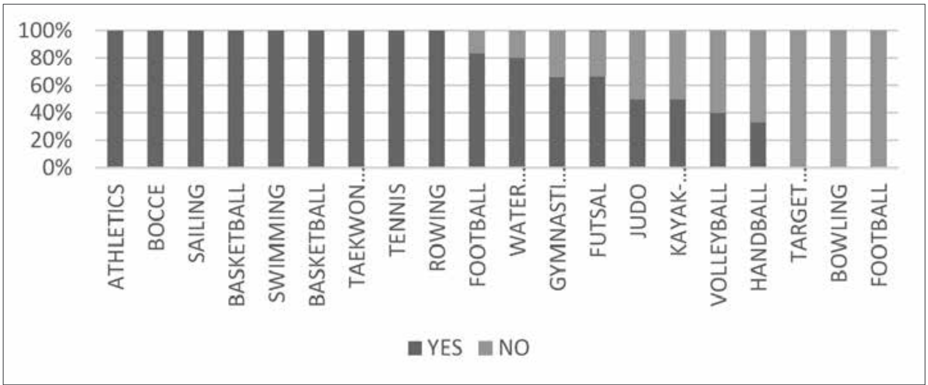
Figure 11: Representation of website usage according to the size of the sports organization



Source: Author's research

The same comparison concerning the website usage has been made according to sports, which is represented in Figure 12: Representation of website usage depending on sports. This aspect did not provide the conclusion that, for example, team or individual sports use their website more often as an operating tool. The same aspect also did not provide an affirmative answer that, for example, ball sports as mass and more popular sports use their websites more often as a digital tool in everyday operations.

Figure 12: Representation of website usage depending on sports



Source: Author's research

4. CONCLUSION

The theoretical part of this paper has surely presented the importance of digital tools used in the contemporary digital environment. The importance of digital tools usage is evident for all subjects, private and business. This, of course, includes sports organizations. Concrete examples represent to which extent digital transformation is visible in sports and that sports without certain digital tools in some respects are unthinkable. When discussing the management of sports organizations, it is possible to conclude that the digital transformation of sports organizations in their managing terms is a process in progress that is indispensable and inevitable.

The survey described in this paper shows that the process of the digital transformation of sports organizations has started. Limitations during the research applied to the difference in the categorization of sports organizations and the absence of a unique register of sports organizations that would classify all organizations in Croatia identically. Each process begins with securing of infrastructural preconditions and is continued by education and implementation of new solutions to everyday operating. The survey has shown that a high percentage of sports organizations have secured infrastructural preconditions. Those preconditions include basic digital tools: computer, printer, scanner and Internet access in the office of the sports organization. According to the analyzed sample, the percentage varies from 90% to 100%, depending on the individual digital tool. Accordingly, it is to conclude that the basic infrastructural level of the digital transformation of sports organization has been successfully mastered. On the other hand, if you consider the usage of the website is perhaps the most important digital tool for communication with members, some deviations are observable. In Osijek, despite the high percentage of owning infrastructural digital tools, the percentage of those organizations that own a website is extremely low. Furthermore, in Zagreb, despite the high percentage of sports organizations owning a website, the percentage of those who do not post updates regularly is very high, so the question of quality and purpose of such websites arises. The survey has also implied that smaller sports organizations with fewer members often do not own a website compared to larger sports organizations. The survey has also shown that there is no link between ownership of a website and specific sports categories. All of the above-presented information leads to the conclusion that infrastructural preconditions for the implementation of digital transformation have been secured, and only for the website segment some further education is necessary about the importance of everyday usage of digital tools to maximize their efficiency.

A recommendation for further research is to explore the digital infrastructure of all sports organizations in Croatia, not just those in the four largest cities, and not just first category sports organizations.

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I SHOULD STOP, BUT I CANNOT: OVERCOMINGCOGNITIVE DISSONANCE IN MANAGEMENT OF IT PROJECTS

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Abstract

Information technology (IT) projects are often at high risk. Numerous studies show that a significant number of IT projects face problems, many of which require additional time, financial, and human resources. This paper aims to analyze the underlying psychological and social factors that influence the decision-making process, where project managers become prisoners of their dilemmas by making possibly wrong decisions, coming into a state of cognitive dissonance. This research identifies some factors that need to be considered before and during project implementation, to implement a project successfully, and empirical research of these factors is conducted in a transition country in southeast Europe, on a sample of companies that participated in IT implementation projects. Based on the self-justification theory, this study proposes a model *to determine the impact of project manager's or other decision maker's need for social and psychological self-justification on project escalation and project performance considering the duration of escalation. The model relates to the escalation of commitment that implies a continuation of a course of action after receiving negative information about it. The findings confirm that the relationship between social self-justification and project escalation was significant. Besides, the relationship between psychological self-justification and project performance is significant and positive. This shows that the personality of the project manager plays a role in the potential escalation of the project as well as in the project performance. The results suggest that, for the sake of project success, a manager should require psychological self-justification, but be free from the need for social recognition. This study complements the literature on the success of IT projects, considering the personality of the project manager. Finally, this research, through a discussion of empirical research, provides an overview of the situation in a segment that is remarkably important for the economy of each country.*

Keywords: *IT projects, project escalation, social self-justification, psychological self-justification*

JEL Clasification: M10, M15

1. INTRODUCTION

It is recognized that many IT projects would not be carried out according to the schedule (Mobekk & Fagerstrøm, 2015). Specifically, the execution of IT projects is often considered to be different from the original plan. These projects often exceed the budget, are not completed on time, or do not deliver according to initial specification (Mobekk & Fagerstrøm, 2015). IT implementation plans vary more often than in all other aspects of modern business. High failure rates of IT projects continue to concern organizations and practices in information systems (Baghizadeh, Cecez-Kecmanovic, & Schlagwein, 2019). IT project failures are a common phenomenon documented in both academic and practice-oriented literature (Zhang, Keil, Rai, & Mann, 2003). According to the Project Management Institute (2017), 14% of IT projects fail. The statistic, however, only represents the total failures. Of the projects that did not fail outright, 31% did not meet their goals, 43% exceeded their initial budgets, and 49% were late. Some authors even argue that the failure rates of information systems development projects are as high as 70% (Baghizadeh et al., 2019). In such instances, when the implementation of the project does not proceed according to the established plan and threatens significant deviation in specific segments, the project is considered to escalate. The concept of escalation of IT projects refers to the tendency to adhere to the course of action even in the face of negative information regarding the viability of that course of action (Guah, 2008).

Many theories have been used in the scientific literature to explain this phenomenon. Some of these are self-justification theory (Kardes, Ozturk, Cavusgil, & Cavusgil, 2013), prospect theory (Kardes et al., 2013), agency theory (Mahaney & Lederer, 2011), and access avoidance theory (Mobekk & Fagerstrøm, 2015). One primary explanation for an IT project failure is the escalation of commitment by project managers (Chulkov & Desai, 2005). Specifically, managers get the escalation of commitment to the project and continue to invest in what seems to be a waste of action (Mark Keil & Flatto, 1999). Therefore, this study draws on the self-justification theory and analyzes the role of managers in escalating and failing of an IT project and thus contributes to a deeper understanding of IT project management.

Although several studies address this issue, negative statistics and contemporary practice point to the need for more in-depth and more comprehensive analysis and understanding of the failure of IT projects. Therefore, the purpose of this study is to advance the knowledge of IT project failure and escalation by answering the following research questions: 1) What is the role of the project manager in the escalation and success of the IT project?; and 2) What factors affect the decision-maker when it comes to the potential escalation of an IT project?

2. LITERATURE REVIEW

2.1. IT Project Escalation

Numerous studies show that a significant number of IT projects face problems, many of which require additional time, financial, and human resources (Pan, Pan, Newman, & Flynn, 2006). Failure in an information system project is considered to be a common occurrence (Kim & Park, 2007), almost always preceded by escalation. Escalation refers to "continued commitment in the face of negative information about prior resource allocations coupled with uncertainty surrounding the likelihood of goal attainment" (Mark Keil & Flatto, 1999). In other words, escalation refers to the continued commitment of funds after receiving negative project feedback. With the escalation present, the IT project continues for longer than necessary, leading to higher losses for the project investor (Chulkov & Desai, 2005). Hence, project escalation is related to negative feedback but continued commitment (Keil, 1995).

Considering that the escalation of IT projects is a common and global problem, it is essential to gain further knowledge about the phenomenon of escalation at the individual, organizational and social levels (Mobekk & Fagerstrøm, 2015). Escalation has been considered a complex phenomenon, which can be influenced by many different factors. A taxonomy available groups the factors into four categories: project factors, psychological factors, social factors, and organizational factors (Keil, 1995).

2.2. Self-Justification Theory

The escalation of the project is partly a psychology problem because it explains how managers and decision-makers, faced with large projects that go in the wrong direction, perceive the problem. IT project managers become 'locked' in the escalation phase, making several wrong decisions. The manager's escalation behavior is described as a commitment to failing courses of action that is often used by the term 'pyrrhic victory' (Harvey & Victoravich, 2009), which emphasizes the achievement of the goal at an unreasonably high price. In other words, while it seems logical to discontinue certain project activities despite the negative consequences, managers often do the opposite due to the commitment. Previous escalation studies have found that decision-makers are overwhelmed by resources already invested (sunk cost effect) and the proximity to completion (completion effect) (Lee, Keil, & Kasi, 2012) or personal responsibility for initiating a project (Lee, Keil, & Park, 2019). This behavior can be explained by both cognitive and motivational factors (Lee et al., 2012).

Self-Justification Theory (SJT) offers a rationale for this phenomenon by postulating that project managers continually invest resources in the wrong direction of project development because they need to justify previous resource allocation decisions for the same project (Keil, Mann, & Rai, 2000). In other words, they are escalating in their commitment to a course of action to justify their behavior. SJT is based on the idea that individuals pursue reasons to rationalize their previous actions by ignoring perceived failures in the assessment. SJT is also used to explain narcissism of project managers that also contributes to escalating decision making and projects (Pinto & Patanakul, 2015). Practically, it is the project manager's commitment to projects they choose to participate in light of potential disruption.

Social self-justification implies the degree to which the project manager is closely identified with the project and is likely to feel social pressure if the project is abandoned (Zhang et al., 2003). Psychological self-justification refers to the degree to which the project manager is likely to feel a high degree of personal responsibility for the outcome of the project because he or she has initiated or collaborated intensively with it (Zhang et al., 2003).

3. HYPOTHESES DEVELOPMENT

The relationship between self-justification and project escalation can also be explained by cognitive-dissonance theory (CDT) (Festinger, 1957). Cognitive dissonance refers to a situation involving conflicting attitudes, beliefs or behaviors. In the context of the potential escalation of IT projects, cognitive dissonance refers to the conflicting beliefs of project managers. When a project manager learns negative information about the course of the project, he/she creates dissonance about the choice of the project's course of action. To reduce the dissonance that a project manager feels about choosing one alternative over another, he/she enhances the positive attributes of the chosen solution and enhances the negative characteristics of the unselected alternative. In this way, from a dissonant perspective, the creation of meaning is equated with self-justification (Thomas, 2000). The project manager chooses what to justify by retrospectively shaping the meaning. The need for social and psychological self-justification acts as a stimulus to choice. Hence, we propose hypotheses:

H1. When in the dissonance about the choice of project's course of action, a project manager's need for a) social self-justification and b) psychological self-justification influences IT project escalation.

Similar to the impact on project escalation, the need for self-justification will have an impact on project performance because each project decision affects the success of the project. Human decision-making is subject to numerous biases, many of which operate at a subconscious level (Keil, 1995) and are influenced by the personal characteristics of the decision-maker. Concerning the relationship between decision making and project success, Thomas (2000) argue that project failure is generally ascribed to one of two causes: non-rational decision making, and/or the ineffective project preparation and monitoring execution. Therefore, considering the relationship between decision making and project success, and that decision making is influenced by the psychological traits of the decision-maker himself, we propose hypotheses:

H2. A project manager's need for a) social self-justification and b) psychological self-justification influences IT project performance.

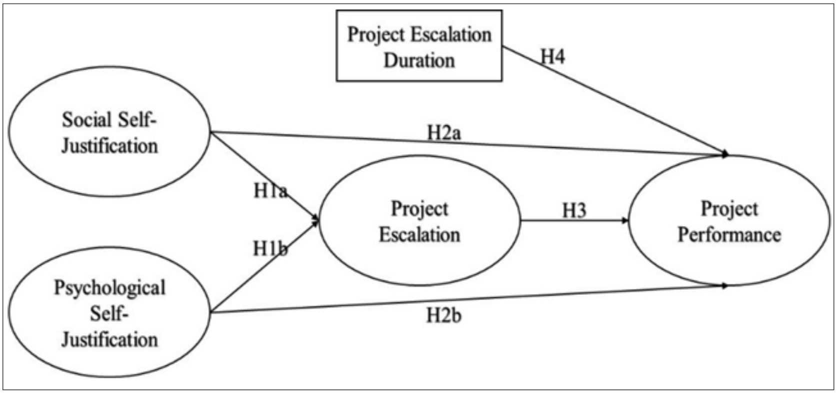
Considering the concept of escalation of an IT project, which implies a tendency to carry out actions even in the light of negative information about its feasibility, it is common sense that such actions will harm the success of the project. In other words, the escalation of the project is related to the negative direction of the implementation of specific activities, and without adequate de-escalation measures, the project performance will deviate from the planned ones. In this regard, Keil et al. (2000) analyzed how projects that escalate differ from projects that don't escalate in terms of project performance. Their results confirm that projects that escalated had results that were significantly worse than projects that did not escalate. Based on the above discussion, we propose a hypothesis:

H3. IT project escalation negatively influences IT project performance.

The period of the escalation refers to the length of the time the project can be continued after an IS auditor is persuaded that they should have been canceled or discontinued (Keil et al., 2000). Keil et al. (2000) argue that escalation time among the IT projects ranged from one month to 255 months. The duration of the escalation has a negative impact on the success of the project. Specifically, the longer the escalation takes, the more problematic the project becomes, which also affects the project performance. In this regard, we propose a hypothesis about the negative relationship between the duration of escalation and project performance.

H4. The duration of the IT project escalation negatively influences IT project performance.

Figure 1. Proposed model



Source: Authors' research

4. EMPIRICAL RESEARCH

The sample size was 100 respondents selected through a purposive sampling technique, while the respondents' criteria comprise of those who, over the past five years, participated in an IT project that had elements of escalation. Purpose sampling is used when the selected subjects tend to fulfill the study needs. Primary data were collected through a survey technique with an online questionnaire distributed by e-mail along with an invitation to participate in the survey. Most respondents are between the ages of 41 and 50 years (45%), followed by the 31 to 40 years age group (30%), respondents between the ages of 30 and less accounted for 13%, and those above the age of 50, for 12%. Most respondents have more than 15 years of experience in IT project implementation (38%) followed by those with the experience between 10 and 15 years (27%). Most escalated projects have occurred in the finance industry and public and government administration (35%).

The measures were taken from previous studies and partially adapted when translated in agreement with a group of experts from the academic and IT profession (panel of 5 experts). Social and psychological self-justification was measured by employing the items from (Zhang et al., 2003; Keil et al., 2000). Project escalation indicators were adopted from the definition of project success from the Project Management Institute (2013). Finally, project performance was developed based on the Project Management Institute's guide (2017). Items were assessed on a seven-point Likert-type scale. The project escalation duration variable represents the user's response to how long the escalation lasted: 1) 1-12 months, 2) 13-24 months, 3) 25-36 months, 4) 37-48 months, 5) 49-60 months.

Table 1. Measures

Construct	Items	λ
Social self-justification (SSJ)	concerned with their reputation	0.788
	worried to "look bad" to others	0.949
	the success of the project was their success	0.703
Psychological self-justification (PSJ)	repeatedly expressed support for the project	0.789
	initiated the project, or was extensively involved with it	0.580
	seemed to be emotionally attached to this project	0.499
Project escalation (PE)	Too much work invested in the project	0.946
	Too much financial resources invested in the project	0.646
	Project duration too extended	0.698
Project performance (PP)	Total project duration	0.572
	Overall project quality	0.889
	Project security	0.847
	Customer satisfaction	0.876

Source: Authors' research

5. DATA ANALYSIS

5.1. Reliability and Validity Assessment

First, confirmatory factor analysis (CFA) was conducted to establish reliability, convergent, and discriminant validity of variables, which follow the recommendations by Fornell & Larcker (1981). The content validity was ensured because the measuring items were derived and updated from measures used in the existing literature. Table 2 shows measures with standardized loadings, while Table 3 presents composite reliability (CR) values, as well as constructs' correlation and square root average variance extracted (AVE) values. The factor loadings of the indicators in each of the variables were statistically significant (>0.4), confirming a satisfactory convergent validity. The results show that all the composite reliability measures are above 0.6 (Chan, Ngai, & Moon, 2017). Square root AVE should be greater than the shared variances between it and any other constructs in the model to confirm discriminant validity. The results in Table 2 show that each construct meet this requirement. The measurement model fitted the data good (χ2 [59] = 60.37, RMSEA = 0.0153, SRMR = 0.0572, CFI = 0.998, NFI = 0.918). Based on the results, all research constructs are considered as reliable and valid.

Table 2. Validity Assessment

Constructs	CR	SSJ	PSJ	PE	PP
Social self-justification	0.788	**0.820**			
Psychological self-justification	0.661	0.486	**0.635**		
Project escalation	0.814	0.317	0.007	**0.774**	
Project performance	0.879	-0.087	0.302	-0.328	**0.807**

Notes: CR = Composite reliability; Squared-root AVEs are shown on the diagonal in bold; Construct correlations are shown below the diagonal;
Source: Authors' research

5.2. Hypotheses Testing

We further carried out the empirical estimation of our conceptual model. The path analysis was performed using the Structural Equation Modeling Method (SEM) (maximum likelihood estimation), which allows multiple interconnections to be estimated simultaneously using multiple measurement scales (Diamantopoulos & Siguaw, 2000; Hair, Black, Babin, & Anderson, 2014). The estimated standardized path coefficients, t-values, and p statistics associated with this model are presented in Table 3. The structural model revealed good fit (χ2 [59] = 70.791, RMSEA = 0.0162, SRMR = 0.0628, CFI = 0.994, NFI = 0.905).

Table 3. Path analysis

Paths		Stand. coefficient	t – value
Social self-justification	→ Project Escalation	0.416*	3.135
Psychological self-justification	→ Project Escalation	-0.198	-1.344
Social self-justification	→ Project Performance	-0.185	-1.309
Psychological self-justification	→ Project Performance	0.406**	2.413
Project Escalation	→ Project Performance	-0.233**	-1.979
Escalation Duration	→ Project Performance	-0.249*	-2.426

*p<0.81, **p<0.05, ***p<0.1
Source: Authors' research

The results obtained confirm the hypothesis that social self-justification has a positive effect on the escalation of an IT project ($\beta=0.416$, $t=3.135$, $p<0.01$). In other words, if a project manager needs recognition from his or her environment, then in a dissonance situation, it will influence the choice of an alternative to continue the project, as discontinuation would mean failure and condemnation. Therefore, the psychological traits (especially concerning the social norms) of a project manager are a fundamental criterion for recruitment to select the right people. On the other hand, psychological self-justification was not shown to have a significant effect on the escalation of the project ($\beta=-0.198$, $t=-1.344$, $p>0.1$). This practically means that despite the greater need for self-recognition, project managers will be more realistic about the actual state of the project course of action. At the same time, psychological self-justification has a positive impact on project performance ($\beta=0.406$, $t=2.413$, $p<0.05$). In other words, the more a person needs self-recognition, the less the possibility for the project to escalate, and the higher the probability of project success. On the other hand, social self-justification tends to have a negative impact on project performance ($\beta=-0.185$, $t=-1.309$, $p>0.1$), i.e., a person with a greater need for social recognition will have less successful projects. Overall, the project manager should have a developed need for self- recognition and psychological self-justification, as this will contribute to the success of the project and less likelihood to escalate. On the other hand, the project manager should be without the need for social recognition, as this leads to taking actions that are not in the interest of the project, but to create a positive image for the environment.

Finally, the relationship between project escalation and project performance is negative ($\beta=-0.233$, $t=-1.979$, $p<0.05$), that is, escalated projects are also unsuccessful projects. Besides, the duration of the escalation has a negative impact on the IT project performance of the project ($\beta=-0.249$, $t=-2.426$, $p<0.01$). In other words, the longer the escalation takes, the worse the project's performance.

6. CONCLUSION

The study examined the influence of cognitive dissonance in the management of IT projects on project escalation and project performance. Specifically, the study analyzed the influence of social and psychological self-justification on project escalation and project performance. We tested a model delineating the relationship between SSJ, PSJ, and PE and PP, considering the escalation duration. The findings confirm that the relationship between SSJ and PE was significant. The results have revealed that PSJ had a significant and positive impact on PP. This shows that the personality of the project manager plays a role in the potential escalation of the project as well as in the project performance. Our results suggest that a manager should need psychological self-justification, but be free from the need for social recognition. Our findings support Keil et al.'s (2000) study, who also confirmed that social self-justification has a positive effect on the escalation of the project, while psychological self-justification has no significant effect. However, our research differs, as our results indicate the potential negative impact of psychological self-justification on project escalation and a positive impact on project performance. Therefore, when it is in cognitive dissonance that the project course of action is not in line with the plan, managers or decision-makers in need of psychological self-justification will choose the alternative that will probably be in the interest of the project. On the other hand, decision-makers who seek social recognition will enhance the positive attributes of the solution, which will contribute to improving the image they send to the public, regardless of the project. As expected, the results show that the escalation of the project, as well as the duration of the escalation, has a negative impact on the success of the project.

Our study contributes to the IT project management research field, providing further understanding of the role of the project manager's need for self-justification in project success. Our study provides empirical support for the relationship between the need for social and psychological self-justification and project escalation and project success. This research has raised the critical question of the importance of selecting an adequate project manager, especially considering the psychological traits in addition to expertise. Our findings support the contention that the project manager's characteristics are a significant antecedent of project escalation and project performance. This research has significant implications for IT project investors who want to make the right assumptions about improving project performance through the selection of an adequate project manager. Future research should include more managerial characteristics in the analysis.

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INTERNET ADVERTISING OF A CROATIAN TOURIST PRODUCT IN CHINESE AND RUSSIAN MARKET

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Abstract

The purpose and reason of this paper are derived from the increasing influence of marketing tools through the use of Information and Communication Technology and the increasing importance of the Chinese and Russian markets for Croatian Tourism. Through the research, the authors discovered, compared and analyzed the Croatian residents' opinions, views and knowledge about Marketing activities supported by the use of Information and Communication Technologies with the Chinese and Russian resident's opinions, views and knowledge.

During the research, the online questionnaire method was used in this paper.

The main findings from the research are: (1) Croatian tourism product has not been adequately presented or translated into Chinese and Russian on the Internet, (2) Croatian tourism product adapts most to the Google search engine while residents of China and Russia are most informed about the Croatian tourism product through the Baidu / Yandex search engine, (3) the amount of data available to the Chinese and Russian markets on the Croatian tourism product is not sufficient to decide on a tourist visit to Croatia, (4) Residents of China and Russia do not have the same technology usage habits as residents of the Republic of Croatia.

The limitations of the research relate to a small sample, a lack of financial sources, a short time factor when conducting research, and a lack of research on a selected topic.

Future research should certainly increase the sample size of respondents and change the methodology to be more focused on individual interviews with residents of China and Russia. This would give a more detailed insight into the research issues as well as insight into potential new challenges.

In practical terms, (1) the Croatian tourism product should be translated into Chinese and Russian more adequately, (2) it should educate providers of any type of tourist services in the Republic of Croatia in which ways use technology in China and Russia so that they can adapt to their systems of thinking, communication and publicity, and (3) encourage, at the national level, the modernization and more adequate adaptation of the web presence of the Croatian tourism product on the Chinese and Russian markets.

Keywords: *Marketing; Internet/Web advertising; Search Engine Visibility; Chinese and Russian markets; Tourist product.*

JEL Classification: M37, Z32

INTRODUCTION

Online advertising is nowadays the most effective form of advertising and includes a large number of activities/strategies (Google Adwords - search engine advertising, SEO optimization, Content Marketing, Social networks, email marketing, blogs, videos, ...). A large number of internet users are still searching for information about the tourism product through search engine queries. Therefore, it should be emphasized at the outset that the notion of search engine visibility (a position within Search Engine Result Pages - SERP) is still a term of great importance (Ziakis, 2019). It is very important to tailor the promotional content of web pages to the search engines used in the target markets. In general, Baidu and Yandex search engines are the most used search engines to find tourist information in China and Russia (Jiang, 2014).

In this sense, the main emphasis in this paper is at the analysis of the websites (Anusha, 2014; Carvalho 2018.) of the entities in charge of promoting tourism content to residents of Russia and China, and to the search engines, they use most often (Alcover, l. D., & Musa, 2017). One of the most important sites for presenting the "tourism of the Republic of Croatia" is the web sites of the Croatian National Tourist Board and the web sites of the tourist boards of counties and cities. The paper also presents an analysis of tourist arrivals in the Republic of Croatia which gives an insight into the importance of adapting web content to specific countries/markets.

1. HYPOTHESES

The hypotheses of the paper are given below (Table 1.). As part of the research 5 hypotheses were put forward. The acceptance or rejection of the hypotheses is presented in the final section of the paper based on the conclusions drawn from the results of an empirical study entitled "Internet Advertising of the Croatian Tourist Product on the Chinese and Russian Markets".

Table 1: Empirical research hypotheses

Hypotheses
H1: The Croatian tourist product on the Internet has not been sufficiently translated into Chinese and Russian.
H2: Government/State institutions influence internet advertising.
H3: The Croatian tourism product is most adapted to the Google search engine
H4: Residents of China and Russia get the most information about the Croatian tourism product through Baidu / Yandex search engine queries
H5: The amount of information available to the Chinese and Russian markets about the Croatian tourism product is not enough to decide about a tourist visit.

Source: Authors

2. THEORETICAL BACKGROUND

The following (Table 2) provides an overview of the literature that has most influenced the writing of this paper.

Table 2: A literature review of significant impact on writing this paper

Author/s	Title	Year
Dukić, B., Gale, V.	Upravljanje odnosima s potrošačima u funkciji zadržavanja potrošača	2015.
Jiang, M.	The business and politics of search engines: A comparative study of Baidu and Google's search results of Internet events in China	2014
Dergiades, T., Mavragani, E., & Pan, B.	Google Trends and tourists' arrivals: Emerging biases and proposed corrections	2018.
Alcover, I. D., & Musa Pensalfine, O. C. T. A. V. I. O.	Analysis of Chinese and Russian tourists: behaviors and characteristics.	2017.
Yablonsky, S.	Intermediaries in e-commerce. In Encyclopedia of E-Commerce Development, Implementation, and Management	2016.
Law, R., Li, G., Fong, D. K. C., & Han, X.	Tourism demand forecasting: A deep learning approach. Annals of Tourism Research	2019.
Thelwall, M.	Why are some websites researched more than others? A review of research into the global top twenty	2020.
Huang, X., Zhang, L., & Ding, Y.	The Baidu Index: Uses in predicting tourism flows–A case study of the Forbidden City.	2017.
Gupta, S.	A Survey on Search Engines	2017.
Pan, B.	The power of search engine ranking for tourist destinations	2015.
Vyas, C.	Evaluating state tourism websites using Search Engine Optimization tools	2019.

Source: Authors

Although the literature presented served as main theoretical support, most of the information related to the research was obtained through direct informal interviews with residents of China, Russia and with members of tourist boards within Croatia.

3. ANALYSIS OF TOURIST ARRIVALS IN THE REPUBLIC OF CROATIA

To better understand the issues and importance of this paper, Table 3 presents data on tourist arrivals in the Republic of Croatia (relevant to this paper) between 2007 and 2017 (Table 3.).

Table 3: Tourist arrivals and overnight stays in the Republic of Croatia

Tourist arrivals and overnight stays in Croatia						
	arrivals ('000)			overnights ('000)		
Year	in total	domestic tourists	foreign tourists	in total	domestic tourists	foreign tourists
2007.	**10 141**	1 696	**8 445**	**54 416**	6 250	**48 167**
2008.	10 250	1 715	8 535	55 465	6 327	49 139
2009.	10 075	1 530	8 545	54 793	5 712	49 081
2010.	10 405	1 438	8 967	56 217	5 369	50 849
2011.	11 211	1 488	9 723	60 110	5 562	54 547
2012.	11 599	1 419	10 180	62 507	5 174	57 333
2013.	12 233	1 442	10 791	64 617	5 095	59 523
2014.	12 914	1 461	11 453	66 270	5 116	61 154
2015.	14 175	1 623	12 553	71 437	5 705	65 732
2016.	15 463	1 749	13 715	77 919	5 819	72 099
2017.	**17 431**	1 838	**15 593**	**86 200**	5 978	**80 222**

Source: https://www.dzs.hr – statistički ljetopis 2018. godine – Customization by the authors

The previous table shows a positive upward trend in foreign tourist arrivals in the Republic of Croatia. The number of domestic tourists remained constant over the observed period, with minor variations over the years. It is visible that the arrival of foreign tourists in 2017 increased almost 2 times in comparison with 2007. Throughout the years between 2007 and 2017, there has been a steady increase without declines. In 2017. 17 431 000 tourists visited the Republic of Croatia. Below is a summary of arrivals and overnight stays of tourists classified by country of residence (Russia, China, Japan, Republic of Korea). After analyzing all the countries available in the statistical yearbook (55 of them), the countries relevant to this survey are highlighted below (emphasis on China and Russia). Table 4 shows the trends of China and Russia (data added for Japan and Rep. Korea due to an interesting trend being commented on) tourist arrivals between 2013 and 2017. The data used are secondary data taken from the pages of the Central Bureau of Statistics and only relevant data for analysis were processed.

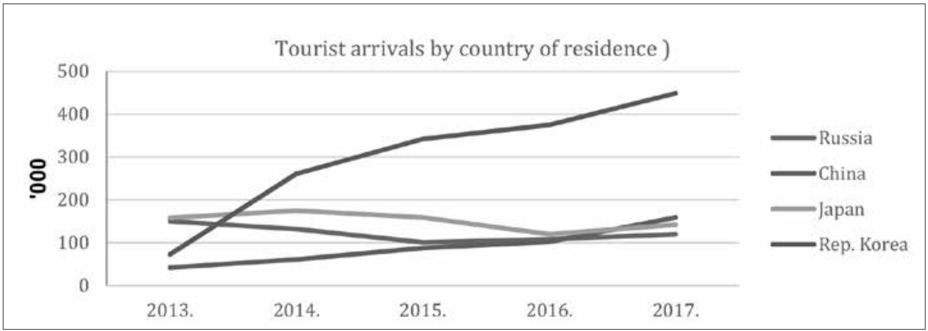
Table 4: Tourist arrivals and overnight stays by country of residence

Tourist arrivals and overnight stays by Country of Residence										
	arrivals ('000)					overnights ('000)				
Year	2013.	2014.	2015.	2016.	2017.	2013.	2014.	2015.	2016.	2017.
In total	**12 233**	**12 914**	**14 175**	**15 463**	**17 431**	**64 617**	**66 270**	**71 437**	**77 919**	**86 200**
Russia	**150**	**132**	**101**	**108**	**120**	**1 211**	**1 044**	**739**	**738**	**806**
China	**42**	**61**	**88**	**102**	**159**	**63**	**89**	**129**	**154**	**235**
Japan	158	175	159	120	142	220	245	226	181	221
Rep.Korea	73	261	342	375	449	97	325	405	447	549

Source: https://www.dzs.hr – statistički ljetopis 2018. godine – Customization by the authors

The table below shows tourist arrivals and overnight stays by country of residence. Russia and China were analyzed as the main observed countries. At the same time, Japan and the Republic of Korea were shown as countries which, by their indicators, stood out among the other 55 countries that visit the Republic of Croatia. Comparing 2013 and 2017, it is evident that the Republic of Croatia lost part of its tourists from Russia and part of its tourists from Japan, while the number of tourists from China and the Republic of Korea increased. The information presented shows that the opportunity in terms of tourist arrivals of these countries has not been adequately used. Targeted and proper marketing investments in these countries can influence the upward trend in tourists from Russia and China. Japan is also an interesting country because only Japan and Russia have a negative trend (between 55 observed countries) when looking from the year 2013 to the year 2017. It can be concluded that the Russian and Japanese markets should try to re-inform about the Croatian tourist product to turn the negative trend of visits from these countries into a positive trend. The following graph (Graph 1) shows the growth trends by years for the observed countries. Data are taken from the Statistical Yearbook of Republic Croatia for the year 2018.

Graph 1: Tourist arrivals by country of residence



Source: https://www.dzs.hr - Customization by the authors

4. RESEARCH PROCESS AND METHODOLOGY

The conducted research analyzes the degree of adaptation of content on the Internet that promotes Croatian tourism to Chinese and Russian residents. Residents of China and Russia were surveyed in a way that the survey was placed online through professors at colleges in China and Russia. Respondents actively researched the tourist offer of Croatia on computers and mobile devices and tried to find out as much information as possible. They completed the survey via the google forms platform. Students and professors also distributed the survey and instructions to some acquaintances outside the education system to gain a better understanding of the issues that residents of these countries face. The survey was conducted in the period from 1.3.2019. to 31.3.2019. The survey was prepared in two parts (A and B - according to the respondents) and was divided into 3 categories: Part A - (Adaptation of the internet content of the Croatian tourist product to the Chinese and Russian market) (1) Survey for Croatian tourist representatives, and Part B: The possibility of informing about Croatian tourism product via Internet (2) Survey for the Chinese market and (3) Survey for the Russian market. All questions were prepared and grouped according to hypotheses. Each survey was treated separately and the hypotheses were analyzed separately.

Research methodology: A deliberate sample (residents of China and Russia and representatives of Croatian tourist boards) was used for the survey. For this research, 117 Russian residents and 105 Chinese residents and 21 employees of tourist boards were surveyed. Although the research findings are sufficiently relevant and presented in such a way that relevant conclusions can be drawn, the limitations of this research should be noted. The first limitation concerns the research sample. The study was conducted on a total of 243 respondents. Another limitation was the financial sources and media through which the questionnaires could be administered, which resulted in the questionnaire being filled only through a Google form. Furthermore, the limitation of the research is related to the lack of previous research on this topic in the territory of Croatia, with which the result of the conducted research could be compared. Future research on this topic should add a way of collecting data through the interview method to gain a better and more personalized insight into research issues. It is proposed to extend the research to Japan and South Korea as these two markets, according to the first indicators, represent almost the same potential for the Croatian market as China and Russia.

5. PRESENTATION, ANALYSIS AND INTERPRETATION OF RESEARCH RESULTS

Below, the most relevant research results are presented sequentially according to hypotheses.

5.1. [H1] The Croatian tourism product on the Internet has not been sufficiently translated into Chinese and Russian.

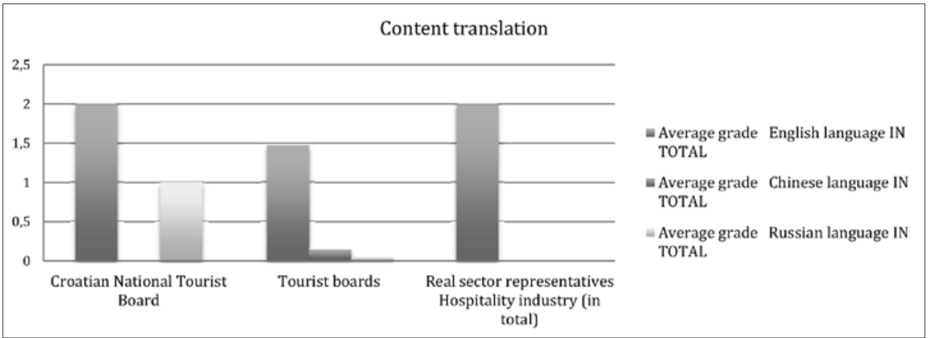
Table 5 presents an analysis of the web sites of the Croatian tourism representatives in terms of content translation into English, Russian and Chinese. Croatian National Tourist Board website was analyzed, then all county tourist board websites were analyzed too, as well as some websites of important/famous tourism representatives. The main objective of the analysis was to investigate the quality of the web site content translation into English, Chinese and Russian The analysis of the web sites includes web sites of Tourist boards 20 counties and City of Zagreb, the web site of the Croatian National Tourist Board, web sites of 3 representatives from the economy, web site of Plitvice Lakes as representative of the UNESCO heritage offer, web sites of 2 significant hotel chains as representatives of the real sector. The following table shows the translations into the selected languages.

Table 5. Web site translation analysis - English, Chinese and Russian

	Average grade English language	Average grade Chinese language	Average grade Russian language
Croatian National Tourist Board *(in total)*	2	0	1
Tourist boards *(in total)*	1,47	0,14	0,04
Real sector representatives *(in total)*	2	0	0
mean	***1,823***	***0,047***	***0,347***
st dev	***0,306***	***0,081***	***0,566***

Source: Authors / Empirical research
Note *: (0) - no translation available, (1) - less of the content is translated, (2) - most or all of the content is translated

Graph 2. Web site translation analysis - English, Chinese and Russian



Source: Authors / Empirical research
Note *: (0) - no translation available, (1) - less of the content is translated, (2) - most or all of the content is translated

The data obtained show that only 3 of the 25 analyzed representatives have translated content into Chinese or Russian on their pages. The results of the analysis also show that (1) the Croatian National Tourist Board, including translation into English and other standard languages, has translated content into the Russian language too, (2) The Zagreb City Tourist Board has translated content into the Chinese language too, (3) the Primorje-Gorski Kotar County Tourist Board Kvarner including translation into English and other standard languages has translated some of the content into Chinese and Russian language. This fact is very important for new research which should be related to the adequacy of promotional activities and the presentation of the Croatian tourism product on the Chinese and Russian markets.

Aside from what has already been written, it is a good idea to list a few of the common problems identified by website analysis; (1) spam on web pages (web pages blocked), (2) unacceptable graphic content/design on web pages, (3) inability to load Google Maps correctly (poor navigation instructions). To solve these problems it is of great importance to recognize the problems, to educate those involved in advertising processes in contemporary trends of publishing online media content. The City of Zagreb Tourist Board and the Kvarner Region are on a very good path in terms of the quality of published content and translation of content into Chinese and Russian.

5.2. [H2]: The state has an impact on the internet advertising and internet search

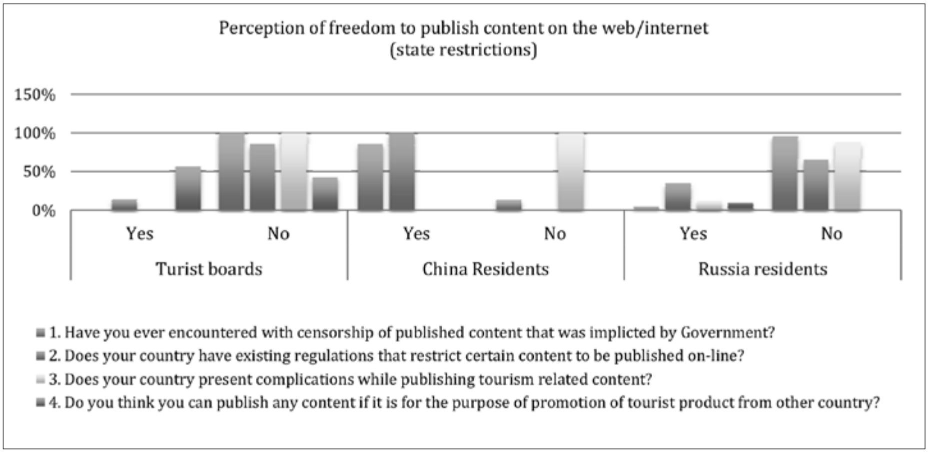
The following table shows the perception of a sense of freedom to publish content online.

Table 6: Perceptions of Freedom to Publish Content on the Internet (State Restrictions)

Question	Tourist Boards		China Residents		Russia Residents	
	Yes	No	Yes	No	Yes	No
1. Have you ever encountered with censorship of published content that was implicated by Government?	0%	100%	86,67%	13,33%	3,42 %	96,58 %
2. Does your country have existing regulations that restrict certain content to be published on-line?	14,29%	85,71%	100%	0%	34,19 %	65,81 %
3. Does your country present complications while publishing tourism related content?	0%	100%	0%	100%	11,97 %	88,03%
4. Do you think you can publish any content if it is for the purpose of promotion of tourist product from other country?	57,14%	42,86%	80,95% [1]	19,05% [2]	8,55%	91,45% [3]

[1] Yes, in case if I don't break any copyright laws
[2] In some way, I am disallowed to publish content
[3] Yes, in case if I don't break any copyright laws
Source: Authors / Empirical research

Graph. 3. Perception of freedom to publish content on the web/internet (state restrictions)



Source: Authors / Empirical research

From the data presented, it can be concluded that censorship is present in a large percentage in China (86.67%), while in the Republic of Croatia and Russia it is negligible. Based on the answer to question 2, it can be concluded that China is much more regulated/strict about the rules and/or freedom to publish material on the Internet. Based on the answers to questions 3 and 4, it can be concluded that states generally do not pose a problem with the publication of the material (especially if adequate material is published).

5.3. [H3]: Croatia's tourism product adapts most to Google's search engine, while for residents of China and Russia google is not the main source of information

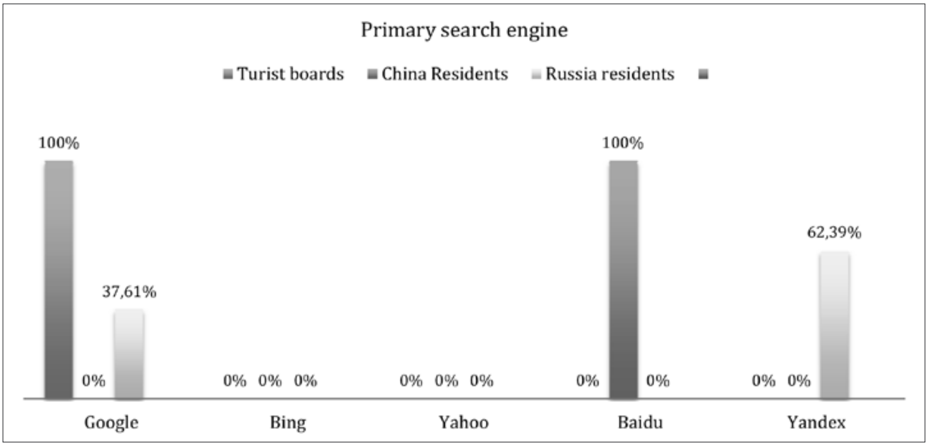
The third group of questions in the survey questionnaire relates to hypothesis H3. The questions were asked in such a way that the processing of this part of the survey (of all the surveyed groups) could give a clear insight into the dilemma of using a particular search engine to search and publish information.

Table 7: Primary search engine used to search and publishing content from/to web/internet

Question	Which is your primary search engine to search web and upload content to the web?				
	Google	Bing	Yahoo	Baidu	Yandex
Tourist boards	**100 %**	0 %	0 %	0 %	0 %
China Residents	0 %	0 %	0 %	**100 %**	0 %
Russia residents	**37,61 %**	0 %	0 %	0 %	**62,39 %**

Source: Authors / Empirical research

Graph 4: Primary search engine used to search and publishing content from/to web/internet



Source: Authors / Empirical research

The table and graph above show that Croatian tourist boards mostly use the google search engine to promote Croatia. At the same time, Chinese residents only use the Baidu search engine (100%), while Russian residents use the google search engine on a smaller scale, and predominantly use the Yandex search engine (62.39%).

5.4. [H4]: Residents of China and Russia get the most information about the Croatian tourism product through the Baidu / Yandex search engine.

The following table summarizes the survey questions related to Hypothesis 4. The data in the table provides a relevant basis for reaching conclusions.

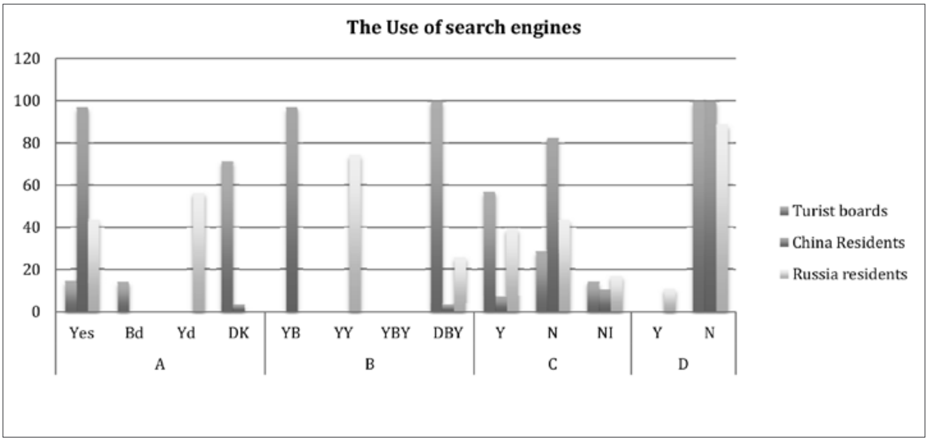
Table 8: The Use of Baidu and Yandex search engine

	A Are you familiar with the terms Baidu and Yandex?				B Have you ever used Baidu or Yandex?				C Can you easily find the tourist content of Croatia?			D Have you ever seen Croatian tourism-related advertisements while browsing the web?	
	Yes	Bd	Yd	DK	YB	YY	YBY	DBY	Y	N	NI	Y	N
(%)													
Turist boards	14,29	14,29	0	71,43	0	0	0	100	57,14	28,57	14,29	0	100
China Residents	97,14	0	0	2,86	97,14	0	0	2,86	6,67	82,66	10,48	0	100
Russia residents	43,59	0	56,41	0	0	74,36	0	25,64	39,32	43,59	17,09	11,11	88,89

Source: Authors / Empirical research
Note: The values in the table are expressed in%.

Abbreviations in table:
A. Yes - Yes, I know both terms, Bd - I'm familiar only with Baidu, Yd - I'm familiar only with Yandex, DK - I do not know the terms
B. YB - Yes, I use Baidu, YY - Yes, I use Yandex, YBY - Yes, I use both search engines, DBY - I do not use Baidu nor Yandex
C. Y - Yes, I think I can access everything, N - No, content is not adapted for usage in my country, NI - I am not informed about the subject
C1 – Question intended to Tourist boards: Do you find it easy for residents of China and Russia to find the content that you publish online?
D – Y – Yes, N – No
D1 - Question intended to Tourist boards: Have You ever targeted your tourism product for Chinese and Russian market

Graph 5: The Use of Baidu and Yandex search engine



Source: Authors / Empirical research

From table 8 and graph 5 it can be concluded that the importance of using the Baidu and Yandex search engine as platforms to promote the tourist product of Croatia is not yet sufficiently understood in the Republic of Croatia (in the system of tourist boards). (71% of respondents from the tourist boards are not familiar with the terms Baidu and Yandex). It is particularly important to point out that respondents from the tourist boards believe (57.14%) than residents of China and Russia easily find information about the Croatian tourist product. At the same time, the analysis data for residents of China and Russia show that they do not easily find tourist information about Croatia (82.66%, 43.59%). Also, the respondents answered 100% that while searching the internet (using Baida and Yandex) they never came across an advertisement / were never informed about the Croatian tourist offer.

5.5. [H5]: The amount of information available to the Chinese and Russian markets on the Croatian tourism product is not sufficient to decide on a tourist visit.

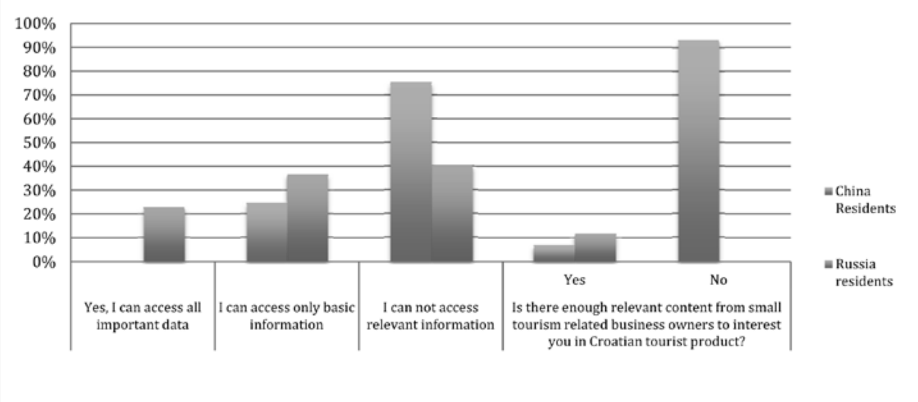
This part of the research analyzes the availability of tourism information about Croatia to the residents of China and Russia.

Table 9: Availability of tourist promotional materials about Croatia to the residents of China and Russia

	A Can you easily plan a trip to Croatia?			B Is there enough relevant content from small tourism-related business owners to interest you in Croatian tourist products?	
	Yes, I can access all important data	I can access only basic information	I can not access relevant information	Yes	No
China Residents	0 %	24,76 %	75,24 %	6,67 %	93,33 %
Russia Residents	23,08 %	36,75 %	40,17 %	11,97 %	88,03 5

Source: Authors / Empirical research

Graph 6: Availability of tourist promotional materials about Croatia to the residents of China and Russia



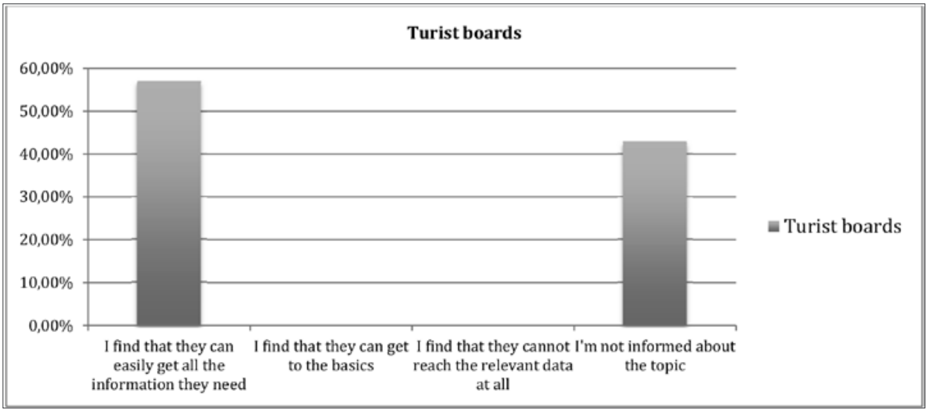
Source: Authors / Empirical research

Table 10: Perceptions of the quality of promotional materials distribution to residents of China and Russia

	A Do you think that residents of China and Russia have difficulty in choosing your destination?			
	I find that they can easily get all the information they need	I find that they can get to the basics	I find that they cannot reach the relevant data at all	I'm not informed about the topic
Turist boards	57,14 %	0 %	0 %	42,86 %

Source: Authors / Empirical research

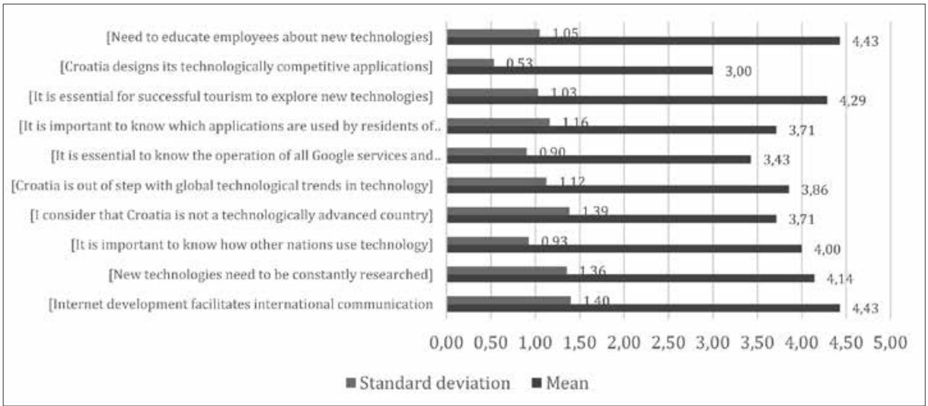
Graph 7: Perceptions of the quality of promotional materials distribution to residents of China and Russia



Source: Authors / Empirical research

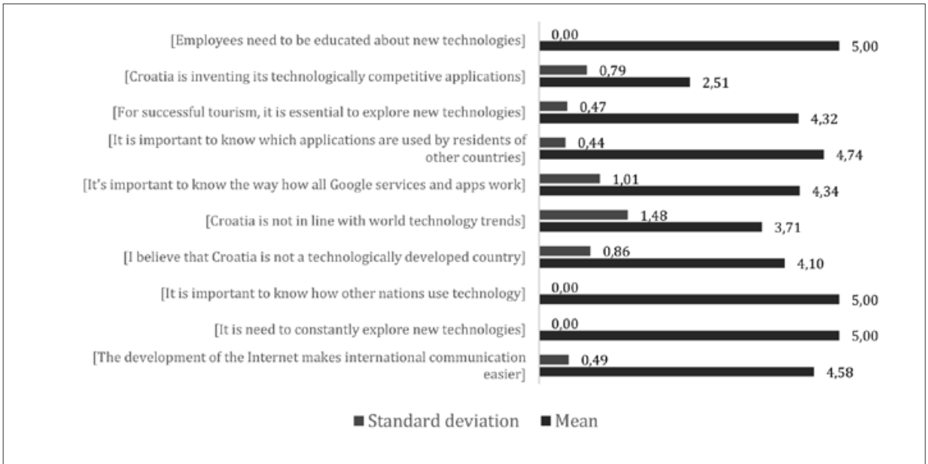
Based on the data presented in Table 8 8 it can be seen that 57.14% of the respondents from the tourist boards think that the residents of China and Russia can easily get all the necessary tourist information about Croatia. At the same time, the analysis of the results of the respondents from China and Russia (Table 9) shows that the content of small tourism-related business owners is not sufficiently relevant to the residents of China and Russia in the Croatian tourist product. Also, 75.24% of Chinese residents and 40.17% of Russian residents said they could not easily find relevant information about Croatian tourism. The research also included an analysis of respondents' perceptions of the general importance of technology in tourism. The conducted research provides insight into the importance of technology in tourism for each of the 3 analyzed groups (tourist boards, residents of China and residents of Russia). Respondents labeled the statements as follows: grades 1 through 5 where: 1 means "strongly disagree", 2 means "partially disagree", 3 means "neither agree nor disagree", 4 means " Partially agree "and 5 means" strongly agree ".The following 3 graphs show the standard deviations and arithmetic means of the analyzed data.

Graph 8: Respondent's perception of the importance of Technology in Tourism (Tourist board)



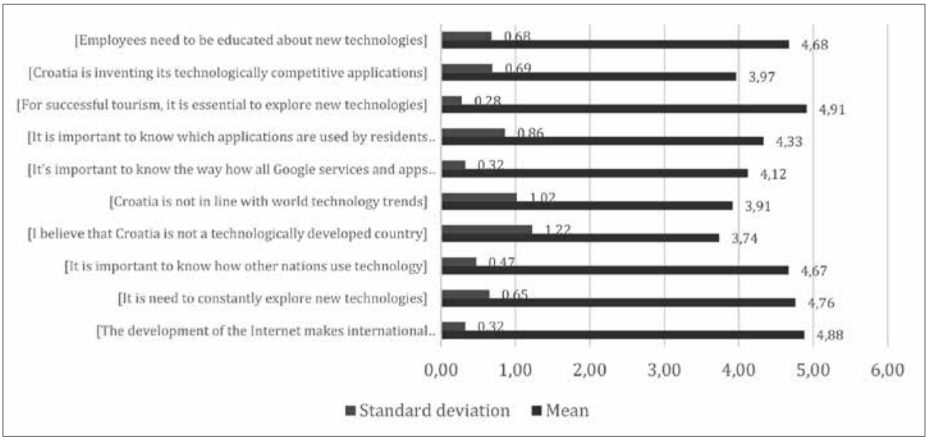
Source: Authors / Empirical research

Graph 9: Respondent's perception of the importance of Technology in Tourism (Residents of China)



Source: Authors / Empirical research

Graph 10: Respondent's perception of the importance of Technology in Tourism (Residents of Russia)



Source: Authors / Empirical research

As can be seen from Chart 8, the average grades range between 3.00 and 4.43. The worst-rated statements are "Croatia designs its technologically competitive applications", then "It is important to know the operation of all Google services" and the equally poorly rated statements are "I consider that Croatia is not a technologically advanced country" and "It is important to know which applications are used by residents of other countries. The highest-rated statements are "Internet development facilitates international communication", "It is necessary to educate employees about new technologies" and "For successful tourism, it is important to research new technologies".

6. DISCUSSION

Questions from several problem areas have been raised as part of this research (adequacy of translation of promotional materials about Croatian tourism product into Chinese and Russian language, the influence of the state to the advertising activities – restricted/not restricted advertising, habits of using the search engines in China and Russia, the adaptation of promotional materials to residents of China and Russia, the correlation between the adequacy of placed promotional materials and the ability for decision-making by Chinese and Russian residents. Hypotheses were made at the beginning of the research. Based on the research results, the hypotheses are either proven or disproved/rejected.

By proving or rejecting hypotheses, open questions (presented in or through hypotheses) generally received satisfactory answers. Also, the research process has generated new research spaces that create new open questions such as (the importance of the Chinese and Russian markets for Croatian tourism, the importance and profitability of investing in promotional activities in the Russian and Chinese markets, the involvement of specialized companies for promotional activities in specific markets, the need for education for activities in specific markets such as Russia and China, the importance of creating new education programs of using alternative searches engines (except google – Baidu, Yandex, …etc). It should also be noted that the sample of respondents in future similar surveys should be significantly larger to make the research results and conclusions more credible. In the next chapter, the answers to the open questions are presented in final considerations through the conclusions and interpretations of the presented hypotheses.

7. FINAL CONSIDERATIONS

Research shows that the usage habits and technology choices for searching, collecting and publishing information on the web/internet are very specific in the countries covered by this research (China, Russia). To influence the increase in tourist arrivals from China and Russia, it is necessary to adapt to content, technologies, and platforms to these target groups. The hypotheses raised were observed and analyzed from various aspects (considering the surveyed group - tourist board members, residents of China, residents of Russia). This approach also leads to the conclusions outlined below. Hypothesis H1 has been proven by researching the translation (in Chinese and Russian) of web sites responsible for promoting the Croatian tourism product. Croatian tourist product has not been adequately or sufficiently translated into Russian and Chinese through promotional materials and promotional channels. Proof of Hypothesis H2 applies only to the territory of China where restrictive measures and state control have been identified in the process of posting promotional content on the web / Internet. Hypothesis H3 proves beyond doubt that the promotion of the Croatian Tourist Product relies mainly on the Google search engine. The fact that hypothesis H3 is proven is even more pronounced given the proven hypothesis H4. The survey results also show that China / Russia residents mainly use Baidu (Chinese residents) and Yandex (Russian residents) to search for information on the internet/web. An important fact is that hypotheses H3 and H4 have been proven. Finally, processing the results of the Chinese and Russian residents' surveys proved the H5 hypothesis according to which the amount of data available to the Chinese and Russian markets is insufficient to make decisions to visit the Republic of Croatia. Much more engagement on Baidu and Yandex platforms is needed to better inform and attract potential guests from Russia and China. Knowing that Croatia is still very dependent on tourism and generates almost 20% of GDP annually, these facts are a high priority for the continuation of the positive trend of Croatian tourism and the positive impact on the overall economy of the Republic of Croatia.

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INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) AS A CAUSE OF BUSINESS STRATEGY CHANGES

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Abstract

Today's business needs cannot be resolved without ICT. However, are we aware of how ICT affects the businesses we develop? In working experience, I have realized that the implementation of new ICT generates strategic changes in the way management did not expect. Changes that have a big impact on the company, so the importance of understanding this change is extremely important. This motivated me to start exploring the impact of ICT on business strategy. The survey included 209 companies from all Croatian regions, of which 61% small, 21% medium and 18% large enterprises, classified by the number of total revenues (up to over HRK 250 million), number of employees (from 1 to 10,500) and included all sectors by the national classification. Quantitative, qualitative and comparative analysis, generalization and specialization, descriptive, mathematical, graphical and statistical methods were used to process the collected data. The research develops a monitoring model of ICT impact on business strategy and the generalized conclusions make a contribution to information and economic science and helps managers to anticipate negative consequences in those situations. The research confirms the fact that ICT significantly change business strategy, thus confirming the hypothesis: ICT implementation changes the business strategy of the company. The paper provides information from previous researches, the author's views, conclusions, and practical data. Consequently, it can be an incentive for other researchers to enlarge the research or explore the impacts of ICT in other areas; or to critically process, replicate, modify and apply the research results.

Keywords: *Information and communication technologies, strategy, business strategy, strategy management, strategy change*

JEL Classification: D83, L10

1. INTRODUCTION

The research problem in this paper is the impact of ICT on business strategy. Trough studying literature and analyzing practice, it is accentuating the need for ICT implementation in business. Computer, Computer networks, Internet, Mobile Internet, E-mail, IT systems with common databases and E-business are rapidly evolving and integrating into every level of the company, changing and refining its business models. This paper explores how ICT influences business strategy.

ICT is the most progressive modern technology, the basis of economy and society, and the generator of change in business. It is applicable in all sectors and in all fields of science, the support for the successful functioning of entrepreneurship, social and state structures. The implementation of ICT in all spheres of the economy is inevitable, so its impact on business strategy is inevitable as well. Today, it is impossible to improve business without a networked computer system, internet sales, processing, and digital data transmission system or an adequate storage system. One of the features of ICT is its rapid development. Transmission of information via image, voice or data is one of the most important preconditions for the development of modern society. ICT is rapidly evolving and integrating, changing and refining business models.

A strategy is a way we should use resources to reap the benefits and create the desired effects. Simplified, the strategy is a way of achieving the goals we set ourselves. It determines the main direction the company goes to. It helps to guide and direct the interaction between the organization and its environment. The aim of the strategy is to achieve synergy and coherence, in order to achieve an optimal flow of resources. We will determine our strategy by perceiving what is the present company position on the market, what is the position (goal) we want to achieve in the future and figure out the way to get there.

The connection between strategy and ICT stands out in the fact that ICT implementation changes the set business strategy of the company. The paper shows business strategy changes that occurred after ICT implementation, regarding what types of strategies companies leave, according to which types of strategies companies turn, how managers evaluate the occurred changes in regard to the company business, which one's ICT generates the biggest changes and more.

2. LITERATURE REVIEW

In literature, we can find previews works researching the impact of ICT implementation on strategic benefits, organizational structure, competitiveness, business, economic sectors, and social spheres. Some of them were related to the strategical changes because of ICT implementation, but all authors find that ICT significantly change business models.

Papaioannou and Sotiris in their research prove that the effect of ICT implementation in the economy was significant. They researched the impact of ICT on productivity and economic growth in developed countries through direct investment in ICT and concluded a significant positive impact. In addition, surveys conducted in more than 36 countries on all continents show significant positive trends in economic growth due to investment in ICT. (Papaioannou, Sotiris, 2004, pp.1-34). Salem et al. prove that ICT provides several strategic benefits. Those benefits are competitive advantages, customer relations, quicker response, useful links, and ICT strategy alignment. The transformational dimension of strategic benefits can affect through ICT. The holistic model for assessing the ICT impact on organizations they develop is significant for managers and ICT decision-makers, to align business strategies and ICT strategies. (Saleem et al., 2018, pp.259–277). Rodriguez-Crespo et al. shows that companies who use ICT may be more able to improve the quality of communication while reducing information and coordination costs, facilitate their entry into new markets and the creation of new ones, reduce costs, facilitates interactions between trade agents, increase information about markets and open up new possibilities to use information more efficiently. (Rodriguez-Crespo et al., 2018). Savilescu proves that ICT represents a powerful driver for successful economies, holding a key role in enhancing economic growth. In this context, it reveals the powerful correlation between ICT, networked readiness and competitiveness. (Savulescu, 2015, pp.513-520). Aramendia-Muneta and Ollo-Lopez prove that ICT affects the change of internal strategies, rendering them more flexible to changes, helping them to adapt to the new needs of the market. (Aramendia-Muneta, Ollo-Lopez, 2013). Tarutėa and Gatautisa show that ICT can improve overall, financial and operational performance of SMEs if used appropriately and that marketing, communication, networking, and resource planning are the areas that ICT affects the most. They prove that the dimensions of strategic performance could be considered as ones that cause indirect effects of ICT on SME's performance. (Tarutėa, Gatautisa, 2014, pp.1218-1225). Songara shows that ICT has revolutionized the way people work today and are transforming the education system. (Songara et al., 2015). Klisaroskia et al. prove ICT and its position in promoting innovation, with a particular accent on the application of innovations, have the need to adopt proactive strategies, creating the necessary ambiance and connectivity with ICT and information society. (Klisaroskia et al., 2019, pp.109-124). Liag et al. say that strategic alignment is a major factor that mediates the effect of IT governance on firm performance. (Liang et al., 2011).

We can conclude that the impact of ICT on business is constantly actual. Due to the rapid development of ICT and changes in the business environment, arises the need for researching the ICT impact on the business strategy. All the above-mentioned authors, in their papers, pointed out the importance of further research on the ICT effect in other fields.

3. METHODOLOGY

Research methodology involves choosing the theme and identifying research problems, analyzing preview research and set the research needs, defining research goals, setting hypotheses and choosing research methods, studying literature, selection of relevant sources and studying the research process. Trough general and specific scientific researching methodologies, it is necessary to define the sample (i.e. the companies to investigate), after that to formulate a survey, conduct the research and determine research results, processing and analyzing the collected data, generalize conclusions, determining the scientific and practical contribution of the work and write the paper text.

The survey included 209 companies of the Republic of Croatia, 52% of them from the Istrian region, 25% from Zagreb region, 11% from Rijeka and Kvarner region, 6% from Slavonia region and 6% from Dalmatia region. According to Croatian law, 61% of them are small companies, 21% are medium-sized companies and 18% are large companies. Companies are also classified by the total annual revenue amount (varies up to over HRK 250 million, number of employees (varies from 1 to 10,500) and business sector (included all 18 groups by National classification).

The questionnaire included 16 questions divided into two modules. The first module collect information about the company: company name, its headquarters, company type, business sector according to the national classification, company size according to the Croatian law, number of employees, total annual revenue, and the types of ICT implemented (Computer, Computer networks, Internet, Mobile Internet, Email, IT systems with common databases and E-business). The second module explores how ICT implementation influence on business strategy changes. The survey investigates what business strategy was used before the ICT implementation, and in which it changed after the implementation of certain types of ICT. The survey proposed the following business strategy types: Growth strategy; Digressive strategy; Offensive strategy; Defensive strategy; Imitation strategy; Subordinate strategy; Traditionalist strategy; Opportunistic strategy or Other strategies. Other strategies were elaborated in a descriptive model: Creating new products faster than competitors; Creating expert knowledge especially in R&D; Production of modern products; Creating general standards in the production process; Offering diverse product brands; Low-cost production; Continuous increase in production process efficiency; Creating long-term relationships with consumers; Creating high levels of consumer satisfaction. Customizing the product at the user's request; Partnering with others to create a better consumer service. In the end, the survey research on what certain type of ICT has affected the change of business strategy and examines the magnitude of those changes, according to the top management's valuation (no change, minor change, moderate change, large change, extremely large change).

The survey was conducted by contacting the top management of the company, explaining the research purpose and the methods to be used than the survey link was sent to the top manager who should log on to the website provided and complete a questionnaire, which automatically records and transmits the answers to an excel table. The survey was conducted online. The obtained data were processed, and conclusions were made in the base of scientific methods. The survey was conducted for three months, and the statistical data processing was done in a month and a half. Each professional term in the questionnaire and the purpose of the research were explained in detail. The terms of each business strategy were defined, and even examples are given, to reduce the potential confusion in filling the questionnaire. Therefore, the survey will present the occurred situation, which makes the research itself credible. Statistical processing (t-test, F-test, chi-square test) of the collected data was performed using SPSS version 17.0.

The scientific methods used in this paper were descriptive method, quantitative and qualitative analysis, statistical methods, generalization and specialization method, comparative analysis, mathematical methods, and graphical method.

The primary objective of the paper is to study and analyze the impact of ICT implementation on business strategy. In order to achieve the research objective, the following tasks were planned:

1. Defining ICT types and strategies types for the investigation,
2. Defining methods, methodology, hypothesis, sample, and research,
3. Processing of obtained data,
4. Interpret the processing results and draw conclusions.

The basic aim of the paper is set in line with the research goal. The tasks that lead to the achievement of the goal include the theoretical elements needed to conduct the research, the research itself, the analysis of the results obtained, and the drawing of conclusions. All set tasks are feasible. The paper hypothesis is: The implementation of ICT changes the business strategy of the company.

4. CONNECTION BETWEEN ICT AND STRATEGY

Concepts, methods, and programs involved in ICT are evolving and changing almost on a daily basis. It is definitely virtually impossible to keep up with the changes that are taking place in the sector. (Riley, 2010). The business model reflects management's hypothesis about what customers want, how they want it and what they will pay, and how an enterprise can organize to accomplish customer needs. Business models are connected to business strategy in a strong way. (Teece, 2010, pp.172-194). Related to determining a business strategy type is to ask three simple questions: Where are we currently? Where do we want to be? How do we get there? (Žugaj, Schatten, 2005, p.7).

ICT stimulates the process of creating new values. As today's economy is immersed in the information society, the use of ICT is frequent and inevitable. (Castells, 2001. p.4). ICT has played an increasingly important role in economic growth and structural change. New technologies and applications are developing in light to promote better communication, facilitate innovations in organizations and to create competitive advantages. The new technologies and their application in productive activities induce changes within the economic structures and contribute to increasing labor productivity. ICT use leads to diversification of innovation activities through various channels. Overall, ICT has an essential contribution to economic growth, leading to the improvement of welfare and living standard. ICT represents a powerful driver for successful economies, holding a key role in enhancing economic growth. The correlation between ICT and competitiveness is very powerful. On one hand, the developed countries are innovating in view to enhance their competitiveness while the developing countries, especially from South-Eastern Europe are doing efforts to increase the use of ICT in light to trigger economic growth. (Savulescu, 2015, pp.513-520).

ICT is rapidly evolving and integrating, perfecting the methods of business enterprise (Riley, 2010). The use of ICT has led to increased productivity in most sectors of the economy. Benefits on businesses of the increased use of ICT include faster development of products and services, reduced costs, faster and more reliable transactions, better customer and supplier relationships, improved services, improved customer support, and enhanced collaboration opportunities. (Brynjolfsson, Hitt, 2002, pp.23-48). The connection between ICT and business strategy is obvious because ICT provides several strategic benefits, such as competitive advantages, customer relations, quicker response, useful links, and ICT strategy alignment. The transformational dimension of strategic benefits can affect through ICT. The ICT impact on organizations is significant for managers and ICT decision-makers, to align between business strategies and ICT strategies. (Saleem et al., 2018, pp.259–277). ICT affects the change of internal strategies, rendering them more flexible to changes, helping them to adapt to the new market needs. (Aramendia-Muneta, Ollo-Lopez, 2013). The dimensions of strategic performance could be considered as ones that cause indirect effects of ICT on SMEs' performance. (Tarutėa, Gatautisa, 2014, pp.1218-1225). ICT and its position in promoting innovation, with a particular accent on the application of innovations, have the need to adopt proactive strategies. (Klisaroskia et al., 2019, pp.109-124). Strategic alignment is a major factor that mediates the effect of IT governance on firm performance. (Liang et al., 2011).

The connection of the mentioned business benefits and business strategy is stable and constant because none of the benefits would be impossible to achieve without a business strategy. After the implementation of ICT, new circumstances occurred, and new opportunities arise. In consequence, the company changes its business strategy to adapt the organization to new circumstances and grab the opportunities.

5. RESULTS

The survey included 209 companies in the Republic of Croatia from different sectors and business fields. From the named 209 companies, 61% of them are small enterprises, 21% are medium-sized enterprises and 18% are large enterprises. The second variable that describes the surveyed companies is their total annual income, classified into five groups (Table 1).

Table 1. The total annual income of surveyed companies (n = 209)

Total annual income million HRK	Number of companies	% companies
< 10	81	39
10 - 30	23	11
30 - 60	22	11
60 - 250	34	16
> 250	49	23
Total	209	100

Source: Own research.

The surveyed companies belong to 18 sectors and fields. The most represented are the commercial industry, hotel, and catering industry and manufacturing industry. The number of employees ranges from one to 10,500 and companies are classified according to the number of employees in the usual ranges (Table 2).

Table 2. Number of employees in surveyed companies (n = 209)

Number of employees	Number of companies	% companies
0 – 9	78	38
10 - 19	28	13
20 – 49	24	11
50 – 249	44	21
250 and more	35	17
Total	209	100

Source: Own research.

The surveyed companies have an average of 331 employees; the standard deviation is 1,095, three times the arithmetic mean. A quarter of the company employs 5 employees and less, and as many companies employ 155 employees and more. Half of the company employs less than 19 employees (median). From the large difference between the arithmetic mean (331) and the median (19), it can be seen that this is a very right-to-right asymmetric distribution. The median and quartile values were used to classify the enterprises into three groups (Table 3).

Table 3. Number of employees according to company size (n = 209)

Number of employees	Number of companies	% companies
small (less than 5 employees)	56	27
medium (6 to 155 employees)	101	48
large (156 and more employees)	52	25
Total	209	100

Source: Own research.

The surveyed companies use different ICT. (Table 4).

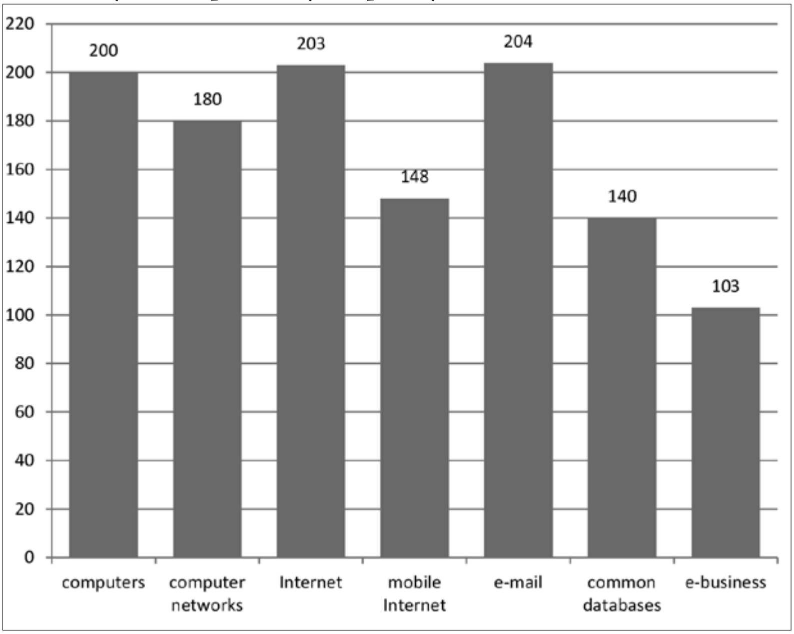
Table 4. Surveyed companies by the usage of individual ICT (n = 209)

ICT	Number of companies	% companies
computers	200	96
computer networks	180	86
Internet	203	97
mobile Internet	148	71
e-mail	204	98
common databases	140	67
e-business	103	49

Source: Own research.

Most of the technologies used were computers, the Internet and e-mail, and electronic business. The frequency of use of individual technologies is in Chart 1, while the number of technologies used is in Table 5.

Chart 1. Surveyed companies by frequency of use of individual ICT (n = 209)



Source: Own research.

The largest number of surveyed companies (37%) use all seven observed technologies. ICT have deeply penetrated in the business of the companies, with four to seven technologies are used by 93% of companies. The average observed companies use 5 to 6 technologies (median is 5 and arithmetic mean is 5.6), most commonly computers, computer networks, Internet and e-mail (Table 5).

Table 5. Surveyed companies according to the number of used ICT (n = 209)

Number of used ICT	Number of companies	% companies
0	1	0,5
1	2	1,0
2	3	1,4
3	8	3,8
4	33	15,8
5	35	16,7
6	50	23,9
7	77	36,8
Total	209	100,0

Source: Own research.

The research found that the implementation of ICT changed the strategy in 111 companies (53%), in 54 companies did not change (26%), while in 44 companies are not sure (21%). If we consider the type, the most applicate was growth strategy, stable strategy, offensive strategy, traditionalist strategy, an opportunistic strategy. After the implementation of ICT, the strategy change has taken place in terms of abandoning a stable strategy and traditionalist strategy, in favor of an offensive strategy and growth strategy. There is no significant change in the opportunistic strategy in terms of less and more use, after the implementation of ICT. These are the most significant changes, but it is very important to know there have been changes in other less represented strategies. The survey management had to answer which strategy was used before the implementation of ICT and which after the implementation of ICT. The results are in Table 6.

Table 6. Surveyed Companies strategy, before and after the implementation of ICT (n = 209)

No.	Strategy type	No. of companies before ICT implementation	No. of companies after ICT implementation
1.	stable	26	12
2.	growth	73	82
3.	digressive	1	-
4.	offensive	20	48
5.	defensive	10	7
6.	imitation	3	3
7.	inferior	1	3
8.	traditionalist	28	13
9.	opportunistic	21	22
10.	other	26	19
	Total	209	209

Source: Own research.

If the implementation of the strategy is a view on a case-by-case basis, then these enterprises can be divided into two almost identical sets: 108 enterprises that did not change strategy and 101 enterprises that changed strategy after the implementation of ICT. The hi-square test verified whether there was a correlation between this change, that is, the unchanged strategy, and the independent variables in this study. The results showed that there is no such association:

- between changing / unchanging strategy and size of the company ($p = 0.206$)
- between change / change strategy and size of total revenue ($p = 0.716$)
- between changing / unchanging strategy and business sector ($p = 0.419$)
- between change/change of strategy and number of employees ($p = 0,208$)

As all four chi-square tests have shown that there is no correlation, i.e. statistical significance ($p <0.05$), it can be said that the tendency to keep or change the business strategy, it's not related to the size, total annual revenue, business sector or employees number of the company. Companies that did not choose one of the above strategies, but they answered "other" (26 and 19, respectively) could more closely describe the strategy from the 12 different options offered. In the survey, the surveyed companies were required to estimate the magnitude of the change in strategy after the introduction of ICT (by a score of 1 = no change, to a rating of 5 = extremely large change). The results are in Table 7. On average, each enterprise selected two to three answers, but none of these responses on the applied "other" strategy is more strongly represented. As more frequencies under "other" appear in Table 6, and in Table 8, a number of companies in the "other" strategies have selected the "not sure" option; it is obvious that some companies do not even have a defined strategy (28 companies that are not all small, and a dozen of them have hundreds of employees).

Table 7. Surveyed companies by the size of the change in strategy – regarding the importance of that change for the company business (n = 209)

The size of strategy changes after the implementation of ICT	Number of companies
No change	36
Minor change	35
Moderate change	69
Large change	48
Extremely large change	21
Total	209

Source: Own research.

In the questionnaire, the managers had to describe the size of the business strategy change after ICT implementation. This answer is subjective and depends on many specific factors. I am aware that minor change to someone is maybe a large change to somebody else, but the paper tries to accentuate the importance of business strategy change for the company business, rather than to specify the size of business strategy change as an exact variable.

Table 7 shows that changes in strategy are most often in medium size, moderate but quite often larger. When we associate the magnitude of the change with values from 1 (no change) to 5 (extremely large change), we can calculate descriptive quantities. Thus, the arithmetic mean is 2.92, the mod is 3, the median is 3, and the standard deviation is 1.220.

Table 8. Surveyed companies who chose the answer "other" for the applied strategy according to the more descriptive form of their strategy

No.	Type of another strategy	Before	After
1.	Creating new products faster than competitors	4	2
2.	Creating expert knowledge especially in R&D	1	1
3.	Production of modern products	3	5
4.	Creating general standards in the production process	5	4
5.	Offering diverse product brands	3	2
6.	Low-cost production	5	4
7.	Continuous increase in production process efficiency	4	2
8.	Creating long-term relationships with consumers	5	3
9.	Creating high levels of consumer satisfaction	5	6
10	Customize the product at the user's request	6	4
11	Partnering with others to create a better consumer service	5	4
12	Not sure	14	11
	Total answers	60	48

Source: Own research.

As noted above, the average strategy changes the estimated size of 2.92. In relation to these assessments, the question is whether these management assessments, statistically significant different about the company size, related to the annual revenue, to the business sector and to the number of employees. The answer to these questions gives the statistical t-test or F-test. Four tests were conducted because of four independent variables in the study. The results of these tests (one t-test and three F-tests) are in Table 9.

Table 9. Results of t-tests and F-tests comparing arithmetic means

No	Variable	Company group	N_1 N_2 N_3	Arithm. mean	Stand. deviation	t or F	p	Stat. sign.
1.	Company size	Small Medium Large	128 44 37	2,85 2,91 3,16	1,262 1,030 1,280	0,931	0,396	
2.	Annual revenue	Small Medium Large	81 79 49	2,65 3,01 3,20	1,247 1,104 1,291	3,562	0,030	*
3.	Business sector	Manufacturing Service	114 95	2,89 2,96	1,173 1,279	0,179	0,672	
4.	No. of employees	Small Medium Large	56 101 52	2,59 3,04 3,04	1,332 1,148 1,188	2837	0,061	

Note: * statistical significance up to 5%; ** statistical significance up to 1%; *** statistical significance up to 0.1%
Source: Own research.

The size of business strategy changes due to the implementation of ICT is least in small enterprises, higher in medium-sized enterprises and highest in large enterprises. However, the difference in the intensity of strategy changes among these three enterprise sizes is random, not statistically significant (p = 0.396).

The size of business strategy changes due to the implementation of ICT is least in enterprises with lower total annual revenue and larger in enterprises with higher total annual revenue. The difference in the intensity of strategy changes among companies of different amounts of total annual revenue is not random, but statistically significant (p = 0.030).

The size of business strategy changes due to the implementation of ICT is least in manufacturing companies and larger in-service companies. However, the difference in the intensity of business strategy changes among these groups of companies is random, not statistically significant (p = 0.672). Companies with fewer employees also have a lower intensity of business strategy change due to the implementation of ICT, while for companies with more employee's intensity of business strategy change is higher. However, the difference in the intensity of business strategy changes among these company groups is random, not statistically significant (p = 0.061).

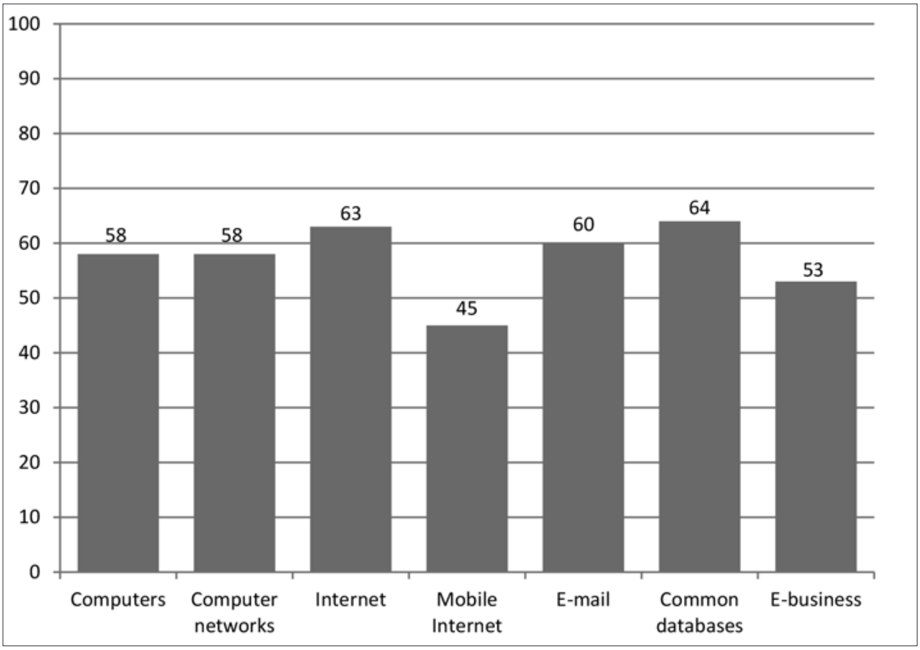
Table 10. Surveyed companies according to whether strategy changes are due to the implementation of individual ICT (n = 209)

ICT type	Yes	No	Not sure	Total
Computers	116	72	12	200
Computer networks	104	62	14	180
Internet	128	63	12	203
Mobile Internet	67	65	16	148
E-mail	122	66	16	204
Common databases	89	38	13	140
E-business	55	36	12	103

Source: Own research.

Table 10 concludes that all ICT in the predominantly number of companies (average 58%) have induced to a business strategy change. This boost most often caused by common databases and the Internet. At the end of this chapter, after the concluding analysis of the business strategy changes, Graph 2 presents the percentages of the business strategy change regarding the data in Table 10.

Chart 2. Percentages of surveyed companies that had strategy changes after the implementation of certain types of ICT



Source: Own research.

6. CONCLUSION

In 53% of the surveyed companies, there were changes in strategy due to the use of some ICT. After ICT implementation, companies have intensely abandoned stable and opportunistic strategies, introducing offensive and growth strategies. Top managers evaluate business strategy changes, regarding the importance of that change for the company business, as moderate. There was a statistically significant correlation between the estimate of the size of business strategy change and the amount of total annual company revenue ($p = 0.030$). Companies with lower total annual revenue estimate these changes as small, and companies with higher total annual revenue assess these changes as larger. All seven ICT have caused business strategy change, the least – mobile Internet and the most – common databases and the Internet. The analysis of the research results confirms the fact that ICT significantly influences the process of strategic change in the surveyed companies, thus confirming the hypothesis: The implementation of ICT changes the business strategy of the company. The scientific contribution of this paper is revealing in determining the quantitative and qualitative impact of ICT implementation on business strategy. The practical contribution of this paper is revealing in the set research methodology and the ability to utilize the results in the real sector, i.e. companies in all sectors and sizes.

Preview literature did not investigate specifically the impact of ICT implementation on business strategy, thus the paper reports on an early research stage of this phenomenon. Consequently, there are some open questions: how fast the strategy change occurs, how to evaluate the size of strategy change, what is the impact of other ICT not used in this research? The paper can be an incentive for other researchers to enlarge this research and explore the impacts of ICT minutely in this area, or to explore the impact of ICT on organizational structure, business processes, human resources or other areas. The paper also provides a good base to critically process, replicate, modify and apply the results.

Further researches should investigate in detail the size of business strategy change after ICT implementation, trying to specify the size of the change as an exact variable. Because, in this research, the size of business strategy change was based on the management opinion, regarding the importance of that change for the company business.

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GIS-BASED MULTICRITERIA ANALYSIS METHODS IN NATURAL RESOURCES MANAGEMENT: A REVIEW

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Abstract

The necessity for effective natural resources management is growing with global climate changes and pollution of the ecosystem. Multicriteria analysis integrated with geographic information system (GIS) was recognized in the sustainable management of vegetation, soil, land cover, atmospheric and geologic resources. The purpose of this study was to evaluate the types of natural resources and methods of GIS-based multicriteria analysis. Land cover, agricultural and renewable energy sources were determined as main targets for management using multicriteria analysis in recent years. Wind and solar plants managers particularly benefited from the application of GIS-based multicriteria methods in plant site selection. Four weight determination methods and one multicriteria aggregation methods were analyzed based on their relevancy and effec-

tiveness in recent studies in the world. Analytical Hierarchy Process method was determined as the most advantageous multicriteria analysis method in the majority of cases. However, the authors recommend the conduction of pilot studies of all evaluated methods, as every one of them performs best under specific conditions.

Keywords: *natural resources, geographic information system, multicriteria analysis*

JEL Classification: O14

1. INTRODUCTION

The application of geographic information systems (GIS) in economic analyses is a relatively recent concept. Long before the modern GIS became available, spatial relations were an important consideration in many branches of applied economics. The advances in computing power provided a springboard for developments within the field of applied spatial economy. Most of them focused on the methodological issues that follow from explicit consideration of spatial effects in economic models (Sunley, 2001). GIS offers a powerful collection of tools for displaying and examining spatial relationships. At its simplest, it can be used to produce compelling graphics that convey the spatial data structure and analytical results with power and clarity (Bohlen & Lewis, 2009). Natural resources management planning requires spatial data collection and processing since all locations and their interconnections need to be defined and analyzed in a spatial context. The GIS-based multi-criteria evaluation procedures involve a set of spatially defined alternatives and a set of evaluation criteria represented as map layers (Mokarram & Hojati, 2017). This procedure describes and identifies elements of the natural resources geometrically, thematically and topologically. Furthermore, GIS can deal with object data, as well as field data that can be represented in raster or vector data format. The climatic parameters in combination with soil type and geomorphology can determine areas, where high levels of production are appropriate, avoiding the threat of degrading natural resources (Mavi & Tupper, 2004). Successful resource management and its possible development must begin with accurate, timely and comprehensive data, which could be obtained with GIS tools and enhanced by multicriteria decision analysis (Jurišić et al., 2019). This procedure allows the manager to determine the optimal location of the natural resource of interest. Various criteria groups are used for this purpose, mainly climate, soil, atmospheric, geological and hydrological group. The optimal use of natural resources does not only imply the maximization of production, but the emphasis is primarily on the persistence of natural resources as the basis for social development, and also on the reduction of unnecessary costs (Plaščak et al., 2019; Jurišić et al., 2020).

The objectives of this study were to 1) evaluate recent world trends in natural resources management and the criteria applied in the respective multicriteria analyses, 2) evaluate GIS-based multicriteria analysis methods and their possibilities in the management of natural resources.

2. NATURAL RESOURCES FOR SPATIAL MANAGEMENT

The types of natural resources evaluated in this study were land cover, agricultural resources and renewable energy resources, primarily wind and solar energy systems.

2.1. Land Cover

Sustainable land management has become a necessity for meeting human needs, given the increasing global population and the consequent pressure on soil (Vogel et al., 2018). Land multicriteria evaluation requires a number of criteria, requiring expert opinions along with the selection of multiple criteria. Land suitability evaluation is urgently required for production planning and the sustainable use of land over time in climate-risk-prone countries (Habibie et al., 2019). Several criteria types are required for the land evaluation, such as infrastructure, rivers, soil type, land cover, slope, elevation, rainfall and temperature. Multicriteria evaluation of land suitability involves different criteria such as geological and biophysical elements (geology, soil characteristics, relief, atmospheric conditions, and vegetation), as well as economic and socio-cultural conditions, in the decision-making process (Joerin et al., 2001). The principal objective of the land evaluation is to select the optimum land use for each defined land unit and promote the conservation of environmental resources for future use (Li et al., 2011). Land suitability analysis is the process to determine whether the land resource is appropriate for some specific uses and to determine the suitability level by considering different factors such as land cover type, landscape, and road infrastructure (Manlun, 2003). Suitability analysis of different land cover patterns and dynamics are important to determine the most desirable site for future development.

2.2. Agricultural Resources

Agriculture is a primary productivity sector, which is highly dependent on environmental conditions. The agroclimatic potential of agricultural areas needs to be assessed in order to achieve sustainable and efficient use of natural resources in combination with optimal production (Bootsma et al., 2005). Since agriculture is highly dependent on environmental conditions, a quantitative understanding of the climate of a region is essential for developing improved farming systems (Pereira, 2017). Kogan (2001) proposed the Vegetation Health Index (VHI) for monitoring the impact of weather on vegetation and used it for agricultural drought and agricultural production monitoring. VHI represented the overall vegetation health (moisture and thermal conditions) and was used for the identification of vegetative stress and drought-affected areas (Kogan 2001). VHI was derived by a long-term Normalized Difference Vegetation Index (NDVI) from NOAA/AVHRR satellite (Dalezios et al., 2018). NDVI is a quick and efficient way for the estimation of vivid vegetation. It is indicative of the level of photosynthetic activity in the vegetation monitored, reflecting whether the vegetation is stressed or not. After stressful events, a significant reduction in NDVI in the agricultural field is expected (Dalezios et al., 2018). Remote sensing was proven as a useful and reliable tool to analyze the vegetation dynamics and there are several studies showing the inter-annual differences in vegetation parameters mainly due to water availability (Al-Bakri & Taylor 2003; Weiss et al., 2004).

2.3. Renewable Energy Resources

Energy planning and management problems have been related to rapid economic development. It represents a critical issue of high energy demand and environmental degradation at the regional and national government levels (Sahoo et al., 2016). This significant concern produced a new market of renewable energy to use biomass materials made from organic resources (Mardani et al., 2016). Biomass materials offer many benefits and provide crucial advantages in European renewable energy promotion strategy. The European Union, according to Directive 2009/28/EC, conceived a policy framework of renewable energy sources until 2020 (Resch et al., 2013). GIS presents the best tool for the determination of a new power plant location (Omitaomu, 2012). The multicriteria analysis system was proven to be useful in resource allocation, energy exploitation, energy policy, building energy management, transportation energy management, and others. The multicriteria analysis system and its application methods in GIS are frequently used for the determination of the implementable areas for a wind farm and solar locations based on administrative borders. Utilizing wind and solar power resources requires the geographical database for proper assessment of technical, environmental, economic, land use and social features (Malczewski, 2004). The highest wind and solar resources locations are not always feasible sites for power plants (Haaren & Fthenakis, 2011). It is required to apply more environmental, economic, physical and safety factors (Sánchez-Lozano et al., 2013) for the determination of the potential implementation areas. The increasing public awareness, regarding access to sustainable electricity resources, created a demand for developing and using environmentally friendly renewable energy (Anwarzai & Nagasaka, 2017). Solar energy is not only inexhaustible but also clean. As on-site sources of clean power, solar energy systems can reduce greenhouse gas emissions and air pollution, increasing energy security and creating local jobs. It can be safely converted to other forms of energy without emitting carbon dioxide gas, thereby avoiding any greenhouse effect (Asakereh et al., 2014). The GIS-based decision support systems have reached a high level of maturity and emerged as a powerful tool to build solar energy strategies and to integrate large amounts of solar cells into a flexible, efficient and smart grid (Asakereh et al., 2014). Compared to other renewable energy sources, solar energy is a low-density power supply that necessitates vast areas for exploitation. Also, solar photovoltaic technology has enormous potential for deployment where the amount of global solar radiation per year is very high (Al Garni et al., 2018).

3. MULTICRITERIA ANALYSIS METHODS FOR NATURAL RESOURCES MANAGEMENT

Among the various GIS-based multicriteria analysis methods, five most frequently applied methods were analyzed in this study. These methods are Analytic Hierarchy Process (Feizizadeh & Blaschke, 2013), Technique for Order

Preference by Similarity to Ideal Solution (Hwang & Yoon, 1981), Elimination and Choice Expressing Reality (Kaya & Kahraman, 2011), Preference Ranking Organization Method for Enrichment Evaluation (Albadvi et al., 2007) and Ordered Weighted Average (Eastman, 1997).

3.1. Analytic Hierarchy Process (AHP)

Among the multicriteria analysis methods, AHP has become increasingly popular since it allows the integration of a large quantity of heterogeneous data. At the same time, it makes the process of criteria weight determination straightforward, even for a large number of criteria (Feizizadeh et al., 2013). The AHP can be defined as a theoretical approach for quantification of criteria influence and importance for a certain outcome. It is performed on the basis of expert judgment, through the pairwise comparison of criteria (Saaty, 1980). AHP is extensively utilized for multi-criteria decision making of land suitability for the various fields (Pramanik, 2016). It determines the weight of importance for different land-use based on pairwise comparisons of various parameters, according to their relative significance (Miller et al., 1998). The method uses the relative importance of the criteria in a specific decision-making problem. This includes an index called consistency ratio that indicates the overall consistency of the pairwise comparison matrix. The consistency ratio should have a value of less than 10 percent to indicate a consistent method. AHP allows group decision making, where group members can use their experience, values and knowledge to break down a problem into a hierarchy and solving it using the AHP (Chang et al., 2008). The AHP method is advantageous in determining weights by comparing each factor with other corresponding ones, which is better to have relative weight other than giving absolute weight without any comparison. AHP technique is a process that consists of the following steps (Saaty 2008):

1. Structure of the decision hierarchy taking into account the goal of the study and determine the criteria and sub-criteria.
2. Establish a set of all judgments in the comparison matrix in which the set of elements is compared to itself by using the fundamental scale of pairwise comparison.
3. Determine the relative importance of factors by calculating the corresponding Eigenvectors to the maximum Eigenvalues of comparison.

4. Verify the consistency of judgments across the consistency index and the consistency ratio.

3.1.1. Application of AHP in Natural Resources Management

Ghamgosar et al. (2011) used AHP for tourism revival strategic marketing planning. First, the ecological resources and the influential factors were identified. The map of the study area was produced in ArcGIS 9.3 software. The parameters were used to evaluate the potential for ecotourism development of the ecological models in GIS, which showed that 28,2% of the study area was suitable for tourism development. Mohamed (2020) determined the suitable areas for the installation of future solar desalination stations in Egypt to sustain water resource management. The first step of the study was the site selection criteria parameters were identified. Ten parameters were selected for suitability analysis. The criteria parameters included a population of the Egyptian administrative units in 2019, solar irradiation, water resources, land use, transportation network, elevation, slope, aspect and hillside. The second step was using the AHP method for the selected criteria parameters. The last step involved building the GIS model of the study area. Akay & Erdoğan (2017) applied AHP to generate a forest fire risk map. The study was implemented in the forested areas within Yayla Forest Enterprise Chiefs, which is classified as a first-degree fire-sensitive area. ArcGIS 10.4.1 was used to categorize the study area under five fire risk classes: extreme risk, high risk, moderate risk, and low risk. It was revealed that GIS techniques integrated with multicriteria analysis methods were effective tools to quickly estimate forest fire risk at low cost.

3.2. The Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)

TOPSIS was developed by Hwang & Yoon (1981) for solving multiple criteria decision-making problems based upon the concept that the chosen alternative should have the shortest distance to the positive ideal solution (A*) and the longest distance from the negative ideal solution (A–). Recently, several interesting studies have focused on the TOPSIS technique and applied it in many fields, including supplier selection, tourism destination evaluation, financial performance evaluation, location selection, company evaluation, and ranking the carrier alternatives (Hanine et al., 2016). The steps of TOPSIS model are as follows (Tsaur, 2011; Ding, 2012):

1. Establish a decision matrix for the ranking.
2. Normalize the decision matrix using the following equation.
3. Calculate the weighted normalized decision matrix by multiplying the normalized decision matrix with its associated weights.
4. Identify the positive ideal solution (A*) and negative ideal solution (A −).
5. Determine the Euclidean distance of each alternative from the positive and negative ideal solutions.
6. Calculate the relative closeness coefficient of the i^{th} alternative to the ideal solution.
7. Rank all alternatives based on decreasing values of Ci* and select the optimal one.

3.2.1. Application of TOPSIS in Natural Resources Management

Ghorbani et al. (2018) estimated the potential of Pumped hydro energy storage for four different topologies on a country level. The assessment was carried out by a GIS-based model applicable to any selected country. Iran was selected as the case study country and the topography of the surrounding areas of its existing reservoirs, permanent rivers and coastlines were analyzed to discover potential sites for construction of hydro plants. The TOPSIS method was applied to the discovered feasible sites to integrate an economic sensitivity into the evaluation process. The results of this study show that Iran has a high potential for hydro plant sites. The results of the study are applicable as an initial map for a realistic and practical site selection process in Iran. Therefore, the model can be applied to other countries and an estimate of the global potential of hydro plants could be derived. Chmielarz & Zborowski (2018) used the TOPSIS multicriteria method to identify the best e-banking websites in Poland in 2017 from the point of view of individual clients. In order to carry out the analyses based on the TOPSIS method, the authors used the output tables where each of the clients assessed the selected e-banking services provided by particular websites and fees related to using bank accounts which can be managed via the Internet. Balcerzak & Pietrzak (2016) used TOPSIS to examine the progress achieved by European countries in the field of implementing the concept of sustainable development. The research was based on Eurostat data and it is conducted at a macroeconomic level in the years 2004-2013. The comparison of the ratings in the period 2004-2013 showed that most of the new member states of the European Union have made significant progress in implementing the concept of sustainable development.

3.3. Elimination and Choice Expressing Reality (ELECTRE)

ELECTRE is based on two by two comparing of space units. It gives an ordered ranking of space units in such a manner that when two space units are compared. The preference of space unit A relative to B might be obtained from this method and the value of the space units could not be achieved using it (Bakhtiarifar et al., 2008). ELECTRE was developed through a series of different versions (I-IV). ELECTRE I was designed for a problematic choice of alternatives considered, while ELECTRE II, III, and IV were designed for extreme situations arising from the proposed variants. ELECTRE TRI was designed for a problematic sorting from considered variants (Comaniță et al., 2015). Like other methods of multi-criteria analysis, ELECTRE has the same steps (Vahdani et al., 2010):

- specifying alternatives and criteria,
- performance evaluation according to criteria,
- establishing the weights associated criteria that determine their relative importance.

The essence of the ELECTRE method is to identify the relationships of dominance, and its purpose is that a subset noted "E" should have a few elements that will represent the alternative candidate for the final decision (Vahdani et al., 2010). ELECTRE is specially adapted to environmental and sustainability problems because it searches the best compromise between all decision criteria and not the solution. It can be concluded that ELECTRE is an efficient method that can respond directly to the concerns of policymakers by the ranking of criteria and will remain a valuable instrument for decision making (Comaniță et al., 2015).

3.3.1. Application of ELECTRE in Natural Resources Management

Comaniță et al. (2015) conducted a study to entail the analysis and selection of the optimal alternative of bioplastics able to be used for packaging production. They considered social, economic and environmental criteria. In order to accomplish these objectives, the ELECTRE method was used. ELECTRE was proven as an efficient method that can respond directly to the concerns of policy makers by ranking of criteria (Mendas et al., 2012). A spatial decision support system had been developed for establishing the land suitability map for agriculture. It incorporated the multicriteria analysis method, ELECTRE Tri, within the ArcGIS program package environment. This approach has been tested in the area of Mleta in Algeria. A land suitability map for durum wheat was produced. Shanian & Savadogo (2006) applied the ELECTRE method to determine the most appropriate material for a thermally loaded conductor. A list of all possible choices from the best to the worst suitable materials can be obtained taking into account all the material selection criteria, including the cost of production. By producing a material selection decision matrix and criteria sensitivity analysis, ELECTRE enabled the calculation of more precise material selection for a particular application.

3.4. Preference Ranking Organization Method for Enrichment Evaluation (PROMETHEE)

PROMETHEE is a method for ranking several alternatives from suitable to non-suitable and adaptable for ranking conflicting criteria (Albadvi et al., 2007). There were two requirements in the PROMETHEE method for each criterion: a preference function and a weight value. Preference functions were used to scale decisions into a preference ranging from 0 to 1 (Sari et al., 2020). It presents a simple ranking method in conception and application compared with other methods for multicriteria analysis. It is well adapted to problems where a finite number of alternatives are to be ranked considering several, sometimes conflicting criteria. The implementation of PROMETHEE requires two additional types of information (Albadvi et al., 2007):

- information on the relative importance (weights) of the criteria considered,
- information on the decision maker's preference function, used when comparing the contribution of the alternatives in terms of each separate criterion.

3.4.1. Application of PROMETHEE in Natural Resources Management

Vulević & Dragović (2017) used the PROMETHEE method for ranking of nine sub-watersheds delineated in the Topciderska river watershed, Serbia. Application of ArcGIS software enabled spatial visualization of all factors, their intensity, and overall influenceThe criteria used for determining the order of the most vulnerable sub-watersheds were land cover, rainfall, soil erodibility and topography. The authors concluded that the PROMETHEE outranking method provided a complete ranking of sub-watersheds endangered by erosion process, and thus can help the decision maker to decide where to implement soil erosion and torrent control measures. Bogdanovic et al. (2012) used the integrated AHP and PROMETHEE methods together to select the most suitable mining method for the Coka Marin underground mine in Serbia. The proposed integrated method helped the decisionmakers to easily choose and analyze factors and attributes. Criteria were accurately chosen in order to cover the most important parameters that impact the mining method selection, such as geological and geotechnical properties, economic parameters and geographical factors. The AHP was used to analyze the structure of the mining method selection problem and to determine the weights of the criteria. PROMETHEE was used to obtain the final ranking and to make a sensitivity analysis by changing the weights. The results have shown that the proposed integrated method can be successfully used in solving mining engineering problems.

3.5. Ordered Weighted Average (OWA)

The OWA concept has been extended to the GIS applications by Eastman (1997) as a part of the decision support module in IDRISI software. The nature of the OWA procedure depends on some parameters which can be specified by fuzzy quantifiers. OWA incorporates two types of weights; the criteria weights and the order weights. The criteria weights are assigned to the evaluation criteria in order to indicate their relative importance. The order weights are associated with the criterion values on the location-by-location basis (Mokarram & Hojati, 2017). With different sets of order weights, one can generate a wide range of OWA operators including the most often used GIS-based map combination procedures: the weighted linear combination and Boolean overlay operations (Yager, 1988). The OWA method offers a complete spectrum of decision-making strategy space along the primary dimensions of the trade-off degree between the criteria involved and the degree of risk in the solution (Comino et al., 2016). In addition, the use of OWA aggregation method provides not only a single solution, but allows different evaluation scenarios and management perspectives to be taken into account and evaluated in order to choose the best one. OWA develops several land-use strategies addressing the uncertainty deriving from the interaction among the criteria, from an extremity pessimistic strategy through all intermediate neutral-towards-risk strategies to an extremely optimistic strategy (Keeney, 1992).

3.5.1. Application of OWA in Natural Resources Management

Mokarram & Hojati (2017) used GIS-based soil fertility analysis by OWA in the west of Far provinence in Iran. The soil criteria consisting of potassium, phosphorous, copper, iron, manganese, organic carbon and zinc were used. By utilizing OWA six fertility maps with different risk levels were created. Minor parts of the study area were suitable for soil fertility. The findings of this study can help the farmers with less income, to have the most benefit from their agricultural lands. Liu (2013) used the GIS-based local OWA in London, Ontario. The local model was based on the range sensitivity principle. The results showed that there were substantial differences between the spatial patterns generated by the global and local OWA methods. In the global OWA method, the northwest regions of London have a better socioeconomic status than the central and eastern of the city. The results of local OWA indicate that locations with relatively high socioeconomic status are dispersed across the whole study area. Firozjaei et al. (2018) used a GIS-based analysis that is utilized for investigating the feasibility of solar energy in Iran. OWA was used to evaluate the concept of risk into the GIS-based analysis for determining optimal areas for the installation of solar power plants. Choosing the most appropriate location in decision making leads to a lower level of risk. The most important advantage of the OWA method was risk control in decision making, which was useful to investors in the field of solar energy.

4. CONCLUSION

Areas of natural resources management and GIS-based multicriteria analysis methods for various calculations were assessed in this study. Land cover, agricultural resources (primarily cropland) and renewable energy resources were determined as the most potent components of natural resources management. Solar and wind plants, in particular, were recognized as primary goals in the management of natural resources, as these energy sources are extremely viable in the future. Four weight determination methods, consisting of AHP, ELECTRE, TOPSIS and PROMETHEE were analyzed. The authors recommend the conduction of pilot studies in multicriteria analysis for all mentioned methods, as every one of them performs best under specific conditions. However, based on the existing literature, AHP was determined as the best method in most cases and could serve as a default method. OWA offers many potential benefits as an alternative to conservative weighted linear combination, but future research is necessary. The conclusion is that the integration of a multicriteria analysis approach in the GIS environment provides a powerful spatial decision support system which offers the opportunity to efficiently produce land suitability maps.

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ANALYSIS OF THE SIGNIFICANCE OF THE LOCATION SELECTION CRITERIA

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Abstract

For any form of enterprise capacity planning represents an important component in the planning of overall business operations. Capacity does not affect only the possible volume of output. Besides, poorly planned capacity may generate unnecessary costs for the enterprise when excess capacity is not used, or limit the profits when capacity is insufficient to meet the demand. The selection of the business location is related to capacity planning. Not all businesses can make decisions about their location independently, but such decisions have a major impact on their operation.

All available tools should be used when deciding on the location of a business. This paper uses the example of supermarkets and hypermarkets of Spar Croatia Ltd. in Osijek to analyze the capacity and location using the geographical information system (GIS). As a computer-based tool, GIS allows for the collection, storage, and presentation of demographic data on a map. It is an inte-

grated system encompassing computer hardware, software, data, and trained staff to create geo-referenced data. Also, the authors surveyed store managers on the significance of particular criteria and analyzed the survey data of customers of different commercial chains.

The results show that the most significant criteria for the choice of a location for store managers are: number and density of population, cost of the location, legal regulations and competition in the environment, and for customers: product price, current discounts, and distance, which indicates that the location of a shop is very important to customers. By using the ArcGIS Pro application, it was shown that if Spar Croatia Ltd. would like to expand its capacities, a suitable site would be in the eastern part of the City of Osijek.

Keywords: *capacity, planning, location, geographical information system*

JEL Classification: R30, R39

1. INTRODUCTION

The planning of fixed capacity is the first long-term issue faced by the management. This must be done to place the production or service facility in a favorable location from the start (Barković, 2011:55). In the domain of long-term capacity planning is also the decision on building additional capacity. In medium-term capacity planning the aim is to bring the existing capacity in line with demand. On the other hand, short-term capacity planning involves balancing and making full use of the available resources.

Location decisions are closely linked to the organizational strategy. The location influences capacity and flexibility. Certain sites may have restrictions concerning capacity expansion, the supply of products and services or the creation of new products or services. The use of a geographic information system (GIS) allows the company to observe aggregated quantitative information related to a location. As a computer-based tool, GIS allows for the collection, storage, and presentation of demographic data on a map. It is an integrated system encompassing computer hardware, software, data, and trained staff to create geo-referenced data.

The ability of the system to analyze a large amount of data and their combinations is one of the reasons why it is so popular for location analysis. By using GIS, the company can observe various factors associated with its operations in a particular area and use this information to inform its decisions relating to the overall operation of the business.

The topic of capacity planning and analyzing the company's location has often been studied. Various researchers have found that capacity and location planning has become increasingly important in recent years.

Gill (2015) highlights the importance of planning as a central characteristic of capacity planning. A company needs to make short-, medium-, and long-term plans for its capacities so that it can make the best use of its resources. Potter and Brough (2004) defined nine interlinked components of systemic capacity building: system's capacity, structural capacity, performance capacity, facility capacity, support service capacity, personal capacity, supervisory capacity, role capacity, and workload capacity. All of these components should be considered separately, but their interaction must not be forgotten.

Larsson and Frederiksson (2018) conducted a capacity survey on the example of healthcare departments in Sweden. The research aimed to analyze the current organizational structure of healthcare departments and their capacities and to show what criteria limit the capacities and the possibilities to maximize the utilization of the existing capacity. They interviewed people holding different functions and found two restrictions regarding capacity: (1) the speed and capability of doctors, and (2) physical capacity of the departments – how many patients can be admitted. To optimize the efficiency of a hospital, they suggest holding regular meetings between heads of different departments, to allow timely responses to changes. In case of major changes, hospitals can often handle them in the short term, but otherwise, a strategic plan is needed to keep the situation sustainable in the long term. Although it is difficult to standardize procedures in medicine, they suggest using predictions based on previous events to achieve better organization.

Lagemann and Meier (2014) used Industrial Product-Service Systems (IPS) to present capacity planning. IPS is an integrated system that brings added value by combining the planning, development, and production of products and services. In their paper, these authors presented how this tool can provide support in decision making, as it allows managers to perform business simulations and assess the effects of capacity management before implementing such steps. The management can thus reduce potential risks. As with many other tools, the quality of IPS output depends on the quality of historical data.

Barnard, Kritzinger and Krüger (2011) showed the connection of certain location criteria and business performance of SMEs in South Africa. They concluded that macro factors such as location, rental costs, electricity costs, employment levels, inflation, interest rates, and green building, positively correlate with business performance. According to their research, the location of the business plays an important role in determining the success of the company since each location brings different potential.

Braičić (2014) analyses the issues of location in the Republic of Croatia. Through empirical research, it was found that an efficient electricity grid, good connection with the road network and the existence of skilled labor rank highest among the location factors for SMEs. Another important factor is the influence of the production tradition on their development. The research has confirmed that many small business owners put much emphasis on the location, but the choice depends on how much the location satisfies the requirements. The lack of adequate traffic infrastructure was highlighted as the most common disadvantage of the existing locations.

Xiao and Ye (2019) used the GIS program to analyze possible locations for a new hypermarket taking into account several key criteria for success. They started by finding all the commercial public areas larger than 2,500 square meters that satisfied the requirements for building a hypermarket. Based on previous research these authors determined the catchment area of the new location. The theory suggests that for a smaller supermarket the catchment area is a circle of 500 meters, for a middle-sized supermarket it is 866 meters, for a supermarket, it is 1,500 meters, whereas for a hypermarket it is 2,598 meters. The research included economic factors, such as the costs of land acquisition, demographic factors, i.e. the analysis of population density in different parts of the city, and access to the road network.

All these factors were assigned a weight using the AHP method. After inserting all the factors into the matrix, these authors obtained as a possible solution three locations that meet the predetermined conditions. The results of the research are shown in Figure 1.

Figure 1. The best location for a new hypermarket in a Chinese city

Source: Xiao, D. and Ye, W., 2019: 4

The three locations satisfied the following criteria: population density, access to transport, distance from competitors' establishments and land costs. Ultimately, it is up to the investor to choose the location.

Based on the literature review Turhan et al. (2013) developed a theoretical model that shows the interdependence of criteria for store performance. They grouped those criteria into seven groups: (1) performance measures, (2) population structure, (3) economic factors, (4) competition, (5) saturation level, (6) appeal, and (7) store characteristics. All of the criteria are important for store performance, but they cannot be equally significant when choosing a location. Careful consideration of all the criteria can help increase the store revenues.

Roig-Tierno et al. (2013) developed a model that combines geographic information systems (GIS) and multi-criteria decision-making models to analyze the existing and potential store locations. The research included the criteria for the existing stores, such as distances between them, population density, purchasing power, traffic infrastructure in the city. These criteria were used to determine possible locations for a new store. Each location was assessed according to a set of criteria and sub-criteria. Following the collection of the data related to the criteria, the AHP model was developed to produce an overall assessment of each location.

A survey conducted by Forrester Consulting on behalf of Digimarc (2018) concluded that long lines at checkout are major contributors to low shopper satisfaction. According to the survey results, shoppers today have less time than ever to buy their groceries, and they want their shopping experience to be simple and quick. Previous research has shown that customers are willing to wait at checkout lines 5 to 10 minutes. Longer waiting times increase the possibility that the customer will leave the store without purchasing the product.

2. METHODOLOGY

This paper seeks to analyze the capacity and locations of Spar Croatia Ltd. supermarkets and hypermarkets in Osijek.

The purpose of the paper is to familiarize the reader with the process of capacity planning and location selection when opening a new store in a city.

The paper is based on primary and secondary data sources, books and journals. The research methods used in the paper include data collection, descriptive method, synthesis, analysis, inductive method, generalization for describing individual concepts, and compilation.

Data were collected from the literature listed under 'references' using the data collection method. A descriptive research method was used to describe the basic concepts in the paper. This method involves describing facts in simple terms. The analysis was used to break a problem down into the smaller pieces necessary to solve it. The synthesis was used to merge simple elements into a whole. Using the inductive method, certain general conclusions were drawn from individual facts. The comparison method was used to compare the same or similar processes, facts, occurrences or various relationships. The compilation method was used to present other researchers' opinions to provide a better understanding of the topic and particular concepts. The results of the analysis are summarised using indicators, tables, and figures, and accompanied by detailed explanations. Statistical Package for Social Sciences (SPSS) 24 and ArcGis Pro were used to analyze the data collected.

A limitation in the design of the present study is the availability of performance data for individual Spar supermarkets and hypermarkets in the city of Osijek, as well as data on their organizational structure. The paper presents all the data that could be collected through the research.

3. RESEARCH DESCRIPTION AND RESULTS

The chosen research topic is an analysis of capacities and locations of Spar Croatia Ltd. supermarkets and hypermarkets. SPAR Croatia Ltd. was founded in 2000 by the SPAR Austria group. SPAR Austria is a part of an international family of independent retailers. Nowadays, SPAR operates in 35 countries across four continents. The first Interspar shopping center was opened in Croatia in 2005.[1] Spar continued to expand not only by opening their shopping centers in different cities but also by taking over other retail chains, their locations, and employees; e.g. that is how Spar Croatia Ltd. started their partnership with Hipermarketi Coop d.o.o., which allowed Spar to open new stores all over Croatia. In 2014, Spar took over 20 stores previously owned by the Zagreb chain store Diona, and in 2017, they took over all Billa stores. There are currently 88 SPAR supermarkets and 21 INTERSPAR hypermarkets in Croatia, employing 4,346 workers in total.

Segetlija (2006) defines a supermarket as any form of the self-service retailer with a store area over 400 m^2, but under 2,500 m^2; large supermarkets are defined as those with a store area from 2,000 to 2,500 m^2. A hypermarket is any self-service retail store with a surface area of over 2,500 m^2, which offers a wide range of food and non-food products.

The basic demographic statistics of Osijek will be described in the following part 3.1. to facilitate an analysis of SPAR supermarkets and hypermarkets' business activity in the city.

3.1. Demographic analysis of the city of Osijek

The demographic data of the city of Osijek is necessary to get reliable information about population structure and density, average age, city surface area and neighboring settlements, and population trends.

The city of Osijek is the administrative center of Osijek-Baranja County, located in the east of the Republic of Croatia, on the right bank of the river Drava. When taking into account the surrounding settlements, its surface area is 174.85 km^2, while the surface area of the city alone is 59.11 km^2. The city has 108,048 inhabitants according to the 2011 census, with an average density of

[1] For more information: Povijest (History), Spar HR (2019), www.spar.hr/hr_HR/o-nama/povijest.html [Accessed on: 30 June 2019]

617.94/km^2. According to the latest census, the city has 41,993 households. Observing the population movement of Osijek's inhabitants, going from the 1991 population census to the most recent one, the numbers have been decreasing. According to the Croatian Bureau of Statistics, the city of Osijek has a negative vitality rate, meaning the mortality rate exceeds the natality rate. The average age in Osijek is 41.9 years. The registered unemployment rate in January 2020 was 8.4%.

The GDP for Osijek-Baranja County was 19,277,598.43 HRK in 2016, which corresponds to a GDP of 66,518.00 HRK per inhabitant. The average net pay in the Republic of Croatia was 6,536.00 HRK in 2019.

3.2. Analysis of SPAR supermarket and hypermarket locations in Osijek

Different types of companies make decisions on their location only rarely, but such decisions have a large impact on the company. „Location decisions are closely linked to the organizational strategy. For example, a company that seeks to minimize production costs will select a location where labor and raw material costs are lower or a location in the vicinity of the target market or raw materials to reduce transport costs. If a company seeks to maximize its revenue, it will choose a location with high traffic flow." (Briš Alić et al., 2019:451).

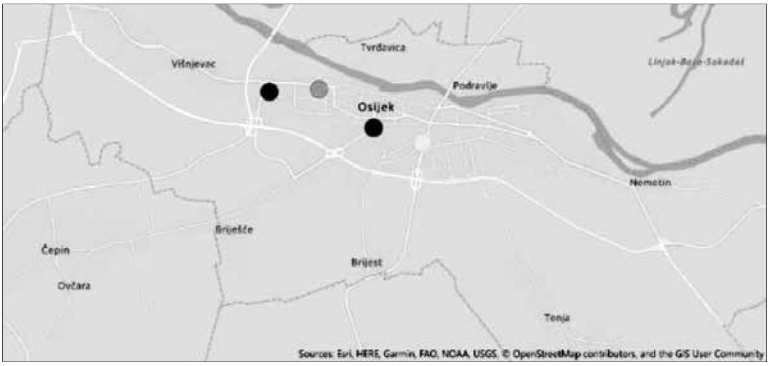
"Location is of the most important for retail business. There is a widely held belief in the importance of location for the retail trade which claims that three factors are crucial to the successful retail trade: 1. location, 2. location, and 3. location" (Siropolis, 1995: 228, in Segetlija, Knego, Knezevic and Dunkovic, 2011: 238).

This section of the paper describes and analyses the locations of SPAR supermarkets and INTERSPAR hypermarkets in Osijek. Spar stores are located at the following addresses in Osijek:

- Svetog Leopolda Bogdana Mandića 7, 31000 Osijek
- Kneza Trpimira 14, 31000 Osijek
- Josipa Jurja Strossmayera 167, 31000 Osijek
- Svilajska 36, 31000 Osijek

The data on the characteristics of locations were collected from publicly available sources or obtained through a survey of store managers. The paper analyzed all the available data obtained through surveys and research. The authors did not have access to confidential information. Figure 2 shows the store locations on the map of Osijek.

Figure 2. Map with locations of SPAR supermarkets and INTERSPAR hypermarkets



Source: Authors, using the ArcGIS Pro

The first location (marked by the red dot on the map) is the INTERSPAR hypermarket at Svetog Leopolda Bogdana Mandića 7, 31000 Osijek. This is the only retail store that Spar Croatia Ltd. opened independently; stores at all other locations in Osijek were acquired from other retail chains. The hypermarket is located in a building with a total floor area of 10.380 m^2. Inside the building, adjacent to the retail area which occupies most of the building's floor area, Spar has its restaurant called Tutto Bene. The building also houses smaller fashion and clothing shops, several ATMs, and shoe stores. In front of the building, there is a parking lot and an underground garage with a total of 479 parking spaces available. This retail store has 14 cash registers.

The second location (marked by the blue dot on the map) is the INTERSPAR hypermarket at Svilajska 36, 31000 Osijek. This hypermarket was created by acquiring the Ipercoop hypermarket. It is housed in a 29.082 m^2 building, which it shares with larger shops such as Emmezeta, Kik, Perfect Dreams Salon, Decathlon and other smaller shops and offices. The store has 10 cash registers and outside there are 1,120 parking spaces.

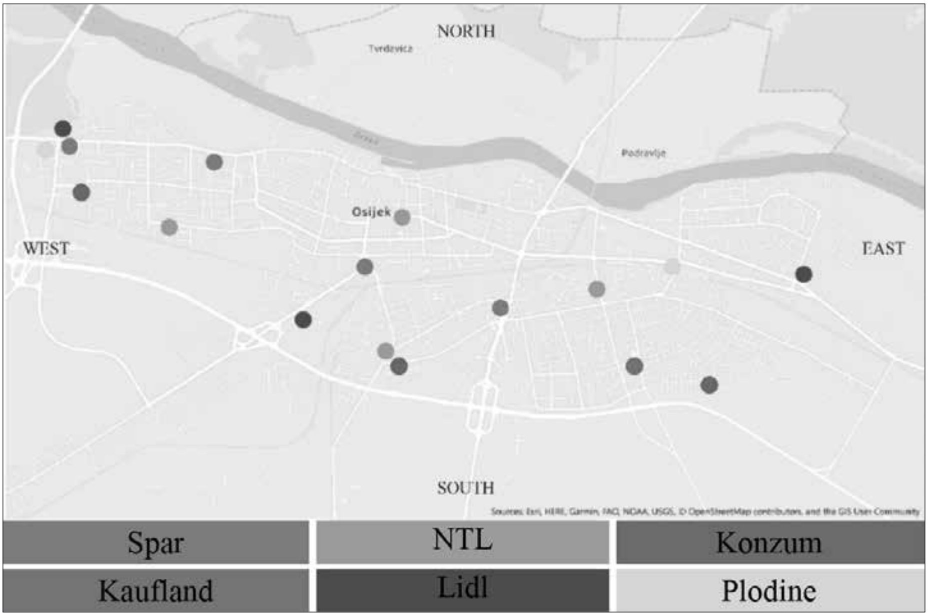
The third location (marked by the green dot on the map) is SPAR supermarket at Kneza Trpimira 14, 31000 Osijek. This supermarket was acquired from Billa retail chain in 2014. It is housed in a building that has a floor area of 3.162 m^2, thus falling into the category of a large supermarket. The retail area of the store occupies about 1,600 m^2, while the warehouse occupies an area of about 600 m^2. The store has approximately 11,000 different products in its product range. There is only one more shop in this building - a BIPA store. This supermarket has 256 parking spaces and 9 cash registers. Currently, it employs 32 people, 20 of whom are licensed to work at the cash register. According to the data obtained, on average 1,150 customers visit this store every day. The supermarket manages to meet their needs successfully without straining its capacity. Operating below its full capacity and relying on the available manpower, the store at this particular location can provide short waiting times for customers in the event of high visitor numbers in a very short period.

The fourth location (represented by the yellow dot on the map) is SPAR supermarket at Josipa Jurja Strossmayera 167, 31000 Osijek. This store was also acquired from the Billa chain in 2014. It is housed in a building with a total floor area of 1.852 m^2, of which about 1.200 m^2 is used as a retail area and 200 m^2 as a warehouse. It falls into the category of mid-sized supermarkets. It has over 10,000 different products in its product range. At this location, there are 117 parking spaces and 6 cash registers.

Due to the unavailability of data on average visitor numbers, visit duration, average daily turnover, etc., it was not possible to analyze the potential capacity for all locations.

Figure 3 shows the locations of the mentioned Spar supermarkets and hypermarkets as well as the locations of competing for retail chain stores. It should be noted that the figure shows only the locations of supermarkets and hypermarkets, and does not include the locations of other smaller self-service shops in Osijek.

Figure 3. Locations of supermarkets and hypermarkets in Osijek



Source: Authors, using the ArcGIS Pro

As can be seen in Figure 3, there are no competing retail chain stores near the three Spar supermarkets and hypermarkets. In the eastern and central parts of the city, there is a high concentration of different retail chain stores that are located very close to each other. It is also evident from the map that Spar does not have any stores in the eastern part of the city. This provides an opportunity to open a new retail store; however, it is necessary to look at the competition in that part of the city first.

3.3. Research on the significance of the criteria in the selection of a location

This part of the paper examines the importance of several criteria in the selection of a particular location for a store. To determine the criteria relevant for the selection of location for individual Spar stores in Osijek, store managers were surveyed about the importance of individual criteria. Based on the data collected, the criteria are ranked as shown in Table 1.

Table 1. Average ratings for the criteria relevant for the selection of a location

Selection criteria	Mean	Standard Deviation
Number and density of population	4.50	.707
Cost of the location	4.50	.707
Legal regulations	4.50	.707
Competition in the environment	4.50	.707
Availability of workforce	4.50	.707
Road infrastructure	4.50	.707
The purchasing power of citizens	4.00	.000
Size of the retail outlet	4.00	.000
Availability of utilities	4.00	1.414
Accessibility of public transport close to the location	4.00	.000
Options for future extensions at the same site	3.50	.707
The distance of store from the warehouse	3.00	.000
The age structure of citizens	2.00	1.414

Source: Authors, based on collected data

The results of the survey show that store managers consider the following criteria to be the most relevant for the selection of a location: *number and density of population* (4.50), *cost of the location* (4.50), *legal regulations* (4.50) and *competition in the environment* (4.50). The above confirms the assumptions made in other studies that have looked at the location of the stores. The criterion *distance of the store from the warehouse* (3.00) comes second to last in importance, while the *age structure of citizens* (3.00) was ranked as the least important criterion. The average ratings and rankings of each criterion coincide with the theoretical assumptions made in the scientific literature and other research works.

For this survey, a structured questionnaire was used to examine the relevance of different criteria in the customer's selection of supermarkets or hypermarkets. 120 persons were surveyed. The demographic profile of the respondents is shown in Table 2.

Table 2. Sample demographics

Variable	Category	N	Percent %
Sex		**120**	**100**
	Male	39	32.50
	Female	81	67.50
Age		**120**	**100**
	Less than 18 years	2	1.70
	18 to 25 years	90	75.00
	26 to 35 years	22	18.30
	36 to 45 years	6	4.20
	46 to 55 years	1	0.80
Professional status		**120**	**100**
	Employed	20	16.70
	Unemployed	2	1.70
	University student	97	80.80
	Pupil	1	0.80
Completed education		**120**	**100**
	Primary school	1	0.80
	Secondary school	50	41.70
	College or university degree	66	55.00
	Master's degree or PhD	3	2.50
Place of residence		**120**	**100**
	Village	25	20.80
	Small town (up to 50,000 inhabitants)	36	30.10
	Medium-sized town (50,000 – 100,000 inh.)	34	28.30
	Large city (more than 100.000 inh.)	25	20.80
Monthly household income		**120**	**100**
	Up to 2,000 HRK	38	31.70
	2,001 – 3,000 HRK	32	26.70
	3,001 – 5.000 HRK	27	22.50
	5,001 – 7,000 HRK	17	14.20
	7,001 do 10,000 HRK	6	5.00

Source: Authors, based on collected data

The chi-square test was used to examine whether there is a difference between the demographic characteristics of the respondents who buy at Spar stores and those shopping at other retail chain stores in Osijek. The results are presented in Table 3.

Table 3. Results of the chi-square test for demographic characteristics

Variable	Chi-Square	dh	Asymp. Sig.
Sex	5.756	1	**0.016**
Age	9.416	4	0.052
Professional status	14.800	3	**0.002**
Completed education	1.476	3	0.688
Place of residence	18.138	3	**0,000**
Monthly household income	4.101	4	0.393

Source: Authors, based on collected data

The table shows that there is a statistically significant difference between individuals who shop at Spar stores and those shopping at other retail chain stores in the variables sex, professional status, and place of residence, while there are no differences in other demographic variables. Men and women shop at Spar stores in equal measure. The ratio between men and women shopping at other retail chain stores is in favor of women (76% compared to 24% of male shoppers). The majority of Spar customers live in large cities (37%) and medium-sized cities (31%), while those shopping at other retail chain stores reside mainly in smaller towns (41%). Retail chain store customers also differ in their employment status – 65% of Spar customers are students, while 29% are employed.

The respondents were asked to rate the importance of several criteria in choosing a supermarket or hypermarket, on a scale of 1 to 5 (1 – not important, 5 – very important). The rankings of the criteria on a scale are presented in Table 4.

Table 4. The importance of criteria in choosing a supermarket or hypermarket

Criteria in choosing a supermarket/hypermarket	N	Mean	Standard Deviation
Product price	120	4.50	.778
Current discounts	120	4.48	.756
Distance from home	120	4.14	.929
Parking facilities	120	3.94	1.176
Size (floor space) of the store	120	3.14	1.095
Interior design	120	3.01	1.057
Additional services within the store	120	2.85	1.082
Access by public transport	120	2.73	1.296
Restaurants or cafés in the vicinity	120	2.19	1.048

Source: Authors, based on collected data

The results of the survey show that the following two criteria were rated as the most important in choosing a supermarket or hypermarket: *product price* (4.50) and *current discounts* (4.48). The lowest rating was given to the criterion of the availability of *restaurants or cafes in the vicinity* (2.19). It is of note that the criterion of *distance from home* was assessed as very important (4.14), leading to the conclusion that the location of the store is extremely important to customers.

In contrast to store managers who rated the criterion of *size (floor space) of the store* as one of the most important criteria for the selection of the location for a supermarket or hypermarket, customers gave that criterion a lower rating (3.14) compared to other criteria.

Based on the data obtained from the customer survey, the chi-square test was used to examine whether there is a difference in the rating of the criteria for choosing a supermarket or hypermarket between Spar customers and other retail chain customers. The test results are shown in Table 5.

Table 5. Chi-square test for the criteria in choosing a supermarket/hypermarket

Criteria in choosing a supermarket/hypermarket	Chi-Square	dh	Asymp. Sig.
Product price	6.787	4	0.148
Current discounts	1.892	4	0.756
Distance from home	2.213	4	0.697
Parking facilities	2.650	4	0.618
Size (floor space) of the store	3.064	4	0.547
Interior design	10.340	4	0.035
Additional services within the store	1.459	4	0.834
Access by public transport	3.283	4	0.512
Restaurants or cafés in the vicinity	2.325	4	0.676

Source: Authors, based on collected data

The chi-square test shows that the distribution of the importance ratings for all criteria, except for the interior design of the store, is the same for Spar customers and customers of other retail chains. The difference in the rating of the importance of the store interior design stems from the fact that 23% of Spar customers rate this criterion as important, while as many as 44% of customers of other retail chains consider it important or very important. Thus, it can be concluded that statistically significant differences in the demographic characteristics between Spar customers and other retail chain customers in the variables sex, professional status, and place of residence did not affect the distributions of importance ratings for the criteria in choosing a supermarket or hypermarket.

The following section of the paper contains the analysis of the respondents' answers to the question about the mode of transport they use to get to the supermarket or hypermarket.

Table 6. Mode of getting to the supermarket/hypermarket

Mode of transport	Respondents		Percent of cases
	N	Percent	
Walking	70	32.7	58.8
Tram	7	3.3	5.9
Bus	10	4.7	8.4
Own car	93	43.5	78.2
Taxi	3	1.4	2.5
Bike	31	14.5	26.1
Total	214	100.0	179.8

Source: Authors, based on collected data

Table 6 shows that 119 respondents gave 214 answers to the question inquiring about modes of transport they use to get to a supermarket or hypermarket (one respondent reported using a tricycle which could be categorized only under other modes of transport).

The analysis of the respondents' answers shows that the most popular mode of transport used to get to a supermarket or hypermarket is by *own car* (43.50%), while *walking* was rated as the second most popular mode of transport (32.70%). It is of note that only 1.4% of the respondents go to a supermarket or hypermarket by taxi. 26.10% of the respondents reported using a bicycle.

The high percentage of the respondents who go to a store in their car suggests the need for making a large number of parking spaces available and being easily accessed via the main roads. Based on the data collected on the locations of Spar supermarkets and hypermarkets in Osijek, it can be concluded that stores at all of these locations have a sufficient number of parking spaces for their needs.

Table 7. Satisfaction with the current choice of supermarkets or hypermarkets

		Satisfaction with the current choice of supermarkets or hypermarkets in the city of Osijek
N		120
Mean		4.05
Median		4.00
Mode		4
Standard Deviation		.858
Range		4
Percentiles	25	4.00
	50	4.00
	75	5.00

Source: Authors, based on collected data

Next, the respondents were asked to rate their satisfaction with the choice of supermarkets and hypermarkets in Osijek, on a 1 – 5 scale (1 – very dissatisfied, 5 – very satisfied). The average satisfaction rating was 4.05. 25% of the respondents said that they were satisfied with the available choice of supermarkets and hypermarkets, while 75% of them were very satisfied with it.

Table 8. Supermarkets or hypermarkets visited

Supermarket/hypermarket	Respondents		Percent of cases
	N	Percent	
Kaufland	33	15.5	41.8
Konzum	48	22.5	60.8
Lidl	52	24.4	65.8
NTL	9	4.2	11.4
Plodine	17	8	21.5
Spar	52	24.4	65.8
KTC	2	0.9	2.5
Total	213	100	269.6

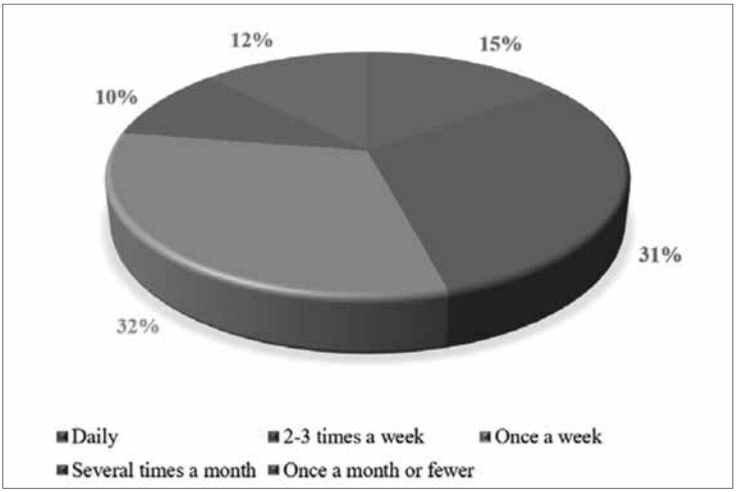
Source: Authors, based on collected data

Table 8 shows that 79 respondents gave 213 answers to the question about the (most) visited supermarket or hypermarket. The analysis of their answers shows that they visit Spar and Lidl the most (24.4%), while Konzum is the third (22.5%) most visited chain. Only 0.9% of the respondents visit KTC. It is interesting to note that as many as 65.8% of the respondents indicated visiting

Spar and Lidl the most. However, it should be emphasized that there are more Spar stores than Lidl stores in Osijek.

To further analyze the importance consumers attribute to distance of a supermarket or hypermarket from their home, the respondents were asked whether they had previously visited a more remote supermarket or hypermarket for a particular product. 80.80% of them answered 'YES' to this question, suggesting that location is not important to customers. In contrast, the criteria for product range and product price are important to them.

Figure 4. Frequency of visits to a supermarket or a hypermarket



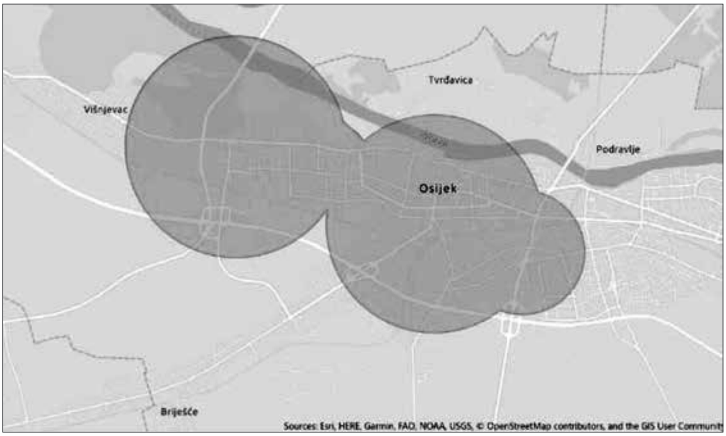
Source: Authors, based on collected data

Figure 4 shows the frequency of respondents' visits to a supermarket or hypermarket. It can be seen that a large number of respondents visit supermarkets very often - 15% visit them *daily*, 30.8% visit them *2-3 times a week*, while 32% go to a supermarket *once a week*. The high frequency of visits reported by the respondents may indicate that there is a need for large supermarkets or hypermarkets.

3.4. Analysis of catchment area

Based on examples from other studies, research data by other authors and data obtained on the locations of Spar supermarkets and hypermarkets in the city of Osijek, it is possible to draw a map showing which parts of the city area are covered by Spar Croatia Ltd. supermarkets and hypermarkets. Due to the limited availability of data and the limitations of the GIS model of the city, in terms of the demographic structure of the population, the research by the authors of this paper was informed by average data for Osijek-Baranja County and theoretical assumptions from other scientific studies mentioned above.

Figure 5. The catchment area of Spar supermarkets and hypermarkets



Source: Authors, based on collected data

Figure 5 shows that Spar stores cover most of the (area of the) city. Although Spar Croatia Ltd. has only 4 retail stores in the city of Osijek, it is evident that their distribution across the city, their size, i.e. floor area and product range make it possible to cover the western, northern and central parts of the city. The map also shows that Spar supermarkets and hypermarkets do not cover the eastern part of the city. This provides an opportunity for Spar to expand its customer base in the future.

4. CONCLUSION

Capacity planning and choosing a location are important components that can contribute to company performance. The available capacity should be properly assessed and used to avoid unnecessary costs. Decisions on company location are not part of day-to-day business; nevertheless, they have a huge impact on company performance. All businesses, whether small or large, need to follow and respond to the changes in the market.

The present paper deals with the impact that the location choice can have on performance. In the literature review, the authors of this paper provide an overview of several studies that showed the impact of location and the methods and models that can be used to choose a location. The research part presents the analysis of the capacity and locations of SPAR supermarkets and hypermarkets in the city of Osijek. The analysis has shown that all the locations have sufficient capacity to serve all their customers without excessive waiting times. Furthermore, the premises are large enough and the locations distributed in the way that most of the city area is covered by their catchment area.

To determine the criteria used in choosing the location for individual Spar stores in Osijek, the authors surveyed store managers on the importance of certain criteria. The criteria that ranked the highest were as follows: number and density of population, cost of the location, legal regulations and competition in the environment.

The authors surveyed customers of different supermarkets and found that the most important factors in their decisions where to shop are the following: product price, current discounts, and distance from home. The location of a particular store is very important for customers.

The analysis has shown that statistically significant differences in demographic characteristics (sex, professional status, and place of residence) have no impact on the distribution of criteria ratings given by customers concerning the choice of the supermarket where they do their shopping.

Store location analysis can be supported by models that can show the sites of all stores in a city, regardless of their size, total floor space, and market saturation. Such an analysis can help develop business strategies and plans for expansion.

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General Economics

THE IMPACT OF WOW AIR

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Abstract

The aim of this paper is to investigate and present the case of the rise and fall of Icelandic WOW air, one of the greatest examples of how a fast-growing, large company can either make or break a small nation's economy. It was founded in the wake of the massive tourism wave in November 2011 by Icelandic entrepreneur, Skúli Mogensen whose extensive business background is largely in technology and telecoms, but not in the airline industry. Its stellar and exponential growth ended abruptly in less than a decade. On 28 March 2019, WOW air announced that it was ceasing all its operations. By that time, it was so large that due to the market share of WOW air the loss of flights harmed Iceland's tourism and fishing-dependent economy. WOW Air brought almost 1/4 of all visitors to Iceland, and its failure caused tourist visits to drop 16%, causing further decline in a vacation home and hotel construction. It seems that the Icelandic booming tourism industry was largely driven by "unsustainable" low airfares. On the other hand, it had helped Iceland's recover from the financial crisis of 2008 much faster than it otherwise would have, so economic and social implications of WOW air crash are still to be judged properly. The "fatal" mistake of WOW air management was in trying to turn the airline into a global business that offered cheap flights between Europe and the US via Ice-

land. The main problem seemed to have been that WOW grew too much and too quickly for its own good, and on top of that external circumstances turned against them quickly, with rising capital equipment costs and other expenses, namely wages and oil prices, as well as coping with rather stiff competition.

Keywords: *Airline industry, Icelandic Economy, Skúli Mogensen, WOW air.*

JEL Classification: O19, O40

1. INTRODUCTION

Iceland's economy was one of the first casualties of the global financial meltdown of 2008. "In the early 2000s, the Icelandic banking sector had grown rapidly but also recklessly, accumulating a gross foreign debt of over 700% of GDP by September 2008. After the Great Recession and Financial Crisis of 2008, the three main banks in the country declared themselves bankrupt; thus, the Icelandic króna—the country's currency—suffered a devaluation of 700%. What managed to save Iceland from the brink of sustained economic collapse was, surprisingly, tourism." (Hernández, 2019). According to the National Land Survey of Iceland (2001), Iceland is sparsely populated, 103,000 km^2 big island in the North Atlantic Ocean. The total number of inhabitants at the end of the 4th quarter of 2019 was 364,260 (Statistics Iceland, 2020). Island has a social-market economy that combines a capitalist structure and free-market ideals with a robust social welfare system, including housing subsidies. The domestic economy is largely service-based. The wholesale, retail, repair, real estate, and financial segments account for nearly 30% of all jobs. Other services account for 38%. About 7% work in the agriculture and fishing industries while about 9% work in manufacturing. Social and health services account for nearly one of out every seven jobs. In 2007, the labor force totaled 181,500, and was 54.5% male, 45.5% female. Unemployment in 2007 was a low 2.3%, but by February 2009 it had reached 8.2% and peaked at 9.6% in May 2009. Agriculture accounts for 5% of GDP, industry 26.5%, and services 68.5%. Government spending was 37% of GDP in 2008. Public debt was 29% of GDP in 2007 and 23% of GDP for 2008. However, with the recent nationalization of major banks and increased spending on social programs, gross government debt increased to an astounding 109% of GDP for 2009. (International Monetary Fund 2015) & (OECD Data, 2019). Despite the majority of employees working in the service industry, Iceland is a thriving producer of goods for export. Along with fish and software services, the exports include aluminum, pharmaceuticals, and medical products, petroleum and petrochemical products, food processing equipment, etc. What happened in 2011, though, was a massive rise in tourism, indirectly caused both by the Icelandic financial crisis (lower exchange rate of Icelandic Krona) and by the volcanic eruptions (the notorious Eyjafjallajökull volcano) that changed usual air transportation routes, disrupting flight plans all over the world. Also, certain Hollywood producers had already taken interest in filming some of their movies and TV shows there. At the same time, the government tried to ameliorate the effect of the crisis by encouraging joint ventures with foreign firms that should bring fresh capital and facilitate the transfer of modern technologies. One of the greatest examples of how a big company can either make or break Iceland's economy is the rise and eventual fall of budget airline Wow Air.

2. THE RISE OF WOW AIR

The low budget airline Wow Air[1] was founded in 2011, in the wake of the mass tourism boom, after the financial crisis had started to dwindle and Icelandic volcanoes had brought international attention. These events gave the newly formed airline a tremendous head start in their early days. Establishing Iceland's airport as a central flight station in the Northern Atlantic Ocean, connecting the continents of North America and Europe, and having the advantage of flying passengers between the continents, most of the time those passengers stopped in the middle of their journey and spent a few days in Iceland. This was the basic principle of Wow Air; transporting passengers between the continents of Europe and America, and having them spend a few days in Iceland in between, therefore bringing in more tourists to Iceland and thus making a positive effect on the Icelandic economy, as well as creating unique competition to other budget airlines flying between North America and Europe (WOW air, 2019). It is also the fact that Wow air flew on the most competitive intercontinental route in the world, connecting Europe with North America, as well as it had, for a low-cost carrier, unusually strong domestic competition: "In the summer of 2018, Icelandair and WOW had 19 overlapping routes out of

1 Although, in the beginning it was a company without its own airplanes and even without an air operator licence. "Icelandic law, unlike many other countries, does not prevent a company to call itself an airline even though it does not have an air operator's licence. For this reason both Iceland Express and WOW air (from 2012-2013) operated as marketing and sales businesses, and wet leased aircraft from airlines with full AOL in another European Union country." (Gudmundsson, 2015).

Icelandair's 45 and WOW air's 34 routes. This represented 49% of Icelandair's seat capacity and 70% of WOW air's seat capacity. Most successful low-cost airlines (Southwest, Ryanair, Easyjet, etc.) avoid direct competition and have a high proportion of monopoly routes in their network usually in the high 70s or 80s. … WOW, air (WOW) evolved from a struggling point-to-point low-cost airline to a hub-and-spoke low-cost long-haul airline (LCLH). In the process, the airline rewrote the business model for LCLH and transformed itself from a fringe operator to a fully-fledged airline operating a fleet of leased A321 and A330 aircraft." (Gudmundsson, 2015). In the following years of 2012-2015, with the rise and escalation of tourism in Iceland, the company grew substantially and the market and competing companies had no idea how they were able to grow so fast and offer their flights at such low prices. "The company was founded by the billionaire Skúli Mogensen, who made his fortune in the Icelandic tech business. He sold his company, OZ, to the Finnish phone-giant Nokia in the year 2008, just moments before the banking system crashed in Iceland. His money was not in Iceland when that happened, so when the Icelandic króna fell, well, his dollar stayed the same. He found himself as one of the wealthiest people in Iceland overnight. At least, that is how the story goes. … The first year of WOW Air was a mild success. Over 110,000 customers flew with the airline in their first year. In 2014, they were just under half a million; in 2016, 1.6 million; and in 2017, about 3.5 million people flew with the airline. … WOW Air lost 330 million ISK in 2013, but all in all, they lost around 1.1 billion ISK (8 million Euros) the first two years. At that time, the company's shares were solely in the hands of Skúli himself, so it was hard to see exactly what was going on within the company." (Grettisson, 2019). After only 3 years of operations, they were flying to 12 destinations in North America and over 20 destinations in Europe, and in their fourth year, they even had plans and began negotiations to fly to destinations in Asia (Sinha, 2018). Suddenly the market value of a single trip from Reykjavik to Copenhagen had dropped from 160 euros to approximately 50 euros, as an example. Wow, Air could seemingly do this with their flights to Europe and North America, besting some other, well-established budget airline competitors such as EasyJet, Ryanair and Wizz Air (Mutzabaugh, 2017).

Seven years since its inception passed and in early 2017 first rumors started to spread from employees that they were not getting their full salaries paid on time and that the airline was struggling to fill their seats on the planes, especially the ones flying westward to North America. Also, it was rather well known that even though Wow Air had spread so big and so far in such a short time, their assets and the total worth were not as grand as previously expected. The airline owned none of its 20 airplanes. All of them were owned by various airplane rentals and the landing permits were also based on contracts renewed each year. So, the only real value or asset of Wow Air was the brand itself and the flight operation license (Aerotime, 2019). Finally, it was late in the year of 2018 when the Wow Air story finally started to unravel. It was reported that Wow Air was massively in debt to various leaseholders, and also the companies administering various airports, namely Keflavik airport of Iceland, which is a government company funded by taxpayers. This resulted in a public outrage that a private company could go so massively in debt, especially when other companies couldn't. The official explanation was that Wow Air was strategically important, which was truth, but public still deemed questionable why one private company in such risky business environment was given the benefit of the doubt of raising such a huge debt to all these, mostly public/government-owned companies, so it might prevail on the market (Science X, 2019). In March 2019, news started spreading that time was running out for Wow Air. Their creditors were running out of patience and their airplanes were being called in by their owners. Some of their leased airplanes had even been forcibly grounded in various countries, as insurance for Wow Air debts, which further outraged the plane owners, because they had nothing to do with those debts (Calder, 2019). Now the owner and management started a desperate search for new capital and new investors, while some airports in America had started to revoke their landing permits because of bad reputation and non-paid fees. At this time, all 5000 employees of the airline had become anxious because they did not know if they would have a job in the near future. The most appalling part about this fiasco was that both employees and clients, that people who had already purchased their tickets with the airline, had no idea how matters were going. The owner of Wow Air, Skúli Mogensen, was not one to give out many interviews unless things were going well. When things were turning sour as they had at that time, he was not keen to give out news on the process, but in the weeks before the fall of the airline, he was reportedly seen having meetings with all sorts of global investors, presumably in an effort to save the company (Millington, 2019).

The excitement and anxiousness in the Icelandic society were astounding since people did not know what to expect, everyone knew Wow Air was in deep trouble with the debtors and airplane rentals, but every effort was made to save the company. It had been almost too good to be the true scenario with the prices of fares that Wow Air was offering, people could fly to New York, LA, Amsterdam, Copenhagen, Paris, etc., for only a price of around 100 euros. The true explanation for Wow Air's ridiculous cheap prizes was rather a sad one, though. They were underselling their airplane seats, basically losing money with every customer and therefore assembling more debt. This was done in an effort to fill up every plane with passengers. As Skuli Mogensen said in an interview: "No one will buy a Wow Air ticket if it's the second-cheapest. The internet tells us, every day, every second – it's a brutal boss." (Guardian, 2015). Since Wow Air had expanded so much and so quickly, they were having trouble filling all their seats for all the many destinations they were flying to, having only existed for a couple of years! (Zhang, 2019). This was obviously a flawed business model, which maybe could have worked in the short term but not in the long run, and finally, the curtains closed for Wow Air on March 28th when Skúli Mogensen turned in his flight operation license, citing that his business meetings with investors had not delivered the intended progress and that time had simply run out for the flight company.

3. THE FALL OF WOW AIR

Finally, Wow Air was bankrupt. "As is often the case with low-cost airlines the airline was a success story measured in growth but this very success put heavy strains on the financial health and service quality of the airline." (Gudmundsson, 2015). This was especially bad since with only 3 days of the month left to go, all employees received no paychecks at the beginning of April, believing that the company would be saved as its owner had promised many times. "WOW Air immediately grounded its fleet, leaving thousands of air passengers stranded at Keflavik Airport. The airline, which was rated as one of the poorest performers worldwide, made zero arrangements for their passengers, leaving them stranded and finding a way to their destination on their own. … When it first commenced operations in 2012, the Icelandic airline delighted US travelers with flights to Europe for less than $100. Yet, on-time performance was rather poor. In 2018, 34.35% of their flights arrived at least 15 minutes late or more - and for a large portion of these, it was way more indeed. As a result, the Icelandic low-cost carrier faced an ever-growing amount of claims for compensation under the EU Regulation 261/2004. In 2018 alone, Claim Compass received over 100,000 claims against WOW Air, which according to EU Regulation 261/2004 ranged between 250€ and 600€ and amounted for a total of approximately €38.8M (Busson, 2019). There were about 1100 Wow Air employees out of job (Fontaine, 2919), as well as another 1000 who lost their jobs in connection to Wow Air.

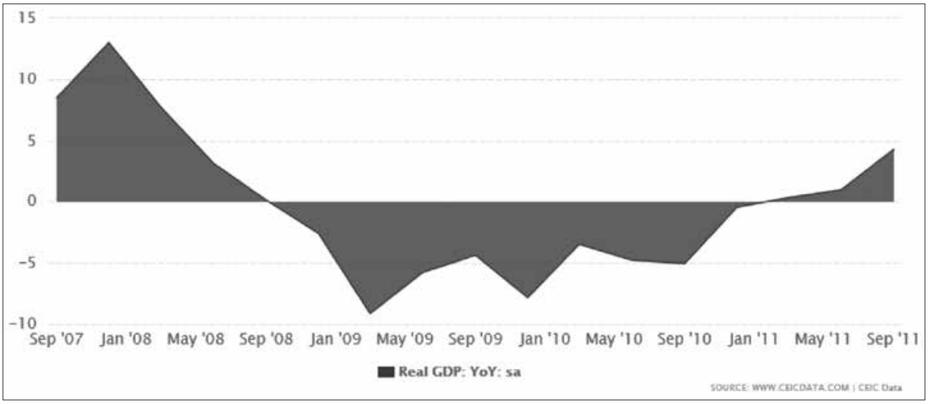
The chief executive of Wow Air has said his "fatal" mistake was trying to turn the airline into a global business. Speaking to the Financial Times (Spero, 2019) Skuli Mogensen said Wow, which offered cheap flights between Europe and the US via Iceland, had started off with narrow-body planes, but "we wanted to use Iceland as a global hub connecting three continents" (Prosperi, 2019) so the airline ordered expensive wide-bodied jets, which can fly further, in late 2016. As oil prices increased in 2018, however, "it was clear that we needed to change course fast," he said. "In retrospect, the wide-body decision, unfortunately, turned out to be fatal." For most of 2018, jet fuel costs between $80 and $90 and came close to $100 in early October. In late March, it was $80.55, while two years earlier it had been as low as $50. It is unbelievably irresponsible form the management that Wow air had no fuel hedging agreements (Gudmundsson, 2015). There were several last-ditch attempts to rescue Wow, including a proposed $90m investment by US private equity firm Indigo Partners, which fell through, and a potential takeover by national rival Icelandair. When that failed, Wow's bondholders agreed to convert their debt to equity, but Wow could not secure additional capital. Several European airlines[2] have collapsed at that time too. (Garcia, 2019).

4. THE IMPACT ON THE ECONOMY AND AFTERMATH

The shock of Wow Air's bankruptcy highlighted how reliant Iceland has become in tourism. Following the collapse of its privately-owned commercial banks between 2008 and 2011, Iceland was faced with substantial GDP loss (Figure 1.), severe economic depression and political turmoil.

[2] "In February, the UK's Flybmi ceased operations, as did Berlin-based Germania. The same month, another British airline, Flybe, sold its assets to a consortium including Virgin Atlantic after it almost ran out of money. Last autumn, Latvia-based Primera Air, Cobalt Air of Cyprus, Germany's Azur Air, Lithuania's Small Planet Airlines and the Swiss SkyWork Airlines all collapsed. In 2017, it was larger carriers Alitalia, Monarch in the UK and Air Berlin." (Spero, 2019).

Figure 1. Real GDP loss during the Crisis years:



Source: (www.ceicdata.com – CEIC data)

The Wow Air with its more than affordable flights connected Iceland with the rest of the World and enabled tourism-based not only on traditional attractions like the northern lights but also on some modern attractions like the routes that travel the landscapes like the Thingvellir National Park and glacier slope next to the Eyjafjallajökull volcano that have become popular in the Game of Thrones series, to become next dominant source of income, fueling the recovery from the previous crisis, as "the largest export sector for the country and it accounted for more than 10% of the GDP in 2017, it also accounted for c. 42% of the export revenue, which was followed by seafood (17%), aluminum (16%) and others. The tourism sector employs a whopping 30,000 people …" (Televisory, 2019). More than 2 million people visited the country in 2018, and during the height of Iceland's traveler boom in 2015, the tourism sector made up one-third of the country's economy (Figure 2).

Figure 2. The revenue from tourism in Iceland Dec 2007 – Dec. 2017

Source: (www.ceicdata.com – CEIC data)

"After 20 quarters of uninterrupted growth - the longest upswing in its recent history - Iceland is bracing itself for a sharp downturn. Forecasts for 2019 vary widely, with Arion Bank predicting a slump as deep as 1.9 percent, but there's a general consensus that the nation is facing its worst contraction since the financial crisis." (Sigurdardottir, 2019). Some were predicting the country's tourism boom would end even before the Wow air collapse — 2018 only saw a 5.5 percent uptick in tourists from the previous year, compared to a 24 percent increase in 2017 — but the Wow Air's bankruptcy seems to have made things worse for Icelandic national economy which has also suffered from a disastrous fishing season. In October 2018, Iceland's Arion Bank noted that the country's booming tourism industry was largely driven by "unsustainable" low airfares but had helped Iceland recover from the financial crisis much faster than it otherwise would have. It also forecasts that tourism growth would slow considerably in 2019 and 2020 (Spero, 2020). Johan Ivarsson, an analyst at IFS in Iceland, said Skúli Mogensen had "clearly lost sight of the main goal of a company like that, which is to be a low-cost airline" (Spero, 2019). He also pointed to high oil prices and wage costs.

In June of 2019, the forecasts for the Icelandic economy were not bright: "Wow's demise is bound to hit the economy, which generates approx. 10% of its GDP from tourism and employs around 30,000 individuals. The impact can be seen in the revised forecasts, the economy that was previously estimated to grow by 1.8% is now expected to contract by 0.4%. Identically, inflation estimates have been revised upwards to peak at 3.4% in mid-2019 and then slow down to 2.5% over the next two-year horizon. On similar lines, the forecast for unemployment has been revised upwards to 3.9% from 3.1%. Further, with the bankruptcy of the airline, the count of non-Icelandic tourists traveling to the country fell by 18.5% in April 2019 YOY. Analysts expected Iceland's tourism sector to slow down even before the collapse of Wow Air, while 2017 registered an uptick in tourists at 24%, 2018 saw just a 5.5% increase. Though Wow Air's actual collapse has only exacerbated the situation for the Icelandic economy (Televisory, 2019) and the króna could weaken by as much as 13% in the next year." (Grettisson).

Wow, Air's collapse may have had devastating effects on Iceland's economy, but it also isn't too surprising. Wow, Air was the eighth European airline to have failed since the summer of 2018. Budget airlines have long struggled with a combination of fluctuating fuel costs, overcapacity, and a continent-wide fare war. So, the main problem seemed to have been that Wow Air grew too much and too quickly for its own good, and on top of that internal costs mismanagement and external circumstances turned against them quickly, with high oil prices and stiff competition crossing the Northern Atlantic.

5. CONCLUSION

Due to their national history (Karlsson, 2000), the small numbers, as well as the geographical isolation and the relatively small area they inhabit, the Icelanders are well connected to each other, in the eternal doubt between isolationism - preserving traditional values and internationalism - integration into international economic and political relations. Their small number has never been an obstacle to a belief that they are ready not only to fight against much larger nations but also to win! Deciding to open up to the world and further accelerating it with strong deregulation and privatization according to neoliberal economic approach, David Oddsson, an assistant theater director, political commentator and director of publications of a conservative publishing house, before starting his political career, first as Mayor of Reykjavík (1982 - 1991), the longest-serving Prime Minister of Iceland (1991 - 2004), foreign minister (2004 - 2005) and the chairmen of the board of governors (without any economic education) of the Icelandic Central Bank (2005 - 2009), has fueled the growth of the Icelandic economy, and in particular the financial sector. As the Icelandic banking sector evolved, so did politicians – from mere government-appointed bank supervisors they became members of their boards. In this conflict of interest, it was precisely those people who needed to establish a framework for supervising banks who gained directly from their profits, regardless of the risk to which banks were exposed to, which, with the already existing institutionalization of friendly, business and family ties, with insufficient experience and excess self-confidence has further intensified the crisis in the Icelandic financial sector under the influence of global financial crisis in 2007 and 2008. As the banking sector was 11 times higher than Iceland's GDP at the time of the crisis, it was impossible to guarantee banks' liabilities. The Icelandic authorities have opted for a Wall of Shields around Icelandic savers and homes to mitigate the effects of bank failures on Icelandic citizens and businesses, while the bulk of the burden was borne by foreign creditors (Wall Street Journal, 2008). This pattern has also been repeated in the case of Wow Air. A person with no prior experience in aviation, in a post-financial crisis period, was able to create such a company with considerable unscrupulous financial and legislative support from the state, for the purpose of creating a new national as well as globally recognizable winning industry. The main problems besides those institutional, mentioned above seemed to have been that the Wow Air grew too much and too quickly for its own good, and on top of that external circumstances turned against them soon, with rising capital equipment costs and other expenses, namely wages and oil prices, as well as coping with rather stiff competition. The collapse of such a large company has echoed throughout the Icelandic economy, causing rising unemployment, slowing economic growth, falling domestic currency exchange rates, as well as public sector funding which relied on air transportation and tourism revenues after the financial collapse.

Iceland's pattern of high reliance on a single, selected industry or sector, as an engine of economic development, as well as all the consequences that can usually result from it, could serve as a clear warning to over-reliance on Croatia's tourism sector (with a share in GDP of almost 1/5), especially because of the uncertainty brought by numerous and unpredictable regional as well as global threats to its further expected growth.

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AN EMPIRICAL STUDY TO IDENTIFY VARIABLES FOR DETERMINING BUSINESS MODELS OF STOCK PHOTO AGENCIES

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Abstract

Stock photography market research is a challenge of a scientific-research approach to the analysis of business operations on the global market. This paper establishes a methodology for researching the stock photography business, primarily oriented to data collection and range of respondents (n = 117 companies) by collecting data and information from publicly available sources. As this is a global market business model, the criteria for inclusion of units in the sample were established in the process of defining the methodology and were clarified and systematically applied in the process of designing the research methodology.

The study included more than 100 registered sales points across the world, and those brokers/distributors of stock photography who identify themselves as "stock photo agency" were considered as business entities (units of study).

Primary and secondary data sources come from six groups of sources (websites of agencies/distributors, experts' analyses, business intelligence, web traffic analytics companies and other sources obtained by searching the web), and each group of data sources is described according to criteria relevant for the research. Sales models of the analyzed respondents (companies) are explained and specifics of each of the models listed.

Keywords: *data collection sources, variables, modalities of features, global business, sales models*

JEL Classification: M10, M19

1. INTRODUCTION

The starting point in defining research methodology was the determination of the subject of research i.e., the stock photography (SP) business. The SP business implies the fulfillment of three basic conditions:

1. Photographs are taken in advance for an unknown buyer,
2. There is an intermediary in the sale (only a few authors offer their photographs directly on the market),
3. Photographs are offered through web pages where the entire transaction is performed (selection, payment, and download of the photograph).

By satisfying the previous three conditions, photographs become stock photographs (SP), and models used for trading stock photographs (SP) on the market vary in their definitions. The research aim of this paper is to identify the key variables for determining business models in stock photography (SP) business.

The study of business models on the market of digital visual content (SP) included only businesses that meet all three stated conditions of the SP business. According to the first global study of the SP market conducted by Glückler J. and Panitz R. (2013), 2,342 agencies operated on the market.

The sample constructed in 2019 and analyzed in this paper includes more than 100 registered sales points from around the world (n = 117). These are sales points which offer for sale the rights to use the photographs stored in their databases. The sample includes about 5% of the total number of agencies active on the global market (estimated total number of agencies is 2,500, based on corrected data from research by Glückler J. and Panitz R., 2013). A sales point is a company that offers photographs as an intermediary/distributor and is called a stock photo agency, and such companies are abbreviated as "agency" in the research.

The collected data (n = 117) refers to the group of the 30 largest, dominant agencies on the market, and other agencies that are competitive in this type of activity. When selecting agencies for the sample, the following were taken into account: geographic distribution of agencies (as many countries as possible, from all continents), the inclusion of agencies of different sizes (number of employees, turnover of SP), length of business operations and way of doing business. Data was collected from publicly available secondary sources, and 37 variables were constructed based on the selection.

2. PREVIOUS RESEARCH

Previous research relevant to his paper is reviewed within three research topics: a) business model research, b) stock photography research, c) use of secondary data sources in the analysis of the digital business.

2.1. Business model research

The term business model was first mentioned by Bellman et al. (1957) in a research paper that explores the creation of educational games for businesspeople. Timmers (1998) was the first to define and classify business models as an architecture for the product, service, and information flows. Six years later, Afuah (2004) observed that business models are one of the factors that make certain businesses more successful than others. In general terms, a business model is a way in which a company achieves profit. Osterwalder and Pigneur (2010) offered one of the frequently cited schemes for comparing business models. It is a business model scheme that divides the business model into nine blocks that together build the key aspects of the business model. In their research, DaSilva and Trkman (2014) state that the term business model in management literature is often confused with other popular terms, such as strategy, business concept, revenue model, economic model, or even business process modeling.

If the classification of e-business models according to Ružić, Biloš, and Turkalj (2014) is viewed in the context of the SP business, it is evident that it fits ideally into their *brokerage model*, which is dominant today in the global SP market, because according to Hatirmaz (2014), about 85% of transactions in licensing of digital photographs are performed under this model. The *brokerage model* is closely linked to the model in which the SP business is most ideally embodied, which is the *crowdsourcing model*. It was introduced in 1998 with the launch of the InnoCentive platform (Schenk and Guittard, 2011), and the term *crowdsourcing* was first identified by Howe in his 2006 article "Rise of Crowdsourcing", which describes how "the age of the crowd" enables companies to use global networking by connecting people who will perform work remotely (Howe, 2006). SP business fits into the *crowdsourcing* business model because it involves a large number of creatives who work remotely. Given that these creatives do not have to be full-time employees, and anyone interested can become an associate, Smith (2012) predicts that *crowdsourcing* will be the optimal business model for the digital age.

Ružić, Biloš, and Turkalj (2014) explore the *production model*, in which individual authors offer their photographs directly to end customers through their websites. In the collaborative model, according to the same authors, associates direct users from their websites to the point of sale and earn a commission. Furthermore, according to Ružić, Biloš, and Turkalj (2014), one of the e-business models is the *virtual community*, in which authors come together and make a joint appearance in the market towards end customers, avoiding intermediaries. An example of such a model is *Photochain.com* through which authors have full control over the price, copyright and licensing of photographs.

2.2. Stock photography research

According to Frosh (2001: 3), "Stock photography is a global business that manufactures, promotes and distributes photographic images primarily for use in marketing promotions, packaging design, corporate communications, and advertising." Glückler and Panitz (2013) conducted the first global study of the SP market and by segmentation identified 4 types of agencies that deal in SP, according to four business models: *classic agencies, collectors, distributor agencies and intermediaries agencies*. According to a study conducted by Kalazić, Horvat, and Mijoč (2015), photography of the digital age has lost the characteristics of a physically tangible product and has become a virtual intellectual property. Simultaneously with this process, the process of transition of photography into a mass-produced good has taken place. The Internet is becoming a bridge for photography, allowing it to cross into a new dimension, thus expanding its production and sales capacities. A year later, Kalazić, Horvat, and Mijoč (2016) analyzed the business models of various authors active in the visual content market and concluded that every SP photographer faces the usual entrepreneurial risks: demand risk, technological risk, financial risk, and emotional risk. In a study on the future of the SP business with implications for new business models, Kalazić, Butković, and Hašćek (2018) concluded that technological development leads to fundamental changes of organizational and business models of the visual product's market. A combination of technology advances and the speed of spread of new applications among authors and consumers create hyper-production of content, but also new business opportunities.

2.3. Use of secondary data sources in analysis of digital business

Characteristics or variables are features of elements that are studied and which take on different values for individual elements. These values are called data and they can be primary or secondary sources of information. Secondary research, according to (Stewart and Kamins, 1993), involves the use of existing data for a purpose other than that for which it was originally collected. According to Horvat, Marković, and Kuleš (2000: 97), "The ways in which data will be collected will affect the quality of the data itself. Selecting a data collection technique is a research phase that requires a lot of attention, because its unpreparedness may significantly jeopardize all other research steps." Although scientific practice prefers primary data, secondary data often becomes the basis for scientific conclusions. "The digital age has allowed the possibility of (open) access to already collected data and established databases (files). Researchers can reach for secondary data of "statistical sets" and analyze it as if it were primary data. The precondition for such an analytical approach is the possession of the described and available methodology and the obligation of detailed quoting of sources, authors and financiers of the project within which the data was collected. With proper retrieval and citation, secondary data obtain analytical characteristics of primary data." (Horvat and Mijoč, 2019: 16).

Three different research strategies are applied in the analysis of secondary data ('t Hart, Boeije and Hox, 2005):

- Content analysis,
- Secondary analysis, and
- Systematic review.

In *the content analysis*, the focus is on taking or summarizing the content of different forms of social communication, with the most common sources being print, books, TV shows and websites. The research challenge in content analysis is to categorize and encode secondary data collected and selected from a large volume of unstructured data.

Secondary analysis methods differ slightly from those used for primary data sources (Wallgren, 2007), while *systematic review* (meta-analysis) combines and examines the results of several studies of the same or similar occurrence.

This paper analyses data collected from a large number of different secondary sources. With such scope of data, a methodology for constructing a quantitative review of the data is organized, which is further analyzed according to standards appropriate for analysis of primary data, thus ensuring secondary analysis.

3. DATA COLLECTION SOURCES

The collection of secondary data on business operations of agencies from publicly available sources was preceded by a pilot survey to determine the ability to collect primary data. In the process of implementation of the pilot survey, thirty test queries were sent to agencies accompanied by a request to participate in the survey. After sending the questionnaires and receiving a response rate of less than 5% in the pre-research process, it was deemed necessary to apply another data collection technique. By researching secondary data posted on websites of agencies, it was determined that primary research data will consist of variables collected from six different publicly available sources of information (websites of agencies, experts' analyses available on websites, data collected by market research companies, data downloaded from web traffic analytics companies, web platform for distribution of digital content and results of a direct search of the Google web search engine).

Table 1. Sources of collection of secondary and primary data

	Data sources	Description	Name	Network address
1.	Websites of agencies/ distributors	Their main activity is stock photography business	All agencies from the sample	The web site of a stock agency
2.	Expert analysis	They post reviews on online portals	Jim Pickerell	https://www.selling-stock.com/
			Amos Struck	https://muckrack.com/amos-struck/articles
			Yuri Arcurs	http://arcurs.com/
3.	Market research companies (business intelligence)	Collect and analyze business information of other companies	Crunchbase	https://www.crunch-base.com/
			Owler	https://corp.owler.com/
4.	Web traffic measurement and analytics companies	Dropbox archived content the application automatically up-loaded to agencies	Dropstock	https://dropstock.io/
5.	Web platform for distribu-tion of digital content	Website traffic statistics and market research	Similarweb	https://www.similarweb.com/
			Alexa	https://www.alexa.com/
6.	Web search	Keywords: name of the agency + „about us, review, annual revenue, employees, pricing plan, license,...“	Search engine Google	https://www.google.hr/

Source: Authors

Table 1 shows the six sources of data collection. These are primary and secondary sources of data collected from websites, which have not been previously consolidated or analyzed for research purposes but were collected solely for this study.

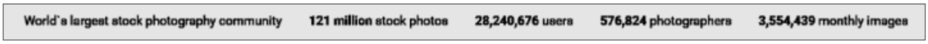
3.1. Characteristics of data sources

The data sources used in this study differ from each other and each data source is accessed based on its characteristics. The specifics of each data source listed in Table 1 are given below.

3.1.1. Websites of agencies/distributors

SP agencies publish some general business information on their websites.

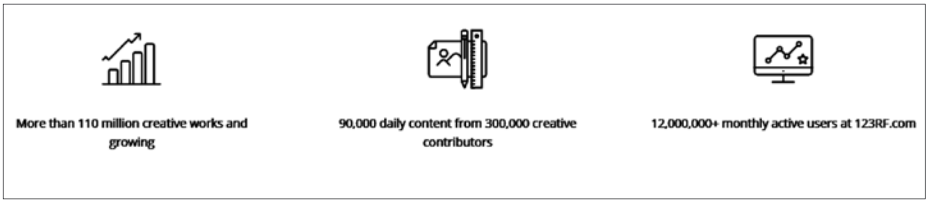
Figure 1. Data published on the Dreamstime agency website



Source: https://www.dreamstime.com/, [Accessed on November 15, 2019]

It is usually possible to download data on the number of employees, the number of contributors, the number of SP categories, the total number of photographs offered in the agency's portfolio, followed by information on the sales model and the type of licenses.

Figure 2. Data published on the 123.rf agency website



Source: https://www.123rf.com/ourstory.php, [Accessed on November 17, 2019]

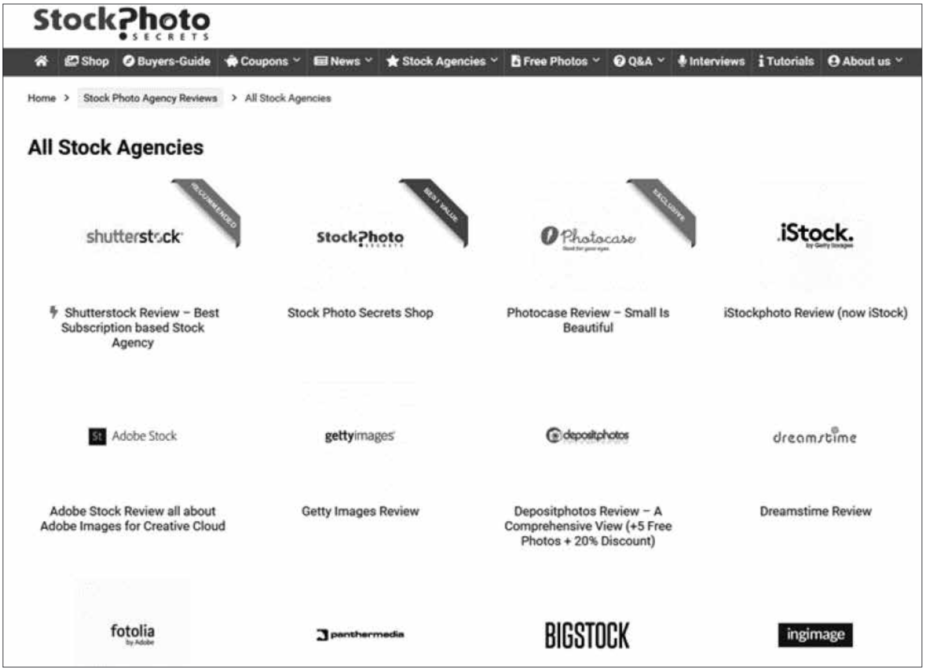
A small number of agencies (mainly those that dominate the market) publish information available for public download. Most agencies do not publish or update business information. For such agencies, business information was collected from other sources and compared with information published on agencies' webpages.

3.1.2. Experts' analyses

Experts are specialists in the field of SP business whose texts are published on publicly available webpages in the form of advice for SP customers, but also to promote their own or some other agencies. Experts analyze the business of individual agencies, give ratings and recommendations, answer questions of potential customers, all to facilitate the end-customers' decision on potential selection of agencies. Some experts charge for reading their analyses, while others have free access. The three of such webpages that are the most visible are "*Selling-stock*", "*Stockphotosecrets*" and "*Alltageinesfotoproduzenten*".

In this study, analyses of four experts (Jim Pickerell, Amos Struck, Robert Kneschke and Yuri Arcurs) were used. Jim Pickerell is the owner and editor of the "*Selling-stock*" web portal, which has published a wealth of expert analyses over the last 15 years, and the content of the portal is updated daily. Amos Struck most often publishes expert articles and analyses on the SP market on the "*Stockphotosecrets*" web portal. Robert Kneschke publishes analyses in the German language on his webpage. Yuri Arcurs is the owner of the "*Arcurs*" web portal and one of the most successful commercial photographers in the field of SP business. Zhang (2011) describes him as "the 'King of Microstock' – the best-selling microstock photographer in the world, selling over 2,000 images a day and 2 million a year."

Figure 3. Analyses by expert Amos Struck on the Stockphotosecrets web portal



Source: https://www.stockphotosecrets.com/agencies-list/all, [Accessed on November 17, 2019]

Expert analyses by experts also provide assessments of the SP business, which were used and included in the analysis of this paper.

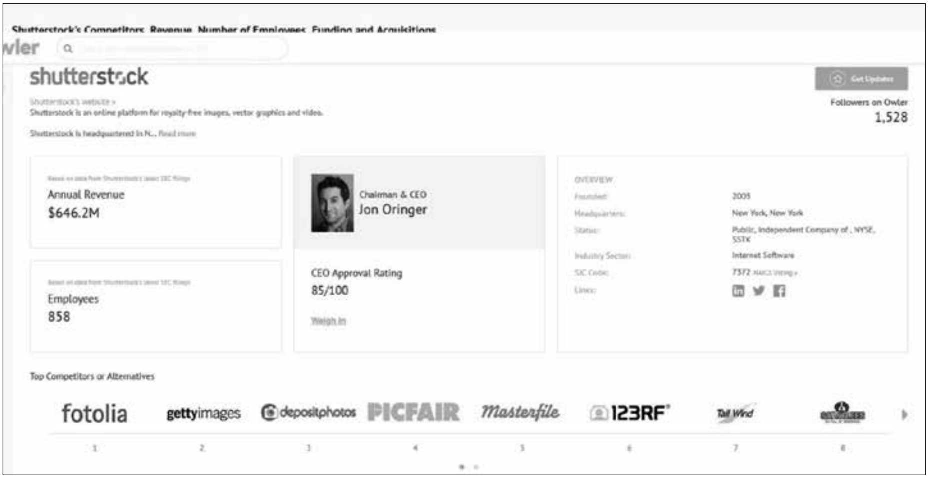
3.1.3. Market research companies

Agencies dealing with SP selectively publish information about their businesses on their webpages. For agencies that do not publish detailed business reports (number of employees, number of contributors, number of buyers, annual turnover), business data of such agencies were taken from websites of companies specializing in the systematic collection of business information. In this study, data available on websites of two global market research companies: Crunchbase and Owler, were used. The website of the Crunchbase company is the leading platform for professionals in discovering innovative companies that brings together companies looking for new market opportunities. This is a website trusted by over 55 million professionals – including entrepreneurs, investors, market researchers, and traders.

The Owler company offers information about more than 13 million public and private companies to its users.

The search for information about agencies dealing with SP on websites of market research companies was conducted by using the keyword, which has always been the name of the researched agency. In this way, data were collected for the following variables: the amount of revenue, number of employees, country of company headquarters.

Figure 4. Information about the Shutterstock agency from the Owler website



Source: https://www.owler.com/company/shutterstock, [Accessed on November 15, 2019]

An example of a search for business information of the Shutterstock agency is shown in Figure 4 and was conducted according to the following criteria: industry type, amount of revenue, number of employees, and country of Shutterstock's headquarters.

3.1.4. Web traffic measurement and analytics companies

Specialized companies measure, systematically collects and analyze web traffic data at all registered websites around the world. Data is collected using web cookies and Google Analytics analytical aids. Information about how websites are used generated by Google Analytics cookies (including the IP address from which sites are accessed) is transferred to Google's servers and stored there. This information is used to analyze how websites of all the world's companies are used, and to produce reports for site administrators about activities on those sites. Another part of the data in this study was collected by registering on websites of companies *Similarweb* and *Alexa*.

Figure 5. Example of data about the Pixoto agency available on the Similarweb website

Source:https://pro.similarweb.com/#/website/worldwide-overview/pixoto.com/*/999/3m?web Source=Total, [Accessed on November 15, 2019]

The data collected by registering on websites of companies *Similarweb* and *Alexa* are the most used keyword, number of contributors in millions, global rank, website category rank, number of monthly visits, number of unique visitors. *Similarweb* also provides information on websites that users visit in the same web session.

3.1.5. The web platform for the distribution of digital content

The *Dropstock* company makes it easy for authors to distribute digital content (photographs, vector drawings, and videos) to end distributors – agencies. The application automatically transfers digital content stored in a *Dropbox* folder to all SP agencies with which the author has made a contract. Authors thus accelerate distribution and can devote themselves to their primary creative work.

The service is designed primarily for authors who create microstock SP (SP of the lowest price category). The *Dropstock* website also provides a wealth of information on agencies that cooperate with this platform.

Figure 6. Data from the *Dropstock* website

Super Image Market	2014	Hong Kong			
MotionElements	2008	Singapore	2 million	3 million	mostly video
Clipcanvas	2007	Norway	700 000	700 000	video
Freepik	2010	Spain	2.6 million	4.5 million	launching pro market place
RF clipart	2010	Czechia			vectors
Photo AC	2011	Japan		1.2 million	
Austockphoto	2011	Australia			Australia related
Agora Images	2016	Spain			closed the marketplace, photo contest only
Photo New Zealand	2000	New Zealand		78 000	New Zealand images

Source: https://dropstock.io, [Accessed on November 15, 2019]

In this study, the following information about agencies was taken from the *Dropstock* company webpage: year of establishment, the country where headquarters are registered, number of photographs in the database, type of files offered by the agency.

3.1.6. Web search

For agencies for which it was not possible to collect data by searching the previous five sources of information collection, a direct web search was used.

A general keyword search was conducted using the *Google.com* search engine. The keywords (English and German) used in the search were: agency name, about us, über *uns*, review, *Rezension*, annual revenue, *Jahresumsatz*, employees, *Angestellte*, pricing plan, *Preisplan*, and license, *Lizenz*. The first results obtained through direct web search would usually consist of links to the previously mentioned two groups of companies, listed under numbers 3 and 4.

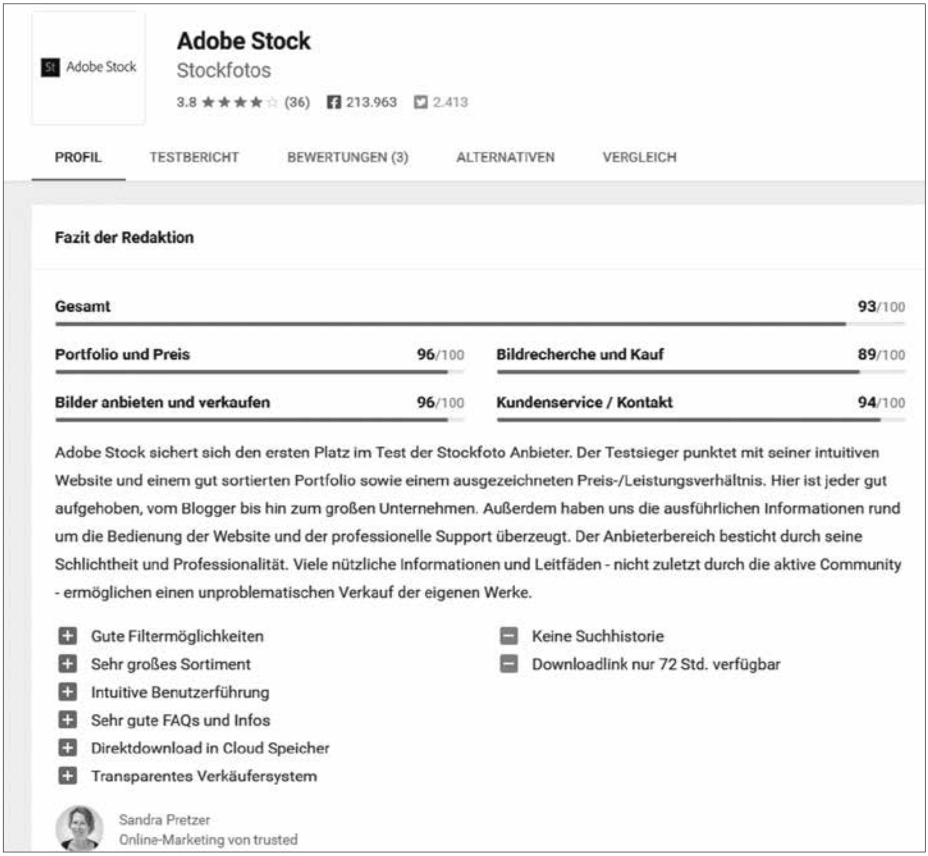
Table 2. Most common keywords used in the search for agencies through the *Google.com* search engine

Croatian	o nama	pregled	godišnji prihod	zaposlenici	opcije plaćanja	licenca
German	über uns	Rezension	Jahresumsatz	Angestellte	Preisplan	Lizenz
English	about us	review	annual revenue	employees	pricing plan	license

Source: Authors

This method of collection is the slowest, but also the only way of obtaining web links to content needed to overcome the missing data of certain variables.

Figure 7. Data obtained through the Google search engine: portal Trusted about the Adobe Stock agency



Source: https://trusted.de/adobe-stock, [Accessed on November 15, 2019]

4. DATA COLLECTION PROCEDURE

Data collection began on July 1, 2019, and concluded on November 15, 2019. The sampling procedure is aimed at the population of world agencies operating on the global SP market. Agencies selected in the sample are part of the judgment sample since these are sample units that have a characteristic of research interest (Horvat and Mijoč, 2012). Based on the data collection, an SPSS file with 37 variables for 117 agencies (n=117) was created. The observation units are, as stated, agencies professionally active on the global SP market.

Five criteria were set for selecting agencies (research units) in the sample:

a) the offer of digital visual content (SP),
b) global business operations,
c) uniform representation of all sizes of agencies: smallest, medium and largest (about 33% of each),
d) representation of a diversity of agency methods of doing business (different types of licenses and different billing methods),
e) public availability of information about the agencies' operations.

For companies that met all five criteria (n=117) data was collected based on which 37 variables were constructed (agency name, website address, year of establishment, country, continent, type of file – photographs, type of file – video, type of file – vector drawings, sales model – credit, sales model – subscription, sales model – individual sales, sales model-free, RF – royalty-free, RM – rights managed, license – editorial, license – exclusive, license – extended/enhanced, license – CC free, the author defines the price, author's royalties – for subscription in USD, author's royalties – for exclusive rights, the country most visitors come from, the most used keyword, number of contributors in millions, global rank, category rank, number of monthly visits, number of unique visitors, average visit duration, number of pages viewed, bounce rate).

4.1. SAMPLE DESCRIPTION

Fifty surveyed companies are from Europe, accounting for 43.9% of the sample, followed by North America, with 42 companies, representing 36.8% of the sample, Asia with 18 companies, which is 15.8% of the sample, and Australia with 4 agencies, which is 3.5% of the sample, i.e., the total number of companies surveyed. For 3 agencies, it was not possible to determine the country of origin. Africa and Latin America are the only continents from which no agencies were included in the survey because there was too little data to make reliable statements.

Although there are several registered African agencies, such as e.g. *AfricanStockPhoto*, it was not possible to obtain enough relevant information about their business. The reason is probably that agencies from Western countries offer plenty of visual content with African themes, which are included in their databases, but there are also specialized agencies for African culture motifs, registered in the West and they are part of this study, such as e.g. *Tonl* agency. According to a survey of the SP market conducted by Pickerell (2019), no African country was mentioned as significant in the context of the global SP business. According to the same author, the most significant countries in the SP business are the US, the United Kingdom, and Germany, which was also confirmed in this study.

5. CONCEPTUALISATION AND OPERATIONALISATION OF VARIABLES

The operationalization of variables is adapted to the requirements of IBM SPSS Statistics 23. Through the operationalization of variables, parts of the questionnaire are coded for statistical data processing. There are 37 variables in total, 7 of which are "demographic variables", i.e. variables that describe the companies (country, continent, number of contributors, number of buyers, number of employees, revenue, and number of photographs). Business operations of companies are described in detail by 11 variables (types of files with 3 variables and 8 variables about agency web traffic), and sales models are described by 10 variables (4 variables for sales models and 6 variables for license types).

The following is a list and explanation of the names of research variables (conceptualization) and the assigned variable names in the organized IBM SPSS Statistics 23 file.

Agency name. Name of the agency under which the company operates on the market. Nominal variable [v1].

Website address. Link to the agency's website. Nominal variable [v2].

Established. Information on the year of establishment of the agency. Numerical variable [v3].

Country. Name of the country where the agency is legally registered. The survey included countries from a total of 28 different countries, most of them from the US – 27.4%, followed by Germany and the United Kingdom with 12,8% each, and Canada with 8.5%. For 3 agencies, it was not possible to determine the country of origin. Nominal variable [v4].

Continent. Name of the continent where the agency is registered. The largest number of agencies included in the survey are registered in Europe, 43.9%, followed by North America with 36.8%. No agencies from Africa and South America were included. Nominal variable [v1].

Number of contributors (in millions). Number of registered authors (freelance contributors) who regularly or occasionally submit their works to the agency and are not in permanent employment, and are located in all parts of the world. Numerical variable [v5a].

Number of buyers (in millions). The number of buyers who are registered in the agency's database and have made at least one purchase. Numerical variable [v5b].

Number of employees. The number of full-time permanent employees in the offices of the company. Numerical variable [v5c].

Revenue. The absolute amount of annual revenue of the company in millions of USD. Numerical variable [v5d].

Number of photographs. Information on the number of photographs that the company has in its databases and offers for sale at its sales points through the web. Numerical variable [v5e].

Type of file – photograph. The company offers photographs in its digital visual content offering. Nominal variable [v7a].

Type of file – video. The main criterion for the inclusion of agencies in the survey was that they offer SP. This variable denotes those agencies that offer video recordings in addition to photographs. There are 38.8% such agencies. Nominal variable [v7b].

Type of file – vector drawings. Agencies that offer vector drawings in addition to photographs. There are 48.3% such agencies. Nominal variable [v7c].

Sales models – credit. Way of selling to an end buyer where they have to buy a specific value "package" before purchasing, for which they are entitled to purchase a certain number of files of a particular resolution, a certain type of license and a specific purpose during a specific period. This can be described as a form of artificial currency sold by microstock agencies (that offer low-cost SP without a license – RF). There are 36.8% such agencies in this survey. Nominal variable [v8_a].

Sales models – subscription. There are daily, weekly, monthly, or, most commonly, annual subscriptions, which are defined by the number of photographs a buyer can download. Some agencies define subscriptions according to photograph size or resolution. 45.6% of surveyed companies offer this model of sales. Nominal variable [v8_b].

Sales models – individual sales. The buyer pays the specified one-time price for one photograph before downloading. According to survey data, 62.3% of agencies opted for this model of sales. Nominal variable [v8_c].

Sales models – free. Under certain conditions, some agencies allow users to download SP without sales, which they can use for commercial or non-commercial purposes. 15.7% of surveyed agencies offer some form of free download of SP. Nominal variable [v8_d].

RF license – royalty-free/standard. Type of license without a royalty fee (abbr. RF). In this model, the user pays a one-time fee to the author. Users can then use the photograph permanently and without restriction in various projects without the need for an additional license. An RF license cannot be rights-managed (RM) at the same time. In the SP business, RF is one of the most common licenses and is usually obtained through a subscription purchase model. 93% of surveyed agencies offer RF licenses for sale. Nominal variable [v9_a].

RM license – **rights managed**. Denotes a type of license with managed rights. In the SP business, it is sometimes referred to as "licensed photograph". RM licenses may be granted on a non-exclusive or exclusive basis. RM license provides time and geographically limited, special rights and rights to use the SP, and oftentimes also grants the exclusive use right during the licensed period. The license covers only the agreed method of use, and a new license is required to use the image in any other way. This type of license sales is offered by 36% of surveyed agencies. Nominal variable [v9_b].

License – editorial. Editorial copyright in this type of license is the opposite of commercial use because this content cannot be used in the sale and promotion of a product or service. It may contain logos, company names and recognizable people without their written permission. These contents must never be used for commercial purposes but can be used, for example, in news, or for educational purposes. 46.1% of surveyed agencies offer this method of use of SP. Nominal variable [v9_c].

License – exclusive. SP can be considered the property of the user upon purchase. No one else can use the same photograph for any project. As a rule, exclusive rights require a much higher fee than for other types of licenses. However, the copyright still belongs to the original author of the work. This type of license is usually used if a company wants to specifically associate the photograph with their brand or logo. 42.1% of surveyed agencies have an exclusive license in their offering. Nominal variable [v9_d].

License – extended/enhanced. Type of license that is associated with the royalty-free license: although they are very flexible, RF photographs are offered with certain limitations, mainly concerning the volume of distribution/reproduction and the use of SP for commercial purposes. Extended license (also called enhanced in some agencies) allows extension of rights to use photographs to include the rights otherwise prohibited by standard RF license. The extended license is more expensive than a standard RF license but is more accessible than an RM license. After purchasing an extended license, no other user in the world will be able to purchase the rights to use the image, but those who have purchased the rights earlier may continue to use the photograph under unchanged conditions. 53.5% of surveyed agencies offer extended licenses. Nominal variable [v9_e].

License – CC free. Creative Commons licenses (CC) are a range of licenses offered to photographers by non-profit organizations to help them license their work more easily. CC licenses allow photographers to protect their work simply and understandably, while at the same time making them available for use completely free of charge. CC licenses require that the author's name is specified, and in many cases require that the work is "shared under the same conditions". Such SP is usually not available for commercial use. This survey included 13.2% of agencies that offer this type of license. Nominal variable [v9_f].

Author sets the price. Agency allows the author of the photograph to set the final fee for the use of their work. Nominal variable [v10].

Author's royalties per photograph as a percentage. Indicates the percentage that, on average, belongs to the author in that agency. Numerical variable [v12a].

Author's royalties – for a subscription. Amount in USD that the author receives if their work was sold by subscription. This amount is subject to tax in the country where the sale was made. According to the research, the author will, on average, receive 15.4% of the achieved price. Numerical variable [v11b].

Author's royalties – for exclusive rights. Indicates the percentage of the achieved final price that belongs to the author if their work was sold through an exclusive license. The average percentage for this research is 39.3%. Numerical variable [v11d].

Global rank. The numerical value that provides information about the intensity of web traffic on that site concerning all other websites worldwide. Numerical variable [v14].

Category rank. The numerical value that provides information about the web traffic on that site to the total traffic of the category to which the website in question belongs. Most of the analyzed websites belong to the photo category. Numerical variable [v15].

Number of monthly visits. Information about the total number of arrivals to that website. Numerical variable [v16].

Number of unique visitors. Information about the number of regular buyers on the same page that month, expressed in millions. Numerical variable [v17].

Seconds average visit. The duration of the average visit indicates how much time a visitor spent on a particular page. Numerical variable [v18].

Number of pages viewed. Number of open pages on that website during the same visit. Numerical variable [v19].

Bounce rate. The percentage of leaving the site indicates how many visitors left the website right after they viewed the first page, meaning that they did not find the content they were looking for. Numerical variable [v20].

Country of origin of most visitors. Country from which the highest traffic to the analyzed agency website was registered. The research shows that most visitors who visit agency websites come from the US, 47.9%, while Germany is second with 8.5%, and Russia third with 7.7% of the total number of visits. Nominal variable [v21].

Percentage of visitors. Percentage of visitors from a country that visits the site the most compared to other countries. Numerical variable [v22].

The most used keyword. The word or set of words most commonly used in a search engine before entering a particular agency's website. As a rule, this word is the agency's name, but there are exceptions. Nominal variable [v23].

A review of the 37 constructed variables revealed that 29 variables do not have missing values and that 8 variables that have missing values require additional, in-depth analysis in future research. It is suggested to conduct in-depth research of the following variables: number of contributors, number of buyers, number of employees, revenue, author's royalties – for subscription and author's royalties – for exclusive rights.

6. DISCUSSION

Research of SP business operations proposed a methodology applicable for researching global business operations with an emphasis on products advertised for an exchange on the digital market. It is about the production of the SP industry whose business models rely on digital, diversified business strategies. A lack of research on this phenomenon confirms that this is a business that is just starting to develop business models. Frosh (2003) states that SP is the result of a complex system of production, distribution, and consumption, which are largely hidden. The same author goes on to say that SP is so neutral that they seem invisible, and the system that creates them is largely unknown outside the relatively narrow circle of photography professionals in advertising, marketing, and design. The everyday visual environment of contemporary consumer culture is the product of a quiet and unobtrusive visual content industry.

The methodology described in this paper is appropriate for conditions in which respondents are not willing to participate in the research. By researching secondary data available on websites of agencies and SP market research companies, 37 variables suitable for determining SP business models have been constructed.

It was not possible to fully collect certain demographic variables of medium-large (n=9; 7.70% of the sample) and small agencies (n=37; 31.62% of the sample). It can be assumed that small agencies do not disclose their data, because publication of their data (e.g. number of photographs offered, number of buyers, number of contributors and number of employees) could discourage potential buyers. For example, some buyers might find that the number of 10,000 offered photographs may be too small to choose from, and newly established or smaller agencies do not want to risk losing a customer by publishing their data. Publication of information about a very small number of photographs offered, as perceived by smaller agencies, could harm their business. Research results show that on January 27, 2020, the largest agency *Shutterstock* offered as many as 306 million photographs, while the *Absolut Vision* agency had only about 10,000 photographs on offer.

Market-dominant agencies (n=30; 25.64%) advertise their data as part of their marketing strategy and to showcase their business achievements, thus confirming their business success and dominant market role. The relevance of such information is often substantiated by stating the reports and names of research companies that conducted the research.

On the other hand, companies specializing in the analysis of the performance of SP agencies and other business entities, publish the results of expert evaluation online or make them available for a fee. The majority of variables in this study do not have not missing values, and the variables with identified missing values have been proposed for additional, in-depth research.

The research terminology is a particular problem in data collection. Most SP agencies publish their information in English, as the dominant business language of global business strategies. The research issue is associated with inconsistent terminology, that is, the same types of licenses are named completely differently in English, and agencies assign them their specific names. Thus, for example, RF (royalty free) license is also referred to as standard, regular, individual and base. License type can be successfully determined only from the description of the license that agencies advertise on their websites.

Research terminology is also inconsistent in the naming of sales models. Most SP agencies have developed their models in terms of terminology and organization, and the data collection process required their understanding and standardization under the same umbrella name. For example, the *Dreamstime* agency uses the usual English term *subscription* for the subscription model, while the *Shutterstoc*k agency uses a *value-priced annual plan* for the same. Furthermore, for sales through the credit model, the *Dreamstime* agency uses the name *credit packages*, while *Shutterstock* has its original term *prepaid image pack*.

Table 3. Overview of different terminology in sales models of individual agencies

	Shutterstock	Dreamstime	123rf
Credit sales model	Prepaid image pack	Credit packages	On-Demand Credits
Subscription sales model	Value priced annual plan	Subscription	Subscription Plan

Source: companies Shutterstock, Dreamstime and 123rf [Accessed on November 15, 2019]

Examination of websites of SP agencies revealed that agencies frequently advertise subscription and credit sales model offers on the front page, while individual sales are also possible, but in a roundabout way because of the business policy of the company.

Information on prices at which agencies offer SP is not included in the data collection process because it is a rather dynamic category prone to changes due to very high competition. During the 140-day data collection period, several price changes on the websites of the same suppliers have been noticed. Certain agencies were even changing their sales models. According to Burgett (2019), due to market conditions, more and more agencies are ceasing to offer the RM license, which is usually much more expensive and most often tied to the individual sales model. As a replacement for the RM license, agencies offer the more affordable RF license that costs about US$ 1, which means that the RF license is 100 to 500 times more affordable than the RM license. Table 4 shows the price range for a single photograph under the RM license depending on the resolution of the photograph.

Table 4. The price range for the RM license depending on the resolution of the photograph

File resolution	Price in USD
Very small	50
Small	175
Medium	375
High	499

Source: https://petapixel.com, [Accessed on November 15, 2019]

In collecting data from search results, some useless data was also obtained, the occurrence of which is classified into two categories: a) issues related to the semantic web, b) obsolescence of available data.

The first mentioned issue is the result of the semantic web, that is, the predefined assignment of meaning to information from the web that directs keywords to terms that are not related to meta tags of the research (tags that define the content of a website). An example of such an issue is the use of English keyword *employees*, that is, the German word *Angestellte* associated with agency name. Instead of the expected data on the number of employees in the company, the search results yielded photographs of employees that the agency offers in its database.

The second type of issue is the obsolescence of the data and obtaining data that was published several years ago and thus irrelevant for the research. It is especially difficult to assess whether information from a website is relevant if there is no indication of the date of creation of the document.

The next issue in data collection (because of which collection of secondary data was organized) is the high rate of respondents' refusal to cooperate in primary research. To overcome this issue, the collection of (secondary) data published on agencies' websites was organized. Editing thus collected secondary data required data harmonization concerning type and scope of information.

7. CONCLUSION

This paper describes the methodology for designing and implementing data collection for research purposes in the visual content industry, which is part of the creative industry on the global market. The offer of products (SP) in this industry is aimed at consumers worldwide. Lack of research into this industry together with the fact that respondents were unwilling to cooperate in data collection conditioned construction of a methodology based on combining existing qualitative and quantitative research approaches. The proposed methodology is aimed at creating a judgment sample that includes 5% of globally relevant SP agencies (n=117). Data collected through research was organized into 37 variables constructed from secondary data sources and operationally structured for analysis of SP business models. After completing data collection, they are organized into an IBM SPSS Statistics 23 file.

The process of construction of SP research methodology is applicable in future research of SP or related creative industry phenomena characterized by low response rates when collecting primary data.

The recommendation for future related research is to implement semi-structured interviews with experts in the field of SP as a form of the qualitative primary data collection method. Professional expertise would shed some additional light on issues of identifying the specific characteristics of SP business and organized SP business models active on the global, digital market.

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INNOVATIVE DEVELOPMENT GUIDELINES FOR THE GEO-ECONOMIC GROWTH OF THE WESTERN BALKANS

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Abstract

The conducted researches show that the basic condition for successful future development is, first of all, the internationalization of business cooperation between businesses and countries within the innovative and functional integration of the entire region. The need for an innovative work environment and a new management model require creatively organized and functional business cooperation in newly formed business environments in the context of geopolitical aspirations. New reform processes should enable countries to continually move on to higher stages of structural development, thus avoiding the pitfalls of the development process realized by foreign investors by building investment plants instead of complete innovative factories within the geopolitical restructuring of countries in the region. New economic policymakers and actors in the new transition macro-organization need a functional change in economic and institutional infrastructure that would provide a realistic basis for transforming an existing consumer society into a highly accumulative economy following innovative changes. Today Serbia has enormous comparative advantages for successful innovative sustainable development. Given the natural potential of many resources, the tradition in the diverse structure of production and the proximity of key segments of significant markets, it is realistic to expect an increase in production and exports of the Balkan region with adequate working and living conditions, with a constant increase in living standards. A new direction of social and economic development in it must base the function of innovative sustainable growth on the intensive expansion of a functional production structure with a high proportion of newly created value to increase exports *and improve competitiveness. Therefore, a sustainable development project in the context of the 2030 Agenda should enhance: a productive entrepreneurship environment and enable the development of an innovation system within 3T (technology, talent, and tolerance) in the context of much higher rates of economic growth.*

Keywords: *Innovative development, Performance of future development, Geo-economics of the region, Technological change and growth within 3T (technology, tolerance talents).*

JEL Classification: O10, O11

1. REFORMS CHANGE BETWEEN WISHES, OPPORTUNITIES AND ILLUSIONS

The basic feature of the region's transition was radical de-industrialization. The key causes of de-industrialization should be sought in the fact that the initial restructuring of the economy, after the restoration of capitalism, took place within the framework of the "gray" economy and the "boozer" privatization. After radical political changes in late 2000, its key protagonists legalized their business and ownership - resulting in market restriction for other market participants. The key developmental consequences are (1) slow and uneven increase in the efficiency of the real economy and infrastructural comfort for private investment and export business with (2) weakening of human capital performance. The terms industry, technology, and innovation have virtually disappeared from everyday political, business and professional vocabulary. In any case - because of radical de-industrialization, Serbia has come to the paradoxical situation that the end of the transition (as a basic economic condition for active involvement in the economic part of the European integration process) is more conditioned by finding a solution to its operationalization errors than by the negative legacy of the last economic model, because of whom, after all, she also started (Adžić, 2009: 22).

The way out of this situation is to find a solution for a new model of economic development. From the scientific point of view, the only correct solution is that the new model of development within the geo-economic and geopolitical situation must be in line with the basic principles of operationalization of an authentic (European) model of involvement in the development processes of a new global production system (promoted by the so-called Lisbon Agenda from

March 2000 - and subsequently in the reduced form of the EUROPE 2020 Agenda and today, Agenda 2030 redefined into a new strategy that will support the priorities defined, primarily related to the intrusion of the manufacturing and service sectors through the importance of the digitization process. I will just state that in the case of the European Union, it is a model of reindustrialization that sought to find (the best) solutions to the key challenges of reconfiguring present civilization on the principles of industrial organization, within the triangle of paradigms: (1) Educated people - where each individual owns knowledge and skills with who can find employment following his highest (formal) qualifications in the relevant segment of the internal or global labor market, (2) Developed industry - which, based on a combination of developing its own and creative implementation of foreign technologies, ensures the realization of the key conditions for socio-economic stability and long-term sustainable development of small countries - that every national (but also regional, subregional and local) economy should spend as much as it produced, invest within its accumulation, and take as much credit as it gave, and that all events are just episodes (3) A modern socio-economic system in which politics is a key factor, ensuring the high turnover of the business and technical innovation, as the basis on which modern economy is based (Stiglitz, 2004: 161).

In this context, today, a key factor in the re-industrialization of the European Union is the development of knowledge and its application in solving practical problems in a way that benefits the innovator and brings new value to the user. Economically, the application of this model relies on seven factors - human capital, productive entrepreneurship, innovation, production, savings, private investment in the real and service industries and exports. In the case of Serbia, it is obvious that a new model of economic development according to this concept should be based on the development of a good and innovative business environment for the export business. But in doing so, we must be aware that science, at least in the dominant understanding of its essence, cannot successfully develop methods for functionally determining the concrete content of economic policy for its implementation. Thus, some essential issues of formulating and implementing a new model of economic development are left to voluntarism (national, regional, sub-regional and local) politicians within geopolitical orientations. Accordingly, the problem of determining successful economic policy is, first of all, a matter of operational economic creation. that is, its essence lies in understanding the risk behind each (public) decision (Stiglitz, 2009: 99).

Following this approach - within the current geo-economic and geopolitical orientations, innovative creation of a positive socio-economic climate for the implementation of the European model of intensive economic development requires:

- Consistent understanding of contemporary development issues,
- A new, active and responsible role of the regional executive and local governments in public regulation of the economy and economic development,
- Developed NTIOK (Science - Technology - Education - Organization - Telecommunications) infrastructure oriented to the needs of real and service economy and export business,
- Innovative functioning of the market, strategic-cooperative and hierarchical mechanisms of regulation of economic life,
- Neutralizing the work of distributor-oriented coalitions,
- Wider risk acceptance within an adequate business environment,
- Creating conditions for a balance between individual and common interests, with
- The creative motivation of employees and other populations for quality regular and lifelong learning and the acquisition of globally competitive knowledge and skills.

On the operational front - Entrepreneurs and managers with their expert teams in cooperation with (national, regional and local) authorities, higher education and science need to set very ambitious innovative (macro, mezzo, and business) goals in the field of production and export of goods and services (Santini, 2017: 156). Priority status should have a motivational bargaining scheme to increase the efficiency of the economy with the great benefits of introducing a new distribution incentive scheme that reflects the high motivation of employees through an adequate reward system while eliminating egalitarianism in the distribution.

The basic condition for a scientifically valid conception of support for the greater motivation of labor and capital within the geopolitical reality of the Western Balkans regional policy is to put the contents of its goals and actions to stimulate structural adjustment of existing and development of new enterprises and commercial agricultural holdings, which would have:

1. a micro, meso and macro-organizational structure and management system capable of efficiently producing and distributing quality goods and services in fierce international competition,
2. adequate physical resources and personnel,
3. sound financial structure and
4. flexibility and innovation, which enables rapid and effective response to changes in the natural, internal and external socio-economic environment in the context of geo-economic and geopolitical tendencies.

First, the biggest (scientifically desirable) change is to give up energy-intensive production. Energy (directly and indirectly) cannot be a significant export item, having in mind: supplies of energy resources, costs of their exploitation and conversion, environmental threats, etc. This means that the energy sector should only be developed to a level that ensures a reduction in import dependency for the resources available to the region.

Secondly, in the non-ferrous and non-ferrous metallurgy, it is necessary to increase the degree of product finalization, and to provide the development funds with joint ventures with foreign partners, a very interesting possibility is business cooperation with China.

Third, labor-intensive manufacturing and jobs have long been threatened by the supply of newly industrialized countries with low labor costs and low socio-economic superstructure costs. The comparative advantage of the region is its proximity to the European Union market. In this context, the focus should be on the production of food and beverages with higher processing stages at higher export prices.

Fourth, existing capacities, manpower, basic raw materials, experience, and knowledge are the basis on which, under certain conditions, production could be restored with the comparative advantages of the region. The main problem is the limited ability to prepare and implement measures to improve business and technological efficiency, such as (1) attracting foreign direct investment, (2) fostering more complex forms of international business cooperation with (3) more intensive introduction of the European Union's quality system and standards.

Fifth, the chemical and pharmaceutical industries have, over the past three decades, shown greater development vitality that the region needs to exploit. However, to take advantage of the effects of regional involvement in the European integration process, in addition to increasing the efficiency of scientific research (especially in the pharmaceutical industry), it is necessary to create the conditions for meeting very strict requirements (quality system standards) related to the health and life of humans and animals, respectively, environmental protection which is a major constraint to this business environment (Adžić, 2011: 209).

Sixth, the electronic and IT (Information and Telecommunication) industries have a certain chance of development, primarily because of their relatively solid staffing base. To take advantage of this, the electronics industry would have to access radical modernization and product quality improvement projects (combinations of domestic development and technology transfer). In selected IT industries, manufacturing and exporting application software can be a development opportunity for the region. Particularly interesting is the development in Serbia in the Belgrade region and the industrial districts of AP Vojvodina: in Novi Sad and Subotica. The initial steps were very successfully made, with the establishment of specialized domestic companies and affiliates of foreign companies working under the programs of foreign clients. However, in the coming period, it is necessary to choose areas where innovative quality software products can be made and create conditions for independent appearance in the target segments of the global market.

The ECB's newly elected head, Kristin Lagard, in her address at the European Banking Congress, 22.11.2019, presented some interesting insights into the weaknesses of the European and world economy, which must be taken into account by the region's economy as well. changes: shifting from external to internal demand, from investment to consumption and from production to services, while at the same time new technologies are disrupting the organization of the production process and the provision of services. In this situation, Europe and even the Western Balkans need to maintain their competitiveness and to respond to innovation and investment to several structural challenges within the geopolitical position it is building. Monetary policy has kept the EU economy "alive" for the past decade. Kristin Lagard often emphasizes fiscal policy as a key element in the fight against global slowdown. And, not only well-known fiscal expansion but also a change in the structure of public spending. It emphasizes, first of all, the importance of investing in education, accelerating the organization of the entire digital economy with R&D and innovative strengthening of the institutions of the region, as well as its high sensitivity to environmental changes. They are particularly vulnerable to the risk of trade and foreign direct investment since in 2019, 70.6% of FDI inflows in Serbia were from European countries and 93.2% of total exports were made to European countries. The largest export partners of Serbia are Germany and Italy, so according to IMF calculations, GDP would drop by 1 p.p. only in these two countries caused a drop in Serbia's GDP of 0.12 p.p. in one quarter, and 0.25 p.p. after four quarters. If the Serbian economy initiates the geoeconomic economic development of the Western Balkans, it is clear that the need for functional innovative development is a clear necessity for structural change in the region. On the internal regional level, there is a turbulent political reality, a crisis of employment, low standard, low salaries, an insufficient number of quality jobs, which indicates the possibility of a potential recession. In such circumstances, the search for a solution for a dynamically sustainable economy within the innovatively competitive real sector through all digitization processes remains an essential priority for achieving the intended goals. Mutual business confidence has not been sufficiently achieved which needs to be strengthened and developed in the obstacles of the narrower and wider regional community (Adžić, 2009: 114).

2. REAL DEVELOPMENT EXPECTATIONS

Contemporary global society and thus the EU are burdened with major problems that do not find rational solutions soon. Tightening the economic situation without a clear development context is a huge challenge for the economic policy and management of firms in adapting businesses and business structures to the new geopolitical future.

Of the many potential risks to the region, it is interesting to consider the growth of potential weaknesses that need to be addressed:

- An increase in protectionism - would reduce the positive effects of trade integration achieved in recent years, as well as reduce FDI and capital inflows.
- deteriorating financial conditions globally - would result in higher risk premiums, reduced interest in investing in a region with more intense borrowing prices.
- large fluctuations in energy prices - would jeopardize the financial positions of state-owned firms, which are often prevented from passing on

rising input prices to end consumers. If this happens, inflationary pressures should also be counted on, with severe blows to the population standard, which should tend to rise in the region.

The materialization of these risks requires short- and medium-term reactions from decision-makers. Certainly, of the internal factors that could jeopardize the growth trajectory of the economy in the region, in particular, the lack of fiscal discipline and the lack of determination to carry out reforms while strengthening institutions while constantly reducing corruption and crime should be mentioned.

What lessons small countries in the Balkans could draw from the experience of the more developed is a question that hints at different solutions because:

1. There is an opportunity to take advantage of the competitive advantages of information technology, which are increasingly being addressed in a market competition where the supply of local content is more intense than the growing importance of the demand for products locally.
2. Development policies must be complementary to innovative technological development policies to foster greater functional innovation within the creative reality framework.
3. The information society is looking for active creative executors, not passive observers, to take advantage of information technology to achieve the chosen goals.
4. The cumulative growth in the manufacturing industry's Gross Value Indicates more growth. This will probably be the best indicator in Europe (the final result will soon be found out when EUROSTAT completes the data set for all EU countries), also the longest episode of expansionary manufacturing sector growth since gross value added is measured. A key structural problem for the economy for decades has been the unfavorable technological characteristics of the manufacturing industry. The technological structure often changed unfavorably, so that the share of production of products of the lower stages of processing increased. Retrograde changes have generated a loss of competitiveness and the ability to produce higher value-added products. The result was a high foreign trade deficit. Export-led output growth is maintained at a high level in the medium term, despite adverse economic developments in European countries, but let us not forgets the sharp austerity measures

that have limited domestic demand. In these circumstances, this dynamic was only possible if production improved qualitatively with changes in production structure and increased competitiveness. If we look at the value-added structure of manufacturing and the whole economy in the Western Balkans, the fact is still dominated by companies in the area of Low-tech complexity, with a share of about 40, 0%. However, on the other hand, the importance of enterprises in the segment of Medium-high technological areas has increased by ten percentage points. Comparative analysis in the region indicates that sustainable expansion of production could be achieved in the long run if we continue to lower the share of the low-tech manufacturing segment below 30%. This will be challenged by the fact that in the region agribusiness (which by definition belongs to the Low-tech group) is still the area with the largest weight in the manufacturing sector. The region is in the process of a positive technological restructuring of production that encourages growth and innovative development.

In such circumstances, in the case of the Western Balkans region, three possible scenarios can be identified under (1) innovative development of the real sector and radical modernization of large production systems and development of new export operations - by hiring a foreign factor, above all, international macro-clusters, international enterprises (MNEs)) and transnational corporations (TNCs) 2) operationally comparative IT development within the functional digitization of all development segments and (3) creative society development and an innovative economy based on national, regional, subregional and local initiative, cooperation and interactive cooperation.

The first alternative is deeply embedded in every existing national production, business, and institutional system under current economic and development policies. Its realization is based on the policy of low wages and low prices of basic (national) inputs (this seeks to achieve such internal and external competitiveness) and the acquisition of capital and technologies from external sources, primarily by the arrival of foreign investors or borrowing of foreign entities. Since its implementation does not require a greater national effort (in terms of greater spending rewards in favor of greater investment), this alternative is in line with key parameters of current development policy and business culture and the geo-economic interests embedded in existing production systems. The biggest organisms for continuing its implementation are two factors.

The first indicates that the existing human capital and the new one that creates a relatively developed higher education system is insufficient and cannot be easily compensated.

The second is an alternative to greenfield investments in export businesses and industries and the entry of major national manufacturing systems into international macro clusters, international enterprises (MNEs) and transnational corporations (TNCs) and - to ensure competitive access to the global market and rapid technological and business modernization. This alternative enables the activation of what's left of inherited resources (in the short term) and available human resources (in the medium term), as well as making larger (national) production systems and affiliates of international companies and transnational corporations (in the medium term) the development and modernization of the focal point of micro, small and medium-sized industrial enterprises.

The implementation of the (scientifically desirable) new development strategy of the region requires radical functional, social and political innovations in terms of constituting a democratic, but above all, creatively responsible society towards the next generations and the natural environment, a non-parasitic system of institutions, freedom of choice, of any kind while preserving basic ethnic and spiritual values. In this context, the development of the region should be based on national, regional, subregional and local specificities, supported by NTIOK infrastructure, induced by an entrepreneurial or strategic cooperative initiative, and shaped by competition and cooperation that excludes the protection of monopoly interests of any kind. The main inputs to this development alternative are quality human resources and innovative social, especially political institutions. However, this alternative is farthest from the existing state. However, this does not mean that there are no pilot projects in the region for the development of high technologies induced by the national research system. In the last twenty years, a significant (for now subcritical) mass of micro and small enterprises in the field of high technology has been formed in Serbia (primarily in Belgrade, and to a lesser extent in Novi Sad).

The purpose of future sustainable development is a basic (scientifically desirable) option to increase functionally innovative competitive production by dynamics, which will provide, at the regional level:

- Intensification of the process of opening competitive sectors for the production of exchangeable goods to the global market by 2025, working to increase the mobility of factors of production and economic development, primarily to complete the process of reorientation or regular liquidation of accumulated non-marketable production programs and enterprises throughout the region,
- Increasing the participation of micro (large craft workshops), small and medium-sized enterprises in the creation of new value up to about 50% in 2025;
- Complete the reform with adequate digitization of national (regional, subregional, and local) production of public goods and public administration services according to European Union standards and opportunities to (self) finance the cost of reproduction by 2025.

The objective of reforming the system for the production of public goods and public administration services to overcome the political, economic and social barriers that block the restructuring and renewal of the development of the sector of production of exchangeable goods and to establish a state of relative (business) cohesion by European standards, should be based on rapid and Innovative efficient institutional, human, organizational environment. The business environment should constantly confirm that the innovative and creative economy stimulates the region developmentally and that the growth prospects are sustainable because they are based on investment and consumption.

Positive examples of functional development in the Western Balkans are being successfully achieved in the Republic of Serbia, which many well-known economic analysts point out: *Only in Serbia is growth based on investment, while in other countries it is public or private consumption. We alone have a budget surplus, while others have a slight deficit. We are the least indebted and only our unemployment rate is below ten percent. And financial stability is better for us because the share of bad loans in the banking sector is the lowest* (Privredna komora Srbije, 2020).

Savić (2019), a professor at the Faculty of Economics in Belgrade, says that statistically speaking, the situation is what the European Commission has stated with positive results and necessary reforms: *We had higher economic growth in the third quarter than in the previous quarter, and others countries were more modest. What matters is what is being compared, what period, and then the results* *are different. The EC is talking about a shorter period when we had extraordinary times when the construction of the 'Turkish Stream' in an incredible way pushed us to economic growth. Previously, in the first two quarters, when it was not built, the results were very poor. My message is that we do not evaluate the health bulletin of our economy for one or two quarters only. It is necessary to observe a longer period and average growth over a longer period, which is not high. Because, the average person wonders 'why my salary is not increasing', and the point of every growth and development is to increase salaries and standards. Our economy is weak and vulnerable, dependent on foreign direct investment and exports, he adds. Strangers are not sentimental, they can easily go where their business is more profitable. That is why we should have economic growth based on domestic factors. Because when we analyze economic growth based on foreign investment, we see that we do not control it. There are two realities. One is statistical, about high GDP and export growth rates, and the other is real. And that is, they import all the components, there are no domestic raw materials, and they export everything. Benefits are just workers' salaries, taxes, and contributions, but not too much because the state gives them various subsidies. They do not even have large salaries, it is a minimum wage, plus or minus 20 percent.* Savić does not dispute that public debt has fallen, but it must be taken into account that the strengthening of the dinar also had a stake. Public debt is denominated in dinars and then converted to euros, so now that the dinar is stronger, the share of public debt in euros is lower.

The European Commission states that the accelerated growth of Serbia's GDP was mainly driven by a strong 17.3 percent increase in gross investment per year, with private and public spending continuing to support growth. The document reminds us that the rating agency Standard end Pers has upgraded Serbia's credit rating from "BB" to "BB +." The EC report specifies that foreign direct investment in Serbia reached € 3.1 billion by November last year. is a 37.3 percent year-on-year jump, with them covering the financing of the current account deficit at 110 percent. Data indicate that Serbia and the whole region are facing many development problems.

When it comes to the European Commission's report, she concludes that the accelerated growth of Serbia's GDP was driven by an increase in gross investment of 17.3 percent annually, supported by private and public spending.

Foreign direct investment in Serbia reached EUR 3.1 billion by November last year, which is a 37.3 percent jump - the report said. - They cover the financing of the current account deficit at 110 percent. Serbia's budget surplus in the third quarter was 0.9 percent of GDP, thanks to strong income tax and value-added taxes, as well as social security contributions.

The European Commission warns that public debt levels in the Western Balkans remain high. In Montenegro it accounted for 79 percent of GDP last year, in Albania 66.5 percent, while in Serbia at the end of November it amounted to 52.4 percent. Serbia's public debt is expected to be reduced to 49.9 percent this year and to 48 percent in 2021. Unemployment will continue to fall in Serbia, expecting it to fall to the rate of 8.9 percent this year, while the next, officially jobless 7.2 percent of working-age citizens.

The European Commission estimates that Serbia's foreign trade deficit will amount to 12.5 percent this year and 12.9 percent next year. Inflation is projected to grow by 2.1 percent in 2020 and beyond.

The positive outlook for Serbia's credit rating is based on the strong outlook for a further strong FDI inflow, which can further strengthen Serbia's export base and the economy's resilience to external shocks.

Such tendencies are very real since they form a real basis within geo-economic developments within the geopolitical reality of the Western Balkans. In doing so, there is no need to lose sight of the efficiency of management institutions and their contribution to future development and the speed of adapting to the new. The development of economic reality provides and enables very unpredictable circumstances that carry many risky circumstances (Stojanov, 2013: 165).

3. CONCLUSION

It should be borne in mind that the time of the Fourth Industrial Revolution is an era of uncertainty, but also rapid development, with the digitalization of the alpha and omega of future successful business, while change is a new standard that takes on one of the key roles in the environment to quickly and effectively modify the "air" innovative corporate culture to provide employees with flexibility, a positive environment and security and a successful and efficient sustainable regional development for the country.

The redefinition of economic and social policy must be the result of today's reality and the needs of every nation-state, and especially the small and open economies of the region. The institutional framework adopted today in most

Western Balkan countries has significant advantages, but also several constraints in many countries, which are affecting small and open economies in the context of new geopolitical developments. Real economic policy must provide the conditions for the development of the real sector, reduce consumption in real terms and create realistic conditions for maximum savings, which in the future will increase the accumulation and functionality of the economy as a whole. Only with a well-designed transformation of an economy that will have great opportunities for export under new technological changes can huge economic opportunities be exploited in the context of new geopolitical relations-following available resources and capacities.

The clear necessity of repairing the current capitalist system encourages an exchange of views and discussion-worthy of establishing a system whose reform process would lead to an institutional and economic stimulus to work through the profit-generating success.

Consider the alternatives: The Nordic countries, which are one of the poorest countries in the world, have reached the level of the richest in a hundred years, an example. Applying this model, Sweden declared a welfare state, with broad civil liberties protections and progressive taxes, which provided such a high level of social protection and at the same time implemented an uncompromising confrontation with corruption and myth. Certainly, all this required raising the level of production, educating and creating a responsible citizen.

The question is whether the Western Balkans region is politically ready and able to create such an environment and provide economic growth, thereby providing investments that enable the employment of highly qualified personnel and the realization of finished products with far greater profit than the one created by cable winding halls and the like.

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THE GRAY ECONOMY AS A GLOBAL PHENOMENON

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Abstract

The gray economy is immanent to both highly developed and underdeveloped economies. The gray economy has become a global phenomenon. Accordingly, the main aim of this paper is to explore and analyze the relationship between the gray economy and Gross Domestic Product per capita. *To confirm the hypothesis that there is a negative relationship between the gray economy and the GDP/p.c., several scientific methods have been used, among which the analysis and synthesis methods, the statistical methods of correlation and regression analysis have been distinguished. The purpose of this paper is to point out the possibilities of significantly increasing the GDP/p.c. by reducing the gray economy to the lowest possible level.*

Keywords: *good economy, Gross Domestic Product per capita, gray economy, informal economy*

JEL Classificaation: E26

1. INTRODUCTION

The fundamental goal of any good economy is to meet the overall material and cultural needs of its population. Among the factors that threaten the achievement of that goal are: 1) greed, 2) corruption, 3) gray economy and 4) illicit enrichment practices. The subject of this research is the gray economy.

The gray economy is known under different names. Unofficial economy, shadow economy, parallel economy, unregistered economy, undeclared economy, black economy, illegal economy – all the terms that represent economic activities performed outside or in opposition to the positive legislation. Samuelson & Nordhaus (1989,103) define the gray (underground) economy as part of economic activity that is unrecorded, informal or illegal and which generally does not bear its share of society's taxes. The gray economy is part of the national economy. In 159 countries around the world the average share of the gray economy in the gross domestic product (GDP) for the period from the year 1991. to 2015. ranged from 7.24% in Switzerland up to 64.87% in Georgia (Medina & Schneider, 2018). The increased share of the informal economy directly affects the lower government revenues rather than potential ones. Economists have to estimate the size of the gray economy so that governments can take appropriate measures to tax or otherwise regulate the hidden economy.

The gray economy is usually evaluated to be far lower in official estimates than in assessments made by international institutions, such as the *International Monetary Fund* (IMF). Countries with the lowest average share of the gray economy in GDP also are countries with the highest gross domestic product per capita (GDP/p.c.). The analysis covers 159 countries of the world for which GDP/p.c. and the share of the gray economy in GDP could also be determined. Accordingly, this research explores the relationship between the share of the gray economy in GDP and the level of GDP/p.c. using secondary data collected through statistical methods of correlation and regression analysis. In this work, we are trying to prove the hypothesis that there is a negative and strong relationship between the share of the gray economy in GDP and GDP/p.c.

2. THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

Factors that in danger good economy are (Pupavac, 2020): 1) **greed** - Greed has become a social value that leads the world into the global financial crisis of 2008. Smith prophetically warned that "love for money is not, after all, the root of all evil," but "chasing after money, like any other perdurable connection to money, may induce behavior that is not only perverted but even in a true sense of the word twisted and crazy; 2) **corruption** - signifies abuse of public authority for private gain which obstructs the optimal course of business relations, limits economic development and competitiveness of the national economy. Corruption takes different forms, from the usual cases of bribery or petty abuse of power to "lubricate" a slow and rigid state structure, to surprisingly quick and spectacular ways of enriching individuals through fraud and other forms of dishonest behavior. The cost of the corruption scourge is estimated to be around 5% of world GDP; 3) **illicit enrichment practices** - it is important for a good economy to distinguish socially acceptable and desirable enrichment practices from those which are not. Protestantism points out (Rosenberg & Birdzel, 1993: 191) that in carrying out daily work, "we must not run for the sake of obtaining wealth and honor through unlawful acts, antecedents and criminal acts, predation or acts of injustice to one's neighbor, but must restrict oneself to pursuing interests that will not lead us out of the path of innocence." 4) **gray economy** - appears in four different forms (Feige, 1997; Radulescu, 2010): 1. **illegal economy** - prostitution, drug trafficking, illegal gambling, greenery, blackmail, abduction, racketeering; 2. **unreported economy** - actions that circumvent fiscal rules within legal regulations; 3. **unrecorded economy** - economic activities not reported to official statistics; 4. **informal economy** - activities that reduce company costs and violate administrative rules governing property rights, employment contracts, credit agreements, licensing rights, and the social security system. Gray economy reduces the level of GDP/p.c. The gray economy appears both as a consequence of regulation and as a consequence of the lack of regulation in society. This means that the gray economy is immanent to both highly developed and underdeveloped economies. The main drivers of the gray economy are high taxes and social security contributions and heavy regulation (Enste, 2018). Wu & Schneider (2019) suggested that economic development may have two opposite impacts on the size of the gray economy: 1) economic development may support the long-run expansion of the gray economy because a high level of development means a high level of human capital, which helps individuals to make a living relatively easy; 2) economic development can help downsize the gray economy by offering high-quality public goods and services.

Although the gray economy in a way compensates for poverty, it poses a problem for every state, in particular for those companies that carry out their obligations by the legislation, and by doing so it diminishes their competitiveness. Viewed globally, the gray economy is significant and has serious repercussions on the world economy, including lost tax revenue, lower productivity and ultimately a slower growth rate. Construction, trade in goods and services, and fisheries are common sectors where many countries account for the largest "space" for the gray economy. The total volume of the gray economy in the world is estimated at around 30 percent. As the value of world GDP in the year 2017 was estimated at $ 80.051 billion, it means that the amount of gray economy is greater than the annual GDP of China or the United States. According to Tanzi (1999), the most important drivers of the shadow economy are the rising burden of taxes and social security contributions. Torgeler and Schneder point out that gray economies in industrial countries have grown as a reaction to rising tax burdens and government regulation and in some developing countries because of a lack of stable institutions. Factors supporting the shadow economy differ in every country. Tolerance to shadow activities results in low sanctions as well as the public sector being inefficient (Palascakova, 2016). The gray economy is an indicator of serious problems such as a deficit of legitimacy in the rules governing official economic activities and weakness in the social order (Enste, 2010).

To achieve the research objective, the data were collected from secondary data sources, namely: 1) The World Bank data on GDP per capita (current US$) for the year 2015 and 2) *International Monetary Fund* data on the share of the gray economy in GDP for the year 2015, as well as the average share of the gray economy in GDP for the period from the year 1991 to 2015 (Medina & Schneider, 2018).

The data collected were processed using statistical data processing program *Statistica*. The analysis covers 159 countries of the world for which the GDP/p.c. and the average share of the gray economy in GDP could also be determined. Descriptive statistics and statistical methods of correlation and regression analysis are distinguished from the applied methods.

Methods of descriptive statistics will be used for analysis and assessment of GDP/p.c. and of the share of gray economy in GDP for 27 low-income economies - LIE ($1,025 or less), 41 lower-middle income economies – LMIE ($1,026 to $3,995) , 42 upper-middle-income economies - UMIE ($3,996 to $12,375), 49 high-income economies - HIE ($12,376 or more) and on a global level - AGE.

The method of correlation analysis will determine the existence and strength of the statistical relationship between the GDP/p.c. and the share of the gray economy in GDP. To obtain a more accurate estimate of the gray economy and GDP/p.c. trends, a simple linear regression model will be examined

$$Y = a + bX + \varepsilon \quad (1)$$

where *a* and *b* are parameters to be evaluated, Y is the level of GDP/p.c., X is the share of the gray economy (GE) in GDP and ε is a vector of theoretical values of stochastic members.

3. RESEARCH RESULTS AND DISCUSSIONS

Based on the data collected for 159 countries, a brief descriptive analysis was made of the share of the gray economy in GDP and GDP/p.c. for the year 2015. The analysis was made separate by countries in the World bank's income groups and for all countries together (Table 1).

Table 1. Descriptive statistics of the share of the gray economy in GDP and GDP/p.c.

	LIE		LMIE		UMIE		HIE		AGE	
	GE	GDP/pc	GE	GDP/pc	GE	GDP/pc	GE	GDP/pc	GE	GDP/pc
MEAN	35,8	674,4	33,9	2265,8	29,1	7348,9	16,7	35786,2	27,7	13668,5
MEDIAN	34,1	709	33,3	2085,1	27,7	6514,5	15,1	31406	28,1	5032,9
SD	9,1	197,8	10,3	1003,7	9,1	2903,5	7,7	19658,8	11,8	18568,2
VALID_N	27	27	41	41	42	42	49	49	159	159
MIN	19,5	305,5	13,2	1112,1	12,1	3843,8	6,94	12572,3	6,94	305,5
MAX	56,3	1061	67	4167	53,1	16054,5	38,6	101377	67	101377
_25th%	29,6	570,7	28	1336,9	22,9	4916,1	10,4	19242,4	19,2	1356,7
_75th%	43,6	792,6	39,5	3036	33,6	9260,4	20,5	44966,1	34,9	17715,6

According to data in Table 1, the average value of the gray economy for the year 2015 was 27.78 (SD = 11.85). The only group of high-income economies had a value of gray economy below the average value. Groups of low-income economies have twice more part of the gray economy in GDP than the group of high-income economies. Switzerland had the lowest share of the gray economy in GDP of 6.94% and Zimbabwe had the highest share of 67%. Zimbabwe is in the group of lower-middle-income economies. The difference in the share of the gray economy in the GDP is very small between the low-income economies (35,8), lower-middle-income economies (33,9) and upper-middle-income economies (29,1). On the global level, the first quartile is made up of countries with a share of the gray economy in GDP of less than 19.23%. Fifty percent of the countries had a share of the gray economy in GDP between 19.23 and 34.94 percent, while the upper quartile is made up of countries with a share of the gray economy in GDP of more than 34.94%.

The average share of the gray economy in the gross domestic product in 159 world countries for the period from the year 1991 to 2015 was 31.77% (SD = 12.41). Over the observed period the lowest average share of the gray economy in GDP was recorded in the following countries (Table 2).

Table 2. Countries with the lowest average share of the gray economy in GDP, period 1991 - 2015

Country	Average	Standard deviation	Median	Min.	Max.
Switzerland	7,24	0,61	7,27	6,16	8,23
USA	8,34	0,82	8,23	7,00	9,23
Austria	8,93	0,60	8,86	7,69	9,85
Japan	10,41	0,86	10,61	8,19	11,79
Luxembourg	10,67	0,60	10,67	9,37	11,97
Netherlands	10,77	1,78	10,94	7,83	13,26
Great Britain	11,08	1,35	11,00	8,32	12,80
New Zealand	11,70	1,47	11,53	8,97	12,93
Singapore	11,90	1,36	12,17	9,20	13,76
Australia	12,06	2,51	12,25	8,10	15,18

Source: Prepared by the author according to Medina, L., Schneider, F. (2018).

According to data in Table 1, the average GDP/p.c. for the 159 countries analysed was \$ 13 668,51 (SD = 18 568.24). The first quartile is made up of countries with a share of GDP/p.c. less than 1 356,70. Fifty percent of countries have GDP/p.c. between 1 356,70 and 17 715,60, while the upper quartile is made up of countries with GDP/p.c. greater than 17 715,60.

Based on the data in Table 1 and Table 2, it's to be concluded that highly developed countries have a lower share of the gray economy in GDP. Hence, the interdependence and strength of the correlation between the average share of the gray economy in GDP and GDP/p.c are examined below. The results of correlation analysis for 27 low-income economies (\$1,025 or less), 41 lower-middle-income economies (\$1,026 to \$3,995) , 42 upper-middle-income economies ($3,996 to $12,375) and 49 high-income economies ($12,376 or more) can be seen in Table 3.

Table 3. Correlation analysis results for World Bank county classification

County classification	GE	GDP/p.c.	Correlation	p
Low-income economies (1025$ or less)	35,88	674,44	R = -0,28	p < 0,05
Lower-middle income economies (1026 to 3995)	33,90	2 265,88	R = -0,10	p < 0,05
Upper-middle-income economies (3996 to 12373)	29,16	7 348.92	R = -0,17	p < 0,05
High-income economies (12 376 or more	16,72	35 786,27	R= -0,49	p < 0,05

Based on the data from table 3 it's evident the existence of a negative relationship between the shadow economy and GDP /p.c. in all four income groups of the world economies. The highest negative relationship it's recorded in the group of high-income economies (r = -0.49) and then in the low-income economies (r = -0.28). Correlation analysis also was made for the first three income groups (110 countries - without high-income economies) and confirmed the existence of a negative relationship between the shadow economy and GDP /p.c. (r=-0,30). To get a full picture of the type and strength of the relationship between the shadow economy and GDP/p.c., a correlation analysis was also made for all 159 countries (Table 4).

Table 4. Correlation analysis results for 159 countries

Correlations (Gray_economy) Marked correlations are significant at p < ,05000 N=159 (Casewise deletion of missing data)				
	Means	Std.Dev.	GE	GDP/p.c.
GE	27,70	11,81	1,000000	-0,633506
GDP/p.c.	13 668,51	18568,25	-0,633506	1,000000

Correlation analysis conducted confirmed that there is a negative correlation of medium strength between the share of the gray economy in GDP and the GDP/p.c. (0.5 < r <0.8). Accordingly, a regression analysis was performed. The results of the regression analysis are presented in Table 5.

Table 5. Regression analysis results

Regression Summary for Dependent Variable: GDP/p.c. (Gray_economy) R= ,63350561 R²= ,40132936 Adjusted R²= ,39751617 F(1,157)=105,25 p						
	b*	**Std.Err. - of b***	**b**	**Std.Err. - of b**	**t(157)**	**p-value**
Intercept			41249,07	2921,306	14,1201	0,000000
GE	-0,633506	0,061751	-995,79	97,065	-10,2590	0,000000

Based on the data in Table 5 a macroeconomic model can be formulated for making assessments of the value of GDP/p.c. to the share of the gray economy in GDP.

$$GDP/p.c. = 41249{,}07 - 995{,}79\ GE \tag{2}$$

Analytical relationship between the share of the gray economy in total GDP and the GDP/p.c. indicates that a decrease of the share of the gray economy by only one percentage point, can already in the first year result in GDP/p.c. significant increase by $ 995,79.

Obtained data thus confirms the importance of acting against and eliminating the gray economy. To this end, the EU has worked out *A Strategy against the shadow economy and undeclared work* (European Economic and Social Committee, 2014). The proposed measurements for the elimination of shadow economy include: 1) making undeclared work less attractive for workers, for instance by providing income support and making the connection between contributions and social benefits clearer; 2) regulating new forms of work, so that they are not misused but provide a way for companies and workers to reconcile their needs; 3) encouraging the growth of small and medium-sized businesses and applying industrial policies to encourage productive sectors with a high intensity of qualified labor; 4) monitoring compliance with social security requirements by means of appropriateness indicators for labor costs (which vary by sector, category of company and region), agreed on by both sides of industry; 5) reducing the social acceptability of the shadow economy and defending the tax ethic, raising public awareness, seeking greater fairness in the tax burden and increasing confidence in government and politics; 6) making it cheaper and easier for companies to abide by the rules, reforming and simplifying administrative and tax procedures; 7) increasing the risk of being found out, tightening controls (not least by means of tripartite inspections involving representatives of the relevant public authorities, employers and unions) and making existing penalties more efficient and effective; 8) drawing up regular monitoring reports, assessing current trends and the effectiveness of the measures taken; 9) bolstering cooperation among Member States regarding multinationals, not least by means of dedicated agencies or institutional structures.

4. CONCLUSION

The gray economy is a worldwide problem, with thousands of billions of dollars being lost a year. In general, the share of the gray economy in GDP is lower in regulated and economically developed countries. Although it undermines competitiveness, the presence of the gray economy is being justified by the inability of government politics to create a high-quality and sustainable official economy. The gray economy is a product of a poorly established economic system. By suppressing the gray economy and implementing a quality economic system, it is possible to directly influence the quality of life of its residents, measured by GDP/p.c. and significantly improve it. Research results confirmed the existence of the negative and medium-strong relationship between GDP/p.c. and the average share of the gray economy in GDP. The highest negative relationship is recorded in the group of high-income economies and the smallest in the group of lower-middle-income economies. These results imply that the shadow economy tends to increase when economic development surpasses a given threshold. The obtained macroeconomic model indicates that if the share of the gray economy in GDP is reduced by just one percentage point, this can result in a significant increase of GDP/p.c. in the first year alone. Our findings can be helpful to decision-makers at a national and local level to combat the informal economy because suggest that designing policies against the gray economy depends on the country's level of development. Future research should be towards to evaluation of the impact of shadow economy determinants on the scope of shadow economies such as tax rate, overall employment rate, import of goods and services and participation of working-age people in the labor market.

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Microeconomics, Macroeconomics and Monetary Economics

COMPARATIVE ANALYSIS OF CONCENTRATION AND EFFICIENCY OF SELECTED FINANCIAL MARKET ENTITIES IN THE REPUBLIC OF CROATIA

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Abstract

Today Croatian financial sector is characterized by a growing number of market players with the indispensable superiority of large ones, so there is a growing need for accurate monitoring and analysis of market concentration and its impact on efficiency. In the past few years, the market structure of the entire financial sector has changed dramatically. The dominant role of banks is undermined by the growing importance of non-depository institutions, which are increasingly entering the banking markets through their innovative solutions, resulting in reduced market power for banks. The process of globalization, liberalization, and deregulation has affected the level of concentration and efficiency. In this context, the main objective of this paper is to examine and analyze the concentration intensity of the banking and insurance sectors in the Republic of Croatia by analyzing the ten years from 2009 to 2018. The last two research periods are accompanied by an expansion of economic activity, and its effects on concentration will be presented within this paper. Also, the concentration on the banking market will be compared with the concentration *on the insurance market and we will investigate their impact on the efficiency of the entire financial sector.*

Keywords: *market concentration, competition, efficiency, banks, insurance companies*

JEL Classification: K21

1. INTRODUCTION

Market concentration is the most common indicator for defining the market structure, degree of competition and market power in a particular market in general, concentration represents any form of a corporate reorganization that leads to a lasting change in the observed market. High concentration intensity exists when one or a small number of companies control or own a majority stake in the total output of an industry. On the one hand, a high level of industry concentration is a prerequisite for the coordinated action of large enterprises able to set and maintain a price higher than marginal costs, which is in line with Manson's (1939) and Bain's (1951) SCP paradigm that postulates a linear relationship between concentration and profitability. However, the high level of industry concentration may also be consistent with the greater efficiency of large enterprises, which allows them greater market share, as demonstrated by Demsetz's (1973) efficient structure hypothesis (ESH). Industry concentration is not by itself prohibited, moreover, it is desirable, but not all concentrations ensure effective action and positive effects on the economy. High concentration in financial markets has significantly more complex implications for the efficiency and stability of the overall financial system. Therefore, research and control of concentration in the financial markets are one of the priorities of competition theory and policy. The main purpose of this paper is to investigate, analyze and compare the intensity of concentration and efficiency of the banking and insurance sectors in the Republic of Croatia. To empirically illustrate and compare values, data from the banking and insurance sectors in the Republic of Croatia for the ten years 2009-2018 were used. Concentration analysis was performed using the concentration ratios of four (CR-4), six (CR-6) and eight (CR-8) largest companies, as well as using the Herfindahl-Hirschman Index (HHI), while return on assets (ROA) was used for efficiency indicators, and net margin (NM), whose values are measured based on total assets and insurance premiums as the relevant indicators of market power. The first part of the paper analyses the basic characteristics and developments in the banking and insurance markets over the observed period. A comparison of the degree of concentration between the banking and insurance sectors is presented in the second part of the paper, while the analysis and comparison of efficiency and effectiveness are presented in the last - third part of the paper. In terms of methodology, the descriptive method, the comparison method, and the analysis and synthesis method were used, analyzing secondary sources of data collected from publicly available publications of the Croatian National Bank (CNB) and the Financial Services Supervisory Agency (HANFA).

2. FINANCIAL MARKET INTEGRATIONS1 AND CHARACTERISTICS

After almost three decades of independence, the Croatian financial system is at a turning point of a new phase of development. Traditionally, banks were the main pillar of development. However, the changes that took place in the late 1990s significantly changed the structure of the Croatian financial system. This primarily refers to changes in configuration and operation, but also in the consolidation and innovation of financial intermediaries. The modern financial mechanism is today mostly systematically regulated and institutionally diversified, thus stimulating a smooth flow of capital, innovative activity and free competition among all participants in the financial sector. Like most transition countries, the Croatian financial system is characterized by structural imbalances in favor of banks, but accelerated development and innovation by extremely small and underdeveloped non-financial institutions have created a strong and flexible participant in the financial system with numerous opportunities. The non-depository sector today accounts for a quarter of the total financial market, with pension companies (which manage pension funds) as well as insurance companies, which contribute to the development of the overall financial mechanism, leading in its structure.

[1] Given the issues addressed in this study, exceptionally, the notion of integration will include only horizontal integration of enterprises. Horizontal integration refers to any form of irreversible and permanent integration (merger or acquisition) of companies operating at the same level of the value chain (competitor) with the aim of creating commonality or achieving economic (and other) goals, and the most common consequences of such actions are excessive or highly concentrated industries

Significant rapid growth generated by the Croatian financial system over the last few years is mostly the work of the banking sector, which still defines its potential. Banks occupy almost 2/3 or more of 70% of the total financial market, making them a priority for all financial intermediaries for many years. However, the transition process and liberalization have led to accelerated development of institutional investors, especially insurance companies, which have in recent years enjoyed the highest growth rates of all the financial segments. Therefore, the insurance industry is now recognized as an industry with significant growth potential for both the Croatian financial mechanism and the overall economy. Today, the insurance sector employs over 8,000 people and accounts for 3.5% of the gross national product (GNP), or 0.04% of the world insurance premium, which places the Republic of Croatia among 65 countries in the world by size and share of the premium in the world economy in 2018. Since the introduction of new tax reforms and the development of the current financial system, the relative importance of insurance companies has grown steadily, and at the end of 2017, the insurance sector occupied just under 7% of the total assets of all financial segments (Table 1), whereby insurance companies have profiled themselves as the third financial industry, right after banks and pension funds.

Table 1. Share of assets of banks and insurance companies in total assets of financial intermediaries in 2017

Description	Total assets (in millions of kunas)	Asset share
Commercial banks	396,742	71.56%
Pension funds	74,005	13.35%
Insurance companies	3,897	6.95%
Leasing companies	17,641	3.18%
UCITS mutual funds	13,858	2.53%
Housing savings banks	7,770	1.47%
Voluntary pension funds	3,726	0.67%
Alternative mutual funds	2,765	0.50%
TOTAL	554,404	100%

Source: adapted according to HUO (2017; 34)

The strong consolidation process, which began in the second half of the 1990s, continued throughout the decade under review. Strengthening and growth of large ones with a sharp decline of small ones have resulted in higher concentration and dominance of the largest companies, especially in the financial markets, with high concentration not to be seen as a feature of the Croatian financial markets but as a feature that characterizes most emerging markets. The largest number of banks and insurance companies in the Croatian financial markets operated until the beginning of the second millennium, after which their number declined. Since the end of 2000, when 53 banks and 28 insurance companies operated on the market, until today, the number of market players has almost halved, with 21 commercial banks and 22 insurance companies being left at the end of 2018 (Table 2). The largest losses to date have been undoubtedly recorded by the banking industry, which has lost almost 50% of its placement. In addition to the financial crisis that has undoubtedly marked the last decade, a long-standing conservative policy with increased bank sensitivity has led to an enormous loss with 32 banks less. Due to its underdevelopment, the insurance sector has incurred a slightly smaller loss, with only 10 companies less in the almost two past decades. However, it should be borne in mind that since its inception, the insurance sector has continuously evolved through the entry of new companies, acquisitions, and takeovers. In other words, in parallel with the process of consolidation in the insurance market, the entry of new companies was taking place, and the actual loss of the number of companies was almost "invisible". Also, in the decade under review, the banking industry has never recorded an increase in the number of banks, while the insurance industry has seen an increase on two occasions, during 2012 and 2018, when the number of insurance companies increased by three companies.

Table 2. Number and ownership structure of the banking and insurance sectors from 2009 to 2018.

Year	Banking sector			Insurance sector		
	Domestic ownership	Private ownership	Total	Domestic ownership	Private ownership	Total
2009	19	15	34	12	17	29
2010	19	15	34	12	17	29
2011	15	17	32	12	15	27
2012	15	16	31	12	16	28
2013	14	16	30	12	15	27
2014	12	16	28	15	15	27
2015	12	16	28	15	12	24
2016	11	15	26	15	10	22
2017	10	15	25	15	8	20
2018	10	11	21	15	10	22

Source: author's work according to CNB and CFSSA statistics

Although the number of market players has declined throughout the decade, their size measured by the value of assets has been in intensive growth, with the banking industry having a slightly lower growth rate than the insurance sector. By 2011, when the assets of both banks and insurance companies had a continuous upward trend, the number of market players was largely stagnant. More than a third of the market players after 2012 were operating at a loss, so there was a high degree of differentiation in the banking and insurance markets with the leading role in the hands of a small number of large market players (Table 3).

Table 3. Total assets of banks and insurance companies in the period from 2009 to 2018 in thousands HRK

Year	Banking sector assets	Insurance sector assets
2009	378,370,577	27,919,627
2010	391,071,192	30,114,673
2011	406,937,632	31,922,646
2012	399,919,843	34,049,932
2013	397,863,682	34,510,692
2014	395,237,713	36,646,148
2015	393,394,272	37,864,140
2016	388,721,922	39,379,686
2017	391,336,412	40,838,388
2018	409,902,709	41,935,998

Source: author's work according to CNB and CFSSA statistics

When talking about significant changes in the Croatian financial system, with the aforementioned changes in the number of banks and the total assets of banks, it is worth mentioning the increasing importance of foreign ownership. In parallel with the decline in the number of market players, there was an intense increase in foreign ownership. From a total of 32 banks and 28 insurance companies that operated until the end of 2011, 17 banks and 15 insurance companies had 100% foreign ownership (Table 2). The number of market players in both sectors continued to decline rapidly until 2014 when 28 banks and 27 insurance companies continued to operate with the continued dominance of foreign ownership. Several market players in both sectors tended to decline by the end of the period when the number of banks and insurance companies decreased by 7. Finally, it can be concluded that the privatization process and the influx of foreign ownership undoubtedly influenced the change in the structure of the overall financial system, but also its expansive growth.

3. COMPARATIVE ANALYSIS OF CONCENTRATION OF THE BANKING AND INSURANCE SECTORS

Since the principles of perfect competition are not valid in almost any market, conglomerate enterprises are a contemporary economic phenomenon in today's financial markets. In addition to the quantitative changes presented above, the last decade has also been rounded off by structural changes, the so-called qualitative ones, which are first reflected in changes in the size of market players, the deviation of the intensity of competition, and finally, the modification of the overall industrial structure. Given that today's financial markets are characterized by a growing number of market players with high levels of concentration, competition in such markets is expected to weaken. In this context, Bain (1956) defined industry concentration as a function of the number of firms and their shares in total production achieved in the market over a given time interval. Bikler (2004) provided an overview of several measures of concentration.[2]In this paper, the authors analyze the concentration based on two groups of indicators, by applying: concentration ratios[3] of four (CR-4), six (CR-6) and eight (CR-8) largest companies, and Herfindahl-Hirschman Index (HHI)[4] whose values are expressed based on data on total assets and income/premium of banks and insurance companies over 10 years.

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[2] More on measures of concentration at:(https://www.dnb.nl/en/binaries/ot027_tcm47-146045.pdf)

[3] The concentration coefficient or concentration ratio (CR - n) is the most commonly used concentration measure that measures the shares (N) of the largest enterprises in a branch, calculated as the sum of the shares of the largest enterprises and can be expressed by the formula: where *N* is the number of companies whose share is calculated from the total number of companies in the industry, and *S* is the share of the i-th company. The value of this indicator ranges from 0 to 100. The smaller the value of this coefficient, the lower the concentration in the industry, and vice versa.

[4] The Herfindahl-Hirschman Index (HHI) is the most objective measure of concentration that includes the shares of all companies in the calculation. It is expressed as the sum of squares of the market shares of all enterprises in a branch or by the following formula: where N is the number of companies in the industry and S is the part of the i-th company. The value of this index ranges from 1,000 (0,1) to 10,000 (1), with highly concentrated markets having a value of this index of more than 1,800 (0,18), moderately concentrated markets having a coefficient range of 1,000 to 1,800 (monopolistic competition), while low concentrated markets have less than 1,000 (Call & Holahan, 1985).

The movements of the most commonly used concentration ratios (CR-n) considering the shares of the largest companies are shown in Table 4. The obtained values of the calculated indicators indicate that both the banking and insurance sectors are dominated by entities whose shares significantly exceed 40% of the market. However, while the banking industry is almost 50% dominated by the two largest banks (CR-2) with a reach of 49.2%, the insurance sector is still dominated by the four largest companies (CR-4), whose shares throughout the period have been at about 60%, measured by the value of the realized assets (Table 4).

Table 4. Concentration ratios of major banks and insurance companies by asset value in the period from 2009 to 2018.

Year	Concentration ratios in the banking sector			Concentration ratios in the insurance sector		
	CR – 4 (%)	CR – 6 (%)	CR – 8 (%)	CR – 4 (%)	CR – 6 (%)	CR – 8 (%)
2009	65.15%	82.72%	89.75%	54.57	67.31	78.71
2010	65.29%	82.12%	89.18%	53.31	66.57	78.03
2011	66.43%	82.57%	89.76%	52.03	65.46	77.27
2012	66.88%	82.17%	89.78%	51.51	64.91	76.55
2013	66.82%	81.25%	89.32%	52.43	67.50	79.25
2014	66.59%	81.01%	89.42%	54.48	70.77	82.35
2015	67.60%	80.97%	89.51%	54.25	70.64	82.44
2016	68.20%	80.59%	89.63%	53.73	70.30	82.32
2017	68.14%	80.43%	90.51%	54.35	70.30	82.36
2018	73.15%	86.30%	93.13%	55.91	72.69	84.36

Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

The banking and insurance industries are characterized by an oligopolistic form of the market, with a concentration greater in the banking sector than in the insurance sector, as indicated by almost all the shares of the largest banks in the industry. Besides, it is evident that over the past decade, the four largest banks (CR-4) have been actively involved in merger and acquisition transactions in the banking market, whose value has been increasing intensively. Therefore, the value of this indicator is minimal (65.15%) at the beginning and maximum (73.15%) at the end of the observed period. Despite strengthening and increasing the number of insurance companies, the value of the four largest companies (CR-4) tended to decline until 2013, after which it grew. Such developments are a consequence of the low-interest rate policy pursued in the national and European financial markets during the recession to discourage the holding of funds, but also to stimulate faster and higher investment placement in the real sector, thus stimulating economic growth.

While the next two sets of indicators (CR-6 and CR-8) in the insurance market were moving almost identical to indicator CR-4, the banking industry had a different direction. The convergence of the ratio of the six to eight largest banks in the branch can be explained by the movements of the largest banks that participated in the merger and acquisition of the smaller banks during the recession. Unlike the shares of the two (CR-2) and four (CR-4) largest banks, according to which it can be concluded that there has been a sharp increase in concentration, the trajectories of the following two groups of indicators indicate that there has nevertheless been a decrease in concentration. From the foregoing, it can be concluded that the importance of the four (CR-4) largest banks in the system has increased intensively, but that the concentration among the eight largest banks has decreased and is asymmetrical in the number of large companies holding almost half of the market. Concentration ratios, measured by the value of revenue/premium, have a slightly different movement ratio, and their values are shown below in Table 5.

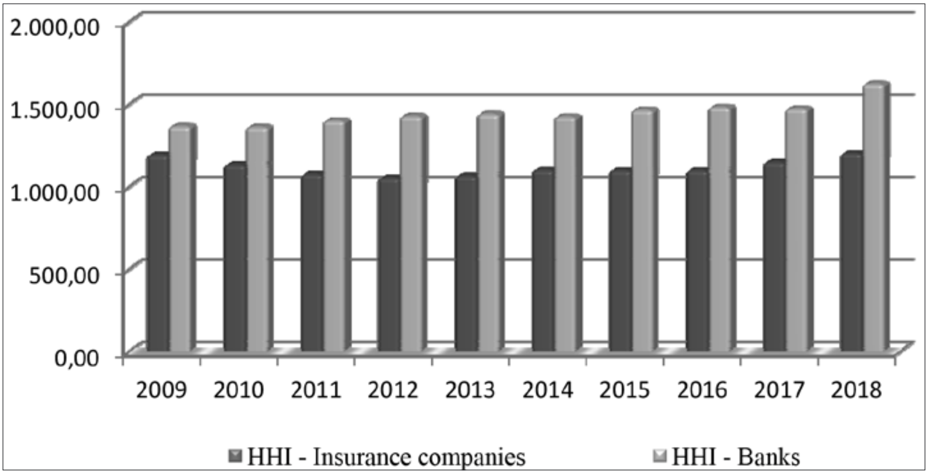
Table 5. Concentration ratios of banks and insurance companies by value of revenue/premium from 2009 to 2018

Year	Concentration ratios in the banking sector			Concentration ratios in the insurance sector		
	CR – 4 (%)	CR – 6 (%)	CR – 8 (%)	CR – 4 (%)	CR – 6 (%)	CR – 8 (%)
2009	64,87%	81,20%	88,49%	60,81	70,99	79,19
2010	63,50%	79,73%	89,16%	60,06	70,06	78,81
2011	64,70%	80,08%	90,18%	59,70	69,11	77,74
2012	66,93%	81,38%	90,11%	59,78	68,81	77,00
2013	68,01%	81,04%	90,30%	60,00	69,77	78,20
2014	68,76%	81,20%	90,41%	59,36	70,91	80,28
2015	69,24%	81,34%	90,83%	57,64	69,98	80,11
2016	70,25%	82,07%	91,64%	55,40	68,41	78,59
2017	71,19%	82,97%	93,35%	57,49	70,53	81,46
2018	74,27%	85,95%	93,35%	59,75	73,89	84,29

Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

Consequently, all shares of the largest insurance companies (CR-4, CR-6, CR-8) under the value of earned premiums have almost the same intensity of movements as the ratios expressed by the value of total assets, as opposed to the ratios of the largest banks (CR-4, CR -6, CR-8) that have a slightly more aggressive growth than the shares expressed in terms of total assets. Namely, all the concentration ratios of the largest banks in terms of premium shares decreased only in the first two periods, after which they increased intensively. However, the four largest banks in the industry, whose market share increased by 9.4%, achieved significantly more progressive growth. The slight decrease in the share of the first four and the first six banks in 2010 is the result of a slight decrease in the total revenue of the first two largest banks. The very small decrease in the total revenue of the two largest banks led to an even smaller decline in market shares, but only in the group of four and six largest companies.

Figure 1. HHI index movement by total asset value for the banking and insurance sector from 2009 to 2018

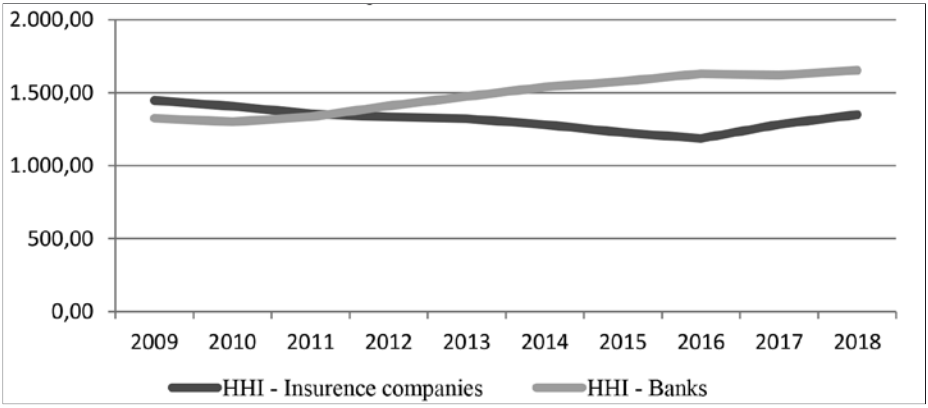


Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

The Herfindahl-Hirschman Index (HHI), which was also measured within this study, largely confirmed the movement of concentration ratios. While the value of the HHI index in terms of assets in the insurance sector ranged between 1,000 and 1,200, in the banking sector it ranged between 1,300 and 1,600 (Figure 1.). Therefore, it can be concluded that the concentration by asset value in both the banking and insurance sectors was generally moderate, with a slightly higher intensity in the banking industry. Namely, the value of the HHI index for both sectors in the first two periods has a downward trajectory, which was affected by the economic crisis that has resulted in stagnation in the number of market players (in both sectors), but also in a decline of the total assets of the largest. In doing so, "enormous losses of market shares were suffered by the larger and medium market players, which resulted in a decrease of the index.

Furthermore, the value of the HHI index according to the premium value for both banks and insurance companies has the same direction of movement only in the first two periods when they decline. This is due to the decrease in lending activity and high-interest rates present at the beginning of the financial crisis, during 2010 and 2011. While the banking industry recorded a concentration increase the following year, the concentration in the insurance market continued to decline. The total revenue of insurance companies in the recession period decreased by more than HRK 600 million and had a constant tendency of decline until 2017 after which it begins to grow. Consequently, the concentration of insurance companies (according to the HHI index) decreases until 2017 after which it grows. The recovery in both sectors was only visible during 2017 and 2018 when revenue and property growth was recorded in both sectors. Also, the shares of the largest companies continued to grow, thus increasing the concentration measured by the HHI index.

Figure 2. Movement of HHI for the banking and insurance sectors from 2009 to 2018



Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

Considering the obtained and analyzed concentration indicators, it could be said that the banking and insurance markets were relatively well structured over the observed decade. The asymmetric movement ratio of the obtained concentration indicators indicates that concentrations have increased during the observed decade, with the largest companies participating mainly in merger and acquisition transactions. Therefore, both the banking and insurance markets are characterized by the dominance of a small number of large market players with a pronounced oligopolistic form of the industry. Although in the context of the Competition Law (OG 79/09, 80/13) and the Treaty on the Functioning of the European Union (TFEU), the results shown are closer to the definition of a dominant position[5] than concentration, in the banking and insurance markets, the concentration intensity throughout the period was generally of moderate intensity, with concentration slightly higher in the banking market than in the insurance market.

4. COMPARATIVE ANALYSIS OF EFFICIENCY OF THE BANKING AND INSURANCE SECTORS

The ten years observed within this study were undoubtedly characterized by a deep financial crisis, which persisted for a bit longer in the Croatian markets than in other European markets. Negative trends have significantly slowed down the overall economy, with growth rates being the lowest in the past two decades.

Table 6 shows the values of realized revenue, i.e. premiums, as well as the financial result of banks and insurance companies over ten years. It is evident that the banking industry recorded the largest losses during the observed period, having lost more than 50% of the realized placement. While in the early years the insurance sector retained a somewhat more conservative position, the banking industry recorded losses of over HRK 15 billion, when the trend of the long-term profitability of the industry, which was also the lowest since 1999, was broken, as a result of losses in credit portfolios. The high sensitivity of the

[5] When, in a given market, three or fewer companies (in total) occupy more than 60% (rebuttable legal presumption) of the relevant market, it is considered that the companies have a dominant position, which is not prohibited in itself. However, the further elimination of competitors and the strengthening of a dominant position is detrimental to competition and ultimately leads to a weakening of competition in such markets.

banking industry, with the intense rise in costs reserved for losses and negative economic developments, has resulted in a steady decline in the total revenue generated by the banking industry, with the largest loss being made at the beginning of the decade. While most financial markets returned to the pre-crisis situation much earlier, the insurance sector only reached such results at the end of the decade when total insurance premiums increased by 7.28%. The insurance sector recorded negative developments and stagnation for almost half of the decade, losing almost HRK 85 million in realized premiums. Given the underdevelopment of the insurance industry, which still lags far behind European markets, insurance companies recorded significant losses a bit later. The total premium earned by insurance companies generally had a downward trajectory until 2016, after which it has been rising. The accession of the Republic of Croatia to the European Union has brought new challenges in terms of regulatory changes, which is why all provision costs during 2013 and 2014 have generally increased as the growth of deleveraging abroad continued. These developments are reflected in the reduction of total revenues, but also the earned premiums of insurance companies, which was the lowest at that time. Also, during the same period, the banking industry had the lowest growth rates, thus having negative financial results, which were down just under 13% compared to the pre-crisis period. The last years of the decade under review have brought more positive developments when both banks and insurance companies recorded a slight increase in placements and had positive financial results. Since the banking industry has previously entered a deep recession, it has come out of it earlier. Therefore, in 2016 it exceeded the values it had in the period before the financial crisis. The end of 2017 and the beginning of 2018 brought a bit more cost burden to the banking industry as a result of the economic developments in the country, with the insurance sector bringing in an increase in placements, whereby only then reaching the values of before the financial crisis.

Table 6. Revenue/premium and financial results of banks and insurance companies from 2009 to 2018

Year	Banking sector		Insurance sector	
	Realized revenue (in billion HRK)	Financial result (in billion HRK)	Realized gross premium (in billion HRK)	Financial result (in million HRK)
2009	**31.52**	**3.27**	**9.40**	**-21.87**
2010	28.75	3.45	9.20	257.68
2011	29.19	3.78	9.13	381.86
2012	28.79	2.77	9.03	519.28
2013	25.43	0.47	9.00	446.00
2014	24.43	1.55	8.30	-24.25
2015	24.09	-4.62	8.65	480.61
2016	22.81	5.03	8.68	488.61
2017	21.30	3.34	8.90	585.74
2018	17.93	4.96	9.76	911.89

Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

Performance indicators, i.e. business efficiency indicators measured within this study (Net Profit Margin - NM[6] and Return on Assets - ROA[7]) indicate that the banking industry has been more profitable than the insurance sector throughout the period under examination. Net Profit Margin - NM indicating the value of available funds had significantly better values in the banking market than in the insurance market, except for the period from 2013 to 2016, when due to lack of liquidity of the population and rising costs, banks reduced their total profit, which even in 2015 had a negative connotation. In contrast, the insurance sector had slightly lower profit and therefore a lower profit margin (NM). This indicator for the insurance sector generally varied around 4%, except for the first two years when it was below average (Figure 3). At the end of 2009, the insurance companies saw a negative financial result when the profit margin was also negative. The reason for this is the rise in interest rates in the financial markets and the fall in consumer spending, which was more prone to saving during the crisis than contracting new insurance policies. The largest profits of the banking and insurance industries were generated at the end of the

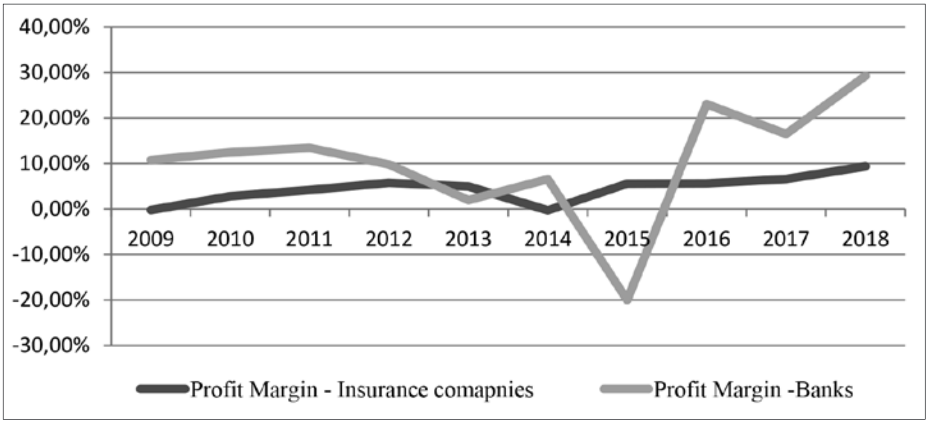
6 Net profit margin as a financial indicator of profitability that expresses the true value of the profit available to the company.It is expressed as a quotient of net income and realized revenue.

7 Return on assets (ROA) shows how much profit is actually earned per unit of invested assets.That is, the ability of an enterprise to make a profit by using its own assets.It is expressed as a quotient of pre-tax profit and total assets of the enterprise.

decade, during 2018 when the banking industry's profit margin was maximum at 29.25% and insurance companies at 9.35%.

In contrast, return on assets (ROA), as the second efficiency indicator measured within this study, indicates that the insurance sector had more value, that is, used its own funds for-profit better. Only in the first two periods did the banking sector record better values than the insurance sector, and only in the period when the financial results of the insurance companies were negative. After 2012, the values of this indicator are significantly higher than those expressed for the banking sector. The reason for this lies in the very activities that banks and insurance companies do. In other words, current assets held by banks are significantly more rigid than in the insurance sector, given that banks have a long-term burden and a high risk of fluctuations in the deposit base.

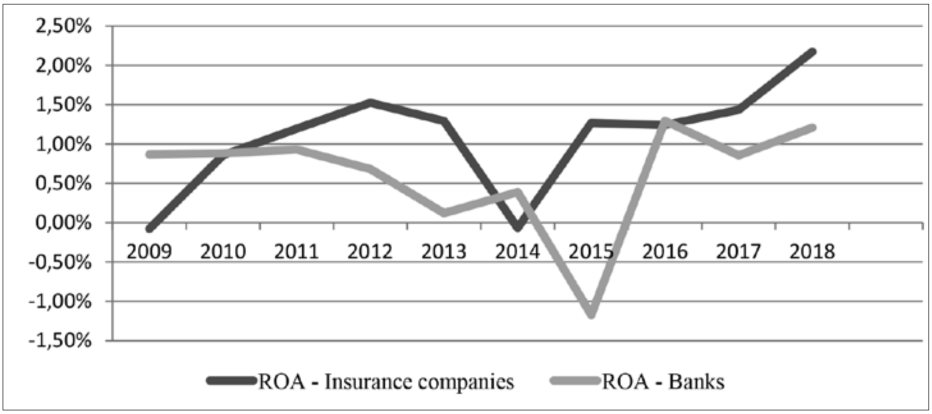
Figure 3. Trends in profitability indicators for the banking and insurance sectors from 2009 to 2018



Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

Long-term declines in income and losses in credit portfolios at the end of 2013 were caused by a decline in efficiency in both sectors, with the insurance sector this time experiencing a larger loss of 0.64 percentage points. Efficiency growth continued until the end of the period under review, except for 2015 in the banking industry and 2016 in the insurance market when both industries saw a negative financial result at the end of the year. The positive trends and recovery of the economy were brought about in 2018 when the insurance sector returned to the values achieved before the financial crisis with a premium of HRK 9.7 billion and a profit of HRK 911 million. Consequently, the efficiency of insurance companies increased by 0.93% compared to 2016, or 2.25 percentage points compared to 2009. The banking industry also had positive trends, but with slightly lower efficiency, which increased by 2.38% compared to the beginning of the period.

Figure 4. Trends of the indicators of efficiency in the banking and insurance sectors in the period from 2009 to 2018



Source: author's calculation according to CNB Banking Bulletin 2009-2018 and HANFA Annual Reports 2009-2018

Finally, as already shown, it can be concluded that economic developments have significantly shaken the Croatian financial markets, as well as the entire economy. The overall profitability of both banks and insurance companies during the period under review was significantly impaired, while the banking industry remained more profitable. However, it should be noted that the banking sector is much larger and more developed than the insurance sector, but it also recorded the biggest losses during the period of recession. In the two periods alone, the insurance industry was more profitable than the banking sector, at a time when banks had a negative financial result but also wrote off further claims. Given the scope of activities the two sectors are engaged in, the insurance industry had significantly better efficiency values. More specifically, it used its resources much better to make a profit.

5. CONCLUSION

The process of financial integration, which began at the beginning of the second millennium, has intensified significantly over the past fifteen years, which in the end has resulted in numerous changes in both the structure and the way financial markets function. The dominant role of banks has been undermined by the growing importance of institutional investors (insurance companies, pension funds) increasingly entering the liberalized banking markets. Although underdeveloped, the insurance industry is recognized as a branch with tremendous growth potential, both for the financial mechanism and for the comprehensive economy. The financial crisis that began to spill over at the end of 2008 (the domino effect) on the Croatian financial markets has significantly destabilized the Croatian financial system. However, it did not discourage large enterprises from participating in integration processes that intensified over the decade under review. The number of entities operating in the banking and insurance markets has almost halved in the past two decades, with the banking sector experiencing the largest losses with 32 fewer banks. The banking and insurance industries are characterized by an oligopolistic form of the market, with a concentration greater in the banking sector than in the insurance sector, as indicated by almost all the shares of the largest banks in the industry. While in the banking industry is dominated by the two largest banks with nearly 50% (CR -2), the insurance sector, however, is dominated by the four largest companies (CR -4), whose shares have generally been around 60% of the market. The convergence of the ratio of the six and eight largest companies, which is visible in the banking market, is the result of the integration of the largest entities in the industry. Although in the context of the Competition Law (OG 79/09, 80/13) and the Treaty on the Functioning of the European Union (TFEU), the results shown are closer to the definition of a dominant position than concentration, in the banking and insurance markets the concentration intensity throughout the period was generally of moderate-intensity, whereby in the last period in the banking market it has significantly approached the limit values (according to the HHI), therefore, any further increase should be examined in more detail from causes and effects. Also, the Croatian financial markets are part of the European financial markets and a further increase of concentration (in the Croatian markets) and participation of Croatian companies in European integrations are to be expected.

The limitations of the research conducted in this paper are reflected in the lack of reliability in demonstrating the effectiveness of the applicable ROA variable. In the following studies, the authors wish to compare the effect of concentration on efficiency using the Stochastic frontier analysis (SFA). The SFA method is useful in measuring Technical efficiency which relates actual output to the maximum possible and is defined as the ratio of the actual output to the maximum potential output. The frontier is often viewed as stochastic, so we can use stochastic frontier analysis (SFA) to estimate efficiency. SFA can be applied to any problem in which the observed output is different than the potential output, regardless of whether it is higher or lower than the potential output.

The financial crisis, whose consequences are still felt today, has significantly shaken Croatian financial markets, which have remained largely stable. The banking industry, which was the first to be affected by negative developments, lost more than 50% of its placements but returned relatively quickly to the values achieved before the financial crisis. The insurance sector, which is still lagging behind the European markets, had slightly smaller losses but felt the effects of the financial crisis for much longer. During the observed decade, the banking industry was significantly more profitable than the insurance industry, with the insurance sector being significantly more efficient. The reason for this lies in the industry itself and the activities of banks and insurance companies. While the banking industry is much more developed, it can get funds much faster (with lending activities accounting for 90% of total revenue), the insurance industry has a much more volatile portfolio, as well as the ratio of current assets (which has no long-term risk burden), and much better disposes of his property.

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AN ANALYSIS OF THE NET INTERNATIONAL INVESTMENT POSITION: THE CASE OF THE REPUBLIC OF CROATIA

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Abstract

The net international investment position of the Republic of Croatia is negative. This means that liabilities are greater than assets, so the Republic of Croatia is a net borrower from the rest of the world. Likewise, the negative position decreases annually by 5.54% on average. The goal of this paper is to analyze the net international investment position of the Republic of Croatia. In the period from 2014 to 2018, an analysis is conducted using the available data published by the Croatian National Bank. The annual rate of changes and the structure of the main components of the net international investment position are analyzed. The causes that affected the decrease in the negativity of this position are to analyze, as well. The main cause of the negative position is a persistent current account deficit of the Republic of Croatia. However, in the last several years, the current account is in surplus. The increase of the current account surplus is the greatest cause of the fall of the negative net international investment position. Moreover, this surplus mainly resulted from the balance of services surplus and to a lesser extent from the balance of secondary income surplus. Still, for the negative international investment position to be annulled, the Republic of Croatia may not rely solely on foreign exchange inflow from services. It needs to apply economic policy instruments that will result in a surplus or at least in the equilibrium of the balance of goods to avoid risks from excessively relying on foreign exchange inflows from services.

Keywords: *the net international investment position, the current account, the direct investment, the portfolio investment, the other investment*

JEL Classification: F21

1. INTRODUCTION

The net international investment position of a country indicates whether the country is a net lender or a net borrower to the other countries. From an economic point of view, it would be ideal if this position was balanced. In the case of a balanced position, the country would be neither the borrower nor the lender to the rest of the world. The borrower country spends money, which could otherwise be invested, to repay external debt. In that way, it misses the multiplicative effect of investments on gross domestic product. If the external debt is high, that may cause a recession. The lender country uses the money to lend to other countries and that money could alternatively be used to increase its consumption.

Likewise, the main components of the net international investment position, foreign assets, and foreign liabilities could be interpreted as an indicator of integration into international financial markets (Adam et al., 2002; Obstfeld & Taylor, 2002; Lane & Milesi-Ferretti, 2003;).

The net international investment position of the Republic of Croatia is negative. In other words, the Republic of Croatia is a net borrower to the rest of the world. The negativity of this position is a consequence of a persistent current account deficit. However, in the last several years, more precisely since 2013, the Republic of Croatia has the current account surplus. This surplus is the main reason why the negative net international investment position decreases. Moreover, the main cause of the current account surplus is the balance of services surplus and, to a lesser extent, the balance of secondary income surplus. Given that the Republic of Croatia is a touristic country, the balance of services surplus is expected. Still, economic growth based on tourism is quite vulnerable to exogenous shocks. Even if such shocks did not happen, the Republic of Croatia would have a negative net international investment position. Consequently, the Republic of Croatia has to apply available economic policy instruments to bring to surplus or at least to equilibrate the balance of goods.

Interdependence between the international investment position and the current account of a country is analyzed, among others, by Lane & Milessi-Fereti (2001), Higgins, Klitgaard & Tille (2007), Śliwiński (2018). The structure of the international investment position of new European Union countries including the Republic of Croatia is presented and evaluated by Bilewicz (2017).

The paper is structured as follows. After the introduction, in the second section, the net international investment position is defined. Likewise, the interdependence between this position and the current account of a country is explained. In the third section, the net international investment position of the Republic of Croatia is analyzed during the period from 2014 to 2018. This is done using the available data published by the Croatian National Bank [CNB]. Furthermore, the main components of this position, its annual rate of changes and the structure are analyzed, as well. The analysis of the causes of the net international investment position of the Republic of Croatia makes an important part of this section. In the fourth section, the conclusion is given.

2. THE CONCEPT OF THE INTERNATIONAL INVESTMENT POSITION

The concept of the international investment position is defined by the International Monetary Fund [IMF]:

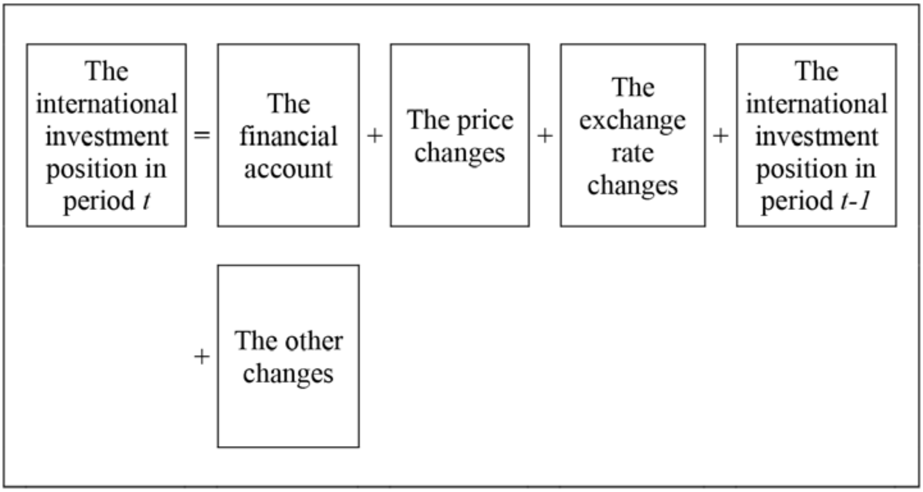
The international investment position (IIP) is a statistical statement (compiled as of the specific date such as year-end) of the value and composition of economy's claims on the rest of the world and the value of that economy's financial liabilities to the rest of the world (IMF 1996, p. 9; see also IMF 2009, p. 7, and IMF 2014, p. 238).

Considering the latter definition, a country is a net lender/borrower if its net international investment position is positive/negative. Likewise, the difference between the assets and liabilities is the net position in the IIP and represents either a net claim or a net liability to the rest of the world (IMF 2009, p. 7).

The international investment position is directly related to the balance of payments, more precisely, to the financial account. The one important difference between these two concepts is that the international investment position is a stock–oriented concept while the financial account is a flow-oriented concept. Put differently, ceteris paribus, the sum of the flows of external assets and liabilities from the financial account equals the stock of these assets and liabilities from the international investment position.

The other important difference is that the compilation of the international investment position considers other factors that affect stock values. These factors are price changes, exchange rate changes and other changes. Other changes comprise for example write-offs of bad debts and measurement errors (see more in IMF 1996, p. 142). The relationship between the international investment position and the financial account is presented in Figure 1.

Figure 1. The relationship between the international investment position and the financial account



Source: Author's diagram based on IMF (1996, p. 143).

Nonetheless, there is also an indirect relationship between the international investment position and the balance of payments. In this case „the intermediator" is the current account balance as a part of the balance of payments. This relationship is described in the following expressions:

$$CAB + KAB + FAB + NEO = 0, \tag{1}$$

$$CAB + KAB + NEO = - FAB, \tag{2}$$

where
CAB = the current account balance
KAB = the capital account balance
FAB = the financial account balance
NEO = net errors and omissions.

From expression (1) and (2), it is clear that the sum of the current account balance, the capital account balance, and net errors and omissions must be offset by an equivalent balance in the financial account (with the opposite sign).

Given that the financial account is directly related to the international investment position and its balance is to some extent offset by the current account balance, the current account balance indirectly affects the international investment position. This is a basis for analyzing the international investment position, which will be done in the following section.

3. AN ANALYSIS OF THE NET INTERNATIONAL INVESTMENT POSITION OF THE REPUBLIC OF CROATIA

Over the analyzed period, from 2014 to 2018, the international investment position was negative (see Table 1; see Figure 2). That means that the Republic of Croatia is a net borrower to the rest of the world. Still, the negative position decreases from -37,530 million euros in 2014 to -29,885 million euros in 2018. The decrease in the negativity, that is the increase in the net international position on average amounts to 5.54% annually (see Table A1). This increase is a result of the increase in assets to a lesser extent, and the decrease in liabilities to a bigger extent. Assets increase at a rate of 1.43% and liabilities decrease at a rate of 2.24% annually (see Table A1).

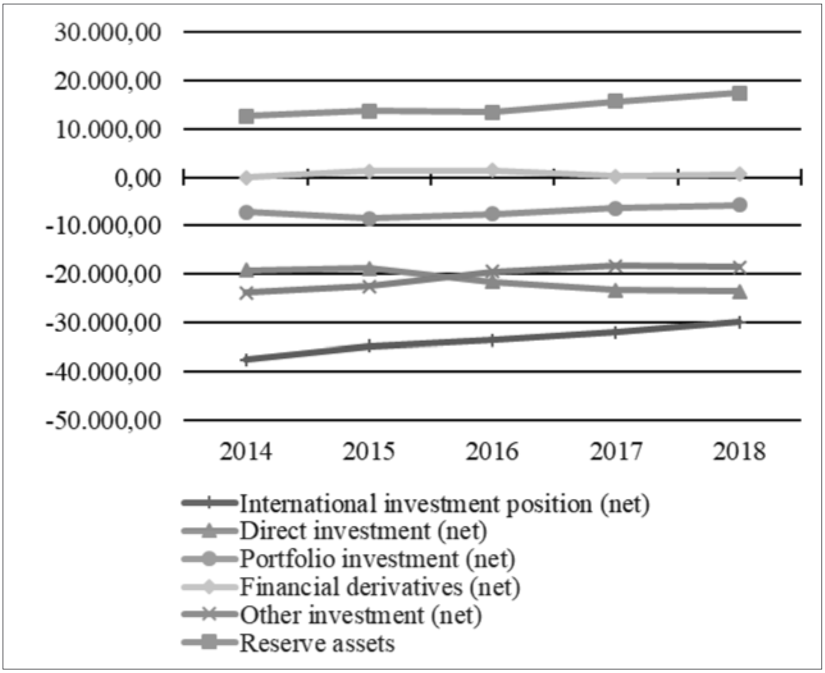
Table 1. International investment position – summary (in million EUR)

	2014	2015	2016	2017	2018
1. International investment position (net)	-37,530.48	-34,870.72	-33,658.51	-32,007.49	-29,885.53
2. Assets	30,310.75	30,914.20	29,468.92	30,018.86	32,086.98
2.1. Direct investment	5,423.24	3,901.10	2,260.92	1,017.09	1,249.36
2.2. Portfolio investment	4,101.51	3,885.88	3,648.87	4,093.90	4,442.52
2.3. Financial derivatives	287.63	1,419.88	1,598.72	479.15	712.41
2.4. Other investment	7,810.72	8,000.74	8,446.41	8,722.56	8,243.59
2.5. Reserve assets	12,687.65	13,706.61	13,514.00	15,706.16	17,439.09
3. Liabilities	67,841.23	65,784.93	63,127.42	62,026.35	61,972.51
3.1. Direct investment	24,628.22	22,673.43	23,805.45	24,348.29	24,837.71
3.2. Portfolio investment	11,314.79	12,400.46	11,235.66	10,512.97	10,179.65
3.3. Financial derivatives	273.79	159.26	158.90	174.95	130.20
3.4. Other investment	31,624.43	30,551.78	27,927.41	26,990.15	26,824.95

Source: CNB (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/international-investment-position, accessed March 15, 2020].

Considering assets, the main reason for their rise is the rise of the reserve assets and other investments, which in the structure of assets amounts to more than 40% and 25%, respectively (see Table A2a). The rise of the reserve assets amounts to 8.28% and the rise of the other investment increases by 1.36% annually (see Table A1). Although the financial derivatives have a low share in the structure of assets, they also affect the rise of assets given that their rise is 25.45% annually (see Table A1). The portfolio investment, whose share in the structure of assets amounts to about 13% (see Table A2a) and whose annual rise is 2.02% (see Table A1), makes a modest contribution to the rise of assets.

Figure 2. International investment position – summary (in million EUR)



Source: Author's chart.

The only component of assets that decreases over the analysis period is the direct investment. Its share falls from 17.89% in 2014 to 3.89% in 2018 (see Table A2a). Direct investment falls on average 30.72% annually (see Table A1).

Regarding liabilities, they fall 2.24% annually (see Table A1) mainly as a result of the fall of the other investment, whose share in the structure of liabilities amounts to more than 40% (see Table A2b). The fall of the other investment amounted to 4.03% annually (see Table A1). The direct investment also has a high share in the structure of liabilities – more than 34% (see Table A2b), but its annual growth amounts to just 0.21% (see Table A1) so it does not significantly affect the change of liabilities. The portfolio investment contributes to the decrease in liabilities to a lesser extent. Although its fall is 2.61% annually, (see Table A1) its share in the structure of liabilities is not high – it amounts to about 17% (see Table A2b). The financial derivatives do not affect the decrease in liabilities because their share in the structure of liabilities is less than 0.5% (see Table A2b).

The former analysis could be complemented by the analysis of the main components of the international investment position in their net form. This is done below.

The net direct investment decreases because assets decrease while liabilities mainly remain unchanged (see Table A3; see Table A5). The greatest reason for the decrease in assets is the fall of the equity and investment fund shares (Table A4).

The net portfolio investment increases modestly, because assets increase, and liabilities decrease (see Table A6). The rise of assets is primarily a result of the rise of the debt securities in the structure of assets (see Table A7). The fall of liabilities is a consequence of the fall of the debt securities in the structure of liabilities. (see Table A8).

The net other investment increases given that assets increase, and liabilities decrease (see Table A9a, b, c). The reason for the rise of assets is the increase in short-term loans of other monetary financial institutions and long-term loans and short-term trade credits and advances of other sectors (see Table A10). Liabilities decrease mainly because of the decrease in currency and deposits as well as loans of other monetary financial institutions (see Table A11).

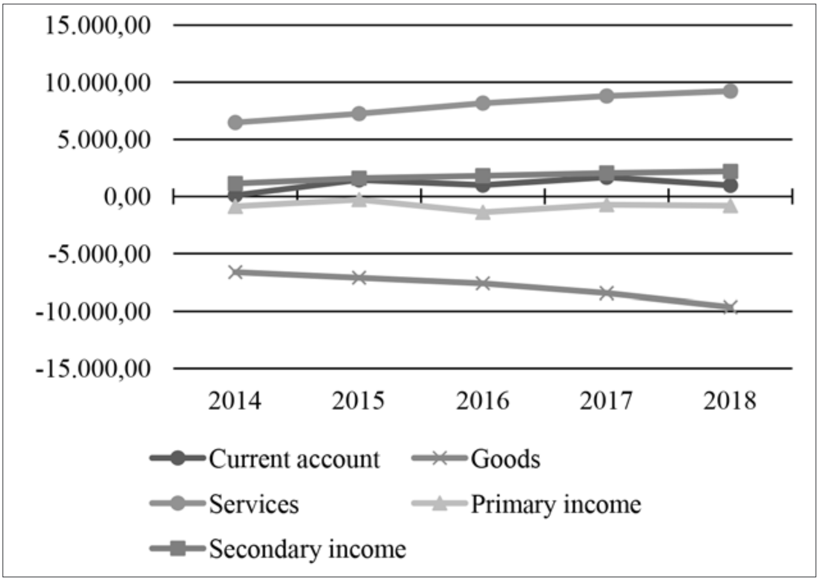
It has already been pointed out that the changes in the current account are the main cause of the changes in the international investment position. Accordingly, the current account of the Republic of Croatia is analyzed in the following paragraphs. During the analyzed period, the current account is in surplus (see Table 2; see Figure 3). The surplus increases in the amount to 72.03% annually (see Table A12). Certainly, these rates of growth will not be reached in the future because the Republic of Croatia had the current account deficit until 2013 so there is a big difference between the surplus at the beginning and the end of the analyzing period. The primary cause of the increase of the current account surplus is the rise of services, mainly touristic ones but also transportation ones (see Table A13). The secondary cause is the secondary income surplus (see Table A14), which appeared mainly as a result of more vigorous usage of European Union funds and personal transfers (CNB 2014, 2015, 2016, 2017, 2018).

Table 2. Current account – summary (in million EUR)

	2014	2015	2016	2017	2018
Current account	111.13	1,452.37	993.72	1,678.90	973.24
1. Goods	-6,627.18	-7,116.81	-7,606.92	-8,447.93	-9,638.94
2. Services	6,472.86	7,250.65	8,170.58	8,791.89	9,221.12
3. Primary income	-866.91	-277.99	-1,385.84	-720.58	-805.89
4. Secondary income	1,132.36	1,596.51	1,815.89	2,055.52	2,196.96

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/balance-of-payments, accessed March 15, 2020].

Figure 3. Current account – summary (in million EUR)



Source: Author's chart.

However, economic growth based on the balance of services surplus is vulnerable to exogenous shocks such as natural disasters and viruses (e.g. COV-

ID-19), which are especially relevant nowadays. Likewise, geopolitical instabilities, as well as changes of consumers' preferences, may cause a decrease in foreign exchange inflow from the services. Hence, the Republic of Croatia should apply all available economic policy instruments to annul the balance of goods deficit. There are two types of such instruments – the instruments of import substitution and the instruments of export promotion. These instruments are mutually exclusive in the standard international trade model. Still, in different sectors in which there is no mutual substitutability of production and mutual substitutability of consumption, these instruments may be complementary. Koški (2008) showed that in the Republic of Croatia a simultaneous usage of import substitution and export promotion is feasible and could improve the balance of goods.

4. CONCLUSION

In this paper, the net international investment position of the Republic of Croatia is analyzed. An analysis is conducted using publicly available data of the Croatian National bank for the period 2014 to 2018. The net international investment position of the Republic of Croatia is negative, but this negativity decreases from -37,530 million euros in 2014 to -29,885 million euros in 2018. In other words, the net international investment position increases annually on average 5.54%. Considering the main components of this position, solely the net direct investment falls, and the net portfolio investment, the net other investment, and the reserve assets rise. The negative net international investment position is a consequence of a persistent current account deficit. However, from 2013, the current account is in surplus. The current account surplus is the main reason for the rise of the net international investment position. Moreover, the main cause of the current account surplus is the balance of services surplus. The balance of services surplus primarily appeared as a result of an increase in tourism, and secondarily as a consequence of transportation services. The balance of secondary income surplus, which is mainly a result of more vigorous usage of European Union funds and personal transfers, also contributed to the balance of services surplus, but a lesser extent.

Still, the Republic of Croatia should not rely solely on the balance of services surplus given that the services are vulnerable to exogenous shocks such as natural disasters, viruses, geopolitical instabilities, or changes in consumer preferences. Consequently, it should apply all available economic policy instruments to improve the balance of goods. It could be done by import substitution as well as export promotion.

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6. APPENDIX

Table A1. Growth rates of international investment position (%)

	2015	2016	2017	2018	Annual growth rate
1. International investment position (net)	-7.09	-3.48	-4.91	-6.63	-5.54
2. Assets	1.99	-4.68	1.87	6.89	1.43
2.1. Direct investment	-28.07	-42.04	-55.01	22.84	-30.72
2.2. Portfolio investment	-5.26	-6.10	12.20	8.52	2.02
2.3. Financial derivatives	393.65	12.60	-70.03	48.68	25.45
2.4. Other investment	2.43	5.57	3.27	-5.49	1.36
2.5. Reserve assets	8.03	-1.41	16.22	11.03	8.28
3. Liabilities	-3.03	-4.04	-1.74	-0.09	-2.24
3.1. Direct investment	-7.94	4.99	2.28	2.01	0.21
3.2. Portfolio investment	9.60	-9.39	-6.43	-3.17	-2.61
3.3. Financial derivatives	-41.83	-0.22	10.10	-25.58	-16.96
3.4. Other investment	-3.39	-8.59	-3.36	-0.61	-4.03

Note: The annual growth rate is calculated using the geometric mean.
Source: Author's calculation.

Table A2a. Structure of international investment position – assets (%)

	2014	2015	2016	2017	2018
2. Assets	100.00	100.00	100.00	100.00	100.00
2.1. Direct investment	17.89	12.62	7.67	3.39	3.89
2.2. Portfolio investment	13.53	12.57	12.38	13.64	13.85
2.3. Financial derivatives	0.95	4.59	5.43	1.60	2.22
2.4. Other investment	25.77	25.88	28.66	29.06	25.69
2.5. Reserve assets	41.86	44.34	45.86	52.32	54.35

Source: Author's calculation.

Table A2b. Structure of international investment position – liabilities (%)

	2014	2015	2016	2017	2018
3. Liabilities	100.00	100.00	100.00	100.00	100.00
3.1. Direct investment	36.30	34.47	37.71	39.25	40.08
3.2. Portfolio investment	16.68	18.85	17.80	16.95	16.43
3.3. Financial derivatives	0.40	0.24	0.25	0.28	0.21
3.4. Other investment	46.62	46.44	44.24	43.51	43.29

Source: Author's calculation.

Table A3. International investment position – direct investment (in million EUR)

	2014	2015	2016	2017	2018
Direct investment (net)	-19,204.98	-18,772.33	-21,544.53	-23,331.20	-23,588.35
1. Assets	5,423.24	3,901.10	2,260.92	1,017.09	1,249.36
1.1. Equity and investment fund shares	4,067.41	2,637.87	979.85	-401.77	-306.71
1.1.1. In direct investment enterprises	3,873.17	2,440.24	976.37	-404.59	-308.41
1.1.2. In direct investor (reverse investment)	0.00	0.00	0.00	0.00	0.00
1.1.3. Between fellow enterprises	194.24	197.63	3.48	2.83	1.71
1.2. Debt instruments	1,355.83	1,263.22	1,281.07	1,418.85	1,556.07
1.2.1. In direct investment enterprises	929.05	1,044.21	1,094.42	1,144.89	1,152.55
1.2.2. In direct investor (reverse investment)	110.69	78.52	128.18	121.04	191.16
1.2.3. Between fellow enterprises	316.09	140.49	58.48	152.92	212.36
2. Liabilities	24,628.22	22,673.43	23,805.45	24,348.29	24,837.71

2.1. Equity and investment fund shares	17,895.16	16,819.60	17,591.18	17,514.87	18,476.30
2.1.1. In direct investment enterprises	17,895.16	16,819.60	17,591.18	17,514.87	18,476.30
2.1.2. In direct investor (reverse investment)	0.00	0.00	0.00	0.00	0.00
2.1.3. Between fellow enterprises	0.00	0.00	0.00	0.00	0.00
2.2. Debt instruments	6,733.06	5,853.82	6,214.27	6,833.41	6,361.41
2.2.1. In direct investment enterprises	4,020.02	3,947.47	4,295.40	5,037.02	4,793.17
2.2.2. In direct investor (reverse investment)	231.36	215.61	288.78	279.06	291.30
2.2.3. Between fellow enterprises	2,481.67	1,690.75	1,630.09	1,517.33	1,276.94

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/international-investment-position, accessed March 15, 2020].

Table A4. Structure of international investment position – direct investment -- assets (%)

	2014	2015	2016	2017	2018
1. Assets	100.00	100.00	100.00	100.00	100.00
1.1. Equity and investment fund shares	75.00	67.62	43.34	-39.50	-24.55
1.1.1. In direct investment enterprises	71.42	62.55	43.18	-39.78	-24.69
1.1.2. In direct investor (reverse investment)	0.00	0.00	0.00	0.00	0.00
1.1.3. Between fellow enterprises	3.58	5.07	0.15	0.28	0.14
1.2. Debt instruments	25.00	32.38	56.66	139.50	124.55
1.2.1. In direct investment enterprises	17.13	26.77	48.41	112.57	92.25
1.2.2. In direct investor (reverse investment)	2.04	2.01	5.67	11.90	15.30
1.2.3. Between fellow enterprises	5.83	3.60	2.59	15.04	17.00

Source: Author's calculation.

Table A5. Structure of international investment position – direct investment -- liabilities (%)

	2014	2015	2016	2017	2018
2. Liabilities	100.00	100.00	100.00	100.00	100.00
2.1. Equity and investment fund shares	72.66	74.18	73.90	71.93	74.39
2.1.1. In direct investment enterprises	72.66	74.18	73.90	71.93	74.39
2.1.2. In direct investor (reverse investment)	0.00	0.00	0.00	0.00	0.00
2.1.3. Between fellow enterprises	0.00	0.00	0.00	0.00	0.00
2.2. Debt instruments	27.34	25.82	26.10	28.07	25.61
2.2.1. In direct investment enterprises	16.32	17.41	18.04	20.69	19.30
2.2.2. In direct investor (reverse investment)	0.94	0.95	1.21	1.15	1.17
2.2.3. Between fellow enterprises	10.08	7.46	6.85	6.23	5.14

Source: Author's calculation.

Table A6. International investment position – portfolio investment (in million EUR)

	2014	2015	2016	2017	2018
Portfolio investment (net)	-7,213.25	-8,514.57	-7,586.78	-6,419.06	-5,737.11
1. Assets	4,101.51	3,885.88	3,648.87	4,093.90	4,442.52
1.1. Equity and investment fund shares	2,059.05	1,889.65	1,600.32	2,016.85	2,165.30
1.1.1. Other monetary financial institutions	12.10	73.17	29.09	40.23	50.89
1.1.2. Other sectors	2,046.95	1,816.48	1,571.23	1,976.62	2,114.42
1.2. Debt securities	2,042.47	1,996.23	2,048.55	2,077.04	2,277.22
2. Liabilities	11,314.77	12,400.45	11,235.64	10,512.96	10,179.64
2.1. Equity and investment fund shares	577.46	575.96	663.73	653.87	656.40
2.1.1. Other monetary financial institutions	32.46	30.55	37.01	36.25	33.47
2.1.2. Other sectors	545.00	545.41	626.72	617.62	622.93
2.2. Debt securities	10,737.30	11,824.49	10,571.91	9,859.09	9,523.24
2.2.1. Long-term	10,629.23	11,748.34	10,494.26	9,756.63	9,440.13
2.2.1.1. General government	9,089.18	10,106.27	8,991.65	8,728.35	8,423.41
2.2.1.2. Other monetary financial institutions	2.51	2.00	14.48	10.48	20.27
2.2.1.3. Other sectors	1,537.55	1,640.07	1,488.13	1,017.80	996.44
2.2.2. Short-term	108.07	76.14	77.65	102.46	83.11
2.2.2.1. General government	83.60	8.13	1.78	19.96	0.61
2.2.2.2. Other sectors	24.47	68.01	75.87	82.50	82.50

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/international-investment-position, accessed March 15, 2020].

Table A7. Structure of international investment position – portfolio investment – assets (%)

	2014	2015	2016	2017	2018
1. Assets	100.00	100.00	100.00	100.00	100.00
1.1. Equity and investment fund shares	50.20	48.63	43.86	49.26	48.74
1.1.1. Other monetary financial institutions	0.29	1.88	0.80	0.98	1.15
1.1.2. Other sectors	49.91	46.75	43.06	48.28	47.59
1.2. Debt securities	49.80	51.37	56.14	50.74	51.26

Source: Author's calculation.

Table A8. Structure of international investment position – portfolio investment – liabilities (%)

	2014	2015	2016	2017	2018
2. Liabilities	100.00	100.00	100.00	100.00	100.00
2.1. Equity and investment fund shares	5.10	4.64	5.91	6.22	6.45
2.1.1. Other monetary financial institutions	0.29	0.25	0.33	0.34	0.33
2.1.2. Other sectors	4.82	4.40	5.58	5.87	6.12
2.2. Debt securities	94.90	95.36	94.09	93.78	93.55
2.2.1. Long-term	93.94	94.74	93.40	92.81	92.74
2.2.1.1. General government	80.33	81.50	80.03	83.02	82.75
2.2.1.2. Other monetary financial institutions	0.02	0.02	0.13	0.10	0.20
2.2.1.3. Other sectors	13.59	13.23	13.24	9.68	9.79
2.2.2. Short-term	0.96	0.61	0.69	0.97	0.82
2.2.2.1. General government	0.74	0.07	0.02	0.19	0.01
2.2.2.2. Other sectors	0.22	0.55	0.68	0.78	0.81

Source: Author's calculation.

Table A9a. International investment position – other investment (in million EUR)

	2014	2015	2016	2017	2018
Other investment (net)	-23,813.71	-22,551.04	-19,481.01	-18,267.59	-18,581.36
1. Assets	7,810.72	8,000.74	8,446.41	8,722.56	8,243.59
1.1. Other equity	68.80	95.83	149.83	204.51	233.87
1.2. Currency and deposits	5,338.09	5,065.24	4,830.86	5,039.80	4,353.11
1.2.1. Central bank	0.00	0.00	483.40	1,058.84	277.89
1.2.2. General government	159.07	90.03	43.73	11.68	2.70
1.2.3. Other monetary financial institutions	3,563.26	3,723.94	2,988.26	2,720.81	2,838.02
1.2.4. Other sectors	1,615.76	1,251.26	1,315.46	1,248.46	1,234.51
1.3. Loans	559.71	804.99	1,258.27	1,053.76	1,339.54
1.3.1. Central bank	0.00	0.00	0.00	0.00	0.00
1.3.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
1.3.2. General government	14.84	30.92	32.01	42.73	106.92
1.3.2.1. Long-term	14.84	30.92	32.01	42.73	106.92
1.3.3. Other monetary financial institutions	436.10	664.38	1,100.19	795.27	1,005.74
1.3.3.1. Long-term	280.76	322.28	287.77	318.01	267.96
1.3.3.2. Short-term	155.34	342.10	812.42	477.25	737.78
1.3.4. Other sectors	108.77	109.70	126.07	215.76	226.89
1.3.4.1. Long-term	97.87	105.87	123.14	183.24	224.16
1.3.4.2. Short-term	10.89	3.83	2.93	32.51	2.72

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/international-investment-position, accessed March 15, 2020].

Table A9b. International investment position – other investment (in million EUR)

	2014	2015	2016	2017	2018
1.4. Trade credit and advances	1,825.73	2,014.66	2,169.86	2,355.55	2288.28
1.4.1. General government	0.00	0.00	0.00	0.00	0.00
1.4.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
1.4.2. Other sectors	1,825.73	2,014.66	2,169.86	2,355.55	2288.28
1.4.2.1. Long-term	49.12	59.09	65.83	43.10	41.06
1.4.2.2. Short-term	1,776.60	1,955.57	2,104.03	2,312.46	2247.22
1.5. Other accounts receivable	18.40	20.02	37.59	68.95	28.79
1.5.1. Central bank	0.00	0.00	0.00	0.00	0.00
1.5.2. Other monetary financial institutions	18.40	20.02	37.59	68.95	28.79
2. Liabilities	31,624.43	30,551.78	27,927.41	26,990.15	26824.95
2.1. Other equity	0.00	0.00	0.00	0.00	0.00
2.2. Currency and deposits	5,242.79	4,499.14	3,563.85	2,883.74	3108.91
2.2.1. Central bank	83.60	50.75	80.13	76.16	44.73
2.2.2. Other monetary financial institutions	5,159.19	4,448.39	3,483.72	2,807.58	3064.18
2.2.3. Other sectors	0.00	0.00	0.00	0.00	0.00
2.3. Loans	23,230.75	22,609.79	20,489.59	20,162.11	19407.20
2.3.1. Central bank	0.00	1,238.24	950.06	1,600.19	1242.90
2.3.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
2.3.1.2. Short-term	0.00	1,238.24	950.06	1,600.19	1242.90

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/international-investment-position, accessed March 15, 2020].

Table A9c. International investment position – other investment (in million EUR)

	2014	2015	2016	2017	2018
2.3.2. General government	6,467.66	6,099.93	6,150.77	6,020.91	5,529.22
2.3.2.1. Long-term	6,467.49	6,099.93	6,150.77	5,955.91	5,509.22
2.3.2.2. Short-term	0.16	0.00	0.00	65.00	20.00
2.3.3. Other monetary financial institutions	2,969.39	1,644.63	1,018.00	913.98	948.68
2.3.3.1. Long-term	2,558.68	1,579.09	992.87	816.90	857.85
2.3.3.2. Short-term	410.71	65.54	25.13	97.08	90.84
2.3.4. Other sectors	13,793.71	13,626.98	12,370.76	11,627.03	11,686.39
2.3.4.1. Long-term	13,193.05	13,133.44	12,010.50	11,215.16	11,301.13
2.3.4.2. Short-term	600.66	493.55	360.26	411.87	385.26
2.4. Trade credit and advances	2,722.63	3,009.61	3,446.40	3,544.18	3,899.22
2.4.1. General government	0.00	0.00	0.00	0.00	0.00
2.4.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
2.4.1.2. Short-term	0.00	0.00	0.00	0.00	0.00
2.4.2. Other sectors	2,722.63	3,009.61	3,446.40	3,544.18	3,899.22
2.4.2.1. Long-term	143.37	169.69	327.62	326.08	197.68
2.4.2.2. Short-term	2,579.26	2,839.92	3,118.78	3,218.10	3,701.53
2.5. Other accounts payable	67.00	48.57	38.41	37.14	39.88
2.6. Special drawing rights	361.26	384.68	389.18	362.97	369.75

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/international-investment-position, accessed March 15, 2020].

Table A10. Structure of international investment position – other investment – assets (%)

	2014	2015	2016	2017	2018
1. Assets	100.00	100.00	100.00	100.00	100.00
1.1. Other equity	0.88	1.20	1.77	2.34	2.84
1.2. Currency and deposits	68.34	63.31	57.19	57.78	52.81
1.2.1. Central bank	0.00	0.00	5.72	12.14	3.37
1.2.2. General government	2.04	1.13	0.52	0.13	0.03
1.2.3. Other monetary financial institutions	45.62	46.54	35.38	31.19	34.43
1.2.4. Other sectors	20.69	15.64	15.57	14.31	14.98
1.3. Loans	7.17	10.06	14.90	12.08	16.25
1.3.1. Central bank	0.00	0.00	0.00	0.00	0.00
1.3.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
1.3.2. General government	0.19	0.39	0.38	0.49	1.30
1.3.2.1. Long-term	0.19	0.39	0.38	0.49	1.30
1.3.3. Other monetary financial institutions	5.58	8.30	13.03	9.12	12.20
1.3.3.1. Long-term	3.59	4.03	3.41	3.65	3.25
1.3.3.2. Short-term	1.99	4.28	9.62	5.47	8.95
1.3.4. Other sectors	1.39	1.37	1.49	2.47	2.75
1.3.4.1. Long-term	1.25	1.32	1.46	2.10	2.72
1.3.4.2. Short-term	0.14	0.05	0.03	0.37	0.03
1.4. Trade credit and advances	23.37	25.18	25.69	27.01	27.76
1.4.1. General government	0.00	0.00	0.00	0.00	0.00
1.4.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
1.4.2. Other sectors	23.37	25.18	25.69	27.01	27.76
1.4.2.1. Long-term	0.63	0.74	0.78	0.49	0.50
1.4.2.2. Short-term	22.75	24.44	24.91	26.51	27.26
1.5. Other accounts receivable	0.24	0.25	0.45	0.79	0.35
1.5.1. Central bank	0.00	0.00	0.00	0.00	0.00
1.5.2. Other monetary financial institutions	0.24	0.25	0.45	0.79	0.35

Source: Author's calculation.

Table A11. Structure of international investment position – other investment – liabilities (%)

	2014	2015	2016	2017	2018
2. Liabilities	100.00	100.00	100.00	100.00	100.00
2.1. Other equity	0.00	0.00	0.00	0.00	0.00
2.2. Currency and deposits	16.58	14.73	12.76	10.68	11.59
2.2.1. Central bank	0.26	0.17	0.29	0.28	0.17
2.2.2. Other monetary financial institutions	16.31	14.56	12.47	10.40	11.42
2.2.3. Other sectors	0.00	0.00	0.00	0.00	0.00
2.3. Loans	73.46	74.00	73.37	74.70	72.35
2.3.1. Central bank	0.00	4.05	3.40	5.93	4.63
2.3.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
2.3.1.2. Short-term	0.00	4.05	3.40	5.93	4.63
2.3.2. General government	20.45	19.97	22.02	22.31	20.61
2.3.2.1. Long-term	20.45	19.97	22.02	22.07	20.54
2.3.2.2. Short-term	0.00	0.00	0.00	0.24	0.07
2.3.3. Other monetary financial institutions	9.39	5.38	3.65	3.39	3.54
2.3.3.1. Long-term	8.09	5.17	3.56	3.03	3.20
2.3.3.2. Short-term	1.30	0.21	0.09	0.36	0.34
2.3.4. Other sectors	43.62	44.60	44.30	43.08	43.57
2.3.4.1. Long-term	41.72	42.99	43.01	41.55	42.13
2.3.4.2. Short-term	1.90	1.62	1.29	1.53	1.44
2.4. Trade credit and advances	8.61	9.85	12.34	13.13	14.54
2.4.1. General government	0.00	0.00	0.00	0.00	0.00
2.4.1.1. Long-term	0.00	0.00	0.00	0.00	0.00
2.4.1.2. Short-term	0.00	0.00	0.00	0.00	0.00
2.4.2. Other sectors	8.61	9.85	12.34	13.13	14.54
2.4.2.1. Long-term	0.45	0.56	1.17	1.21	0.74
2.4.2.2. Short-term	8.16	9.30	11.17	11.92	13.80
2.5. Other accounts payable	0.21	0.16	0.14	0.14	0.15
2.6. Special drawing rights	1.14	1.26	1.39	1.34	1.38

Source: Author's calculation.

Table A12. Growth rates of – current account – summary (%)

	2015	2016	2017	2018	%
Current account	1206.89	-31.58	68.95	-42.03	72.03
Goods	7.39	6.89	11.06	14.10	9.82
Services	12.02	12.69	7.60	4.88	9.25
Primary income	-67.93	398.52	-48.00	11.84	-1.81
Secondary income	40.99	13.74	13.20	6.88	18.02

Note: The annual growth rate is calculated using a geometric mean.
Source: Author's calculation.

Table A13. Current account – goods and services (in million EUR)

	2014	2015	2016	2017	2018
Goods	-6,627.18	-7,116.81	-7,606.92	-8,447.93	-9,638.94
1. Credit	9,439.53	10,193.47	10,510.64	11,712.13	12,233.80
2. Debit	16,066.70	17,310.28	18,117.57	20,160.07	21,872.74
Services	6,472.86	7,250.65	8,170.58	8,791.89	9,221.12
1. Manufacturing services on physical inputs owned by others	229.94	251.31	264.36	258.17	251.86
1.1. Credit	251.27	276.96	300.94	302.03	300.85
1.2. Debit	21.33	25.65	36.58	43.86	48.99
2. Transport	432.08	438.89	510.07	504.31	554.01
2.1. Credit	999.14	1,018.18	1,077.51	1,146.96	1,223.82
2.2. Debit	567.05	579.30	567.44	642.65	669.81
3. Travel	5,910.19	6,537.50	7,244.69	7,757.70	8,066.05
3.1. Credit	6,544.83	7,219.25	8,098.21	8,959.56	9,501.18
3.2. Debit	634.64	681.75	853.52	1,201.86	1,435.13
4. Other services	-99.35	22.95	151.46	271.70	349.21
4.1. Credit	1,580.27	2,019.93	2,257.91	2,494.97	2,836.10
4.2. Debit	1,679.61	1,996.97	2,106.45	2,223.26	2,486.89

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/balance-of-payments, accessed March 15, 2020].

Table A14. Current account – primary and secondary income (in million EUR)

	2014	2015	2016	2017	2018
Primary income	-866.91	-277.99	-1,385.84	-720.58	-805.89
1. Compensation of employees	721.10	896.91	1,165.03	1,345.07	1,404.14
1.1. Credit	754.33	926.21	1,183.60	1,367.11	1,438.86
1.2. Debit	33.23	29.31	18.57	22.03	34.72
2. Direct investment income	-471.75	-59.27	-1,621.58	-1,314.17	-1,580.27
2.1. Credit	-154.96	-384.87	-1,488.97	-1,145.68	171.07
2.2. Debit	316.80	-325.60	132.61	168.50	1,751.33
3. Portfolio investment income	-682.98	-757.40	-726.60	-633.47	-567.16
3.1. Credit	54.43	66.68	83.17	79.13	73.01
3.2. Debit	737.41	824.09	809.77	712.60	640.17
4. Other investment income	-567.89	-482.92	-319.31	-218.11	-161.56
4.1. Credit	35.76	35.79	33.12	29.72	17.20
4.2. Debit	603.65	518.71	352.42	247.82	178.76
5. Reserve assets income	134.61	124.70	116.63	100.10	98.95
5.1. Credit	134.61	124.70	116.63	100.10	98.95
5.2. Debit	0.00	0.00	0.00	0.00	0.00
Secondary income	1,132.36	1,596.51	1,815.89	2,055.52	2,196.96
1. General government	-552.29	-460.89	-419.64	-369.44	-332.65
1.1. Credit	183.52	215.08	306.21	346.59	421.51
1.2. Debit	735.80	675.97	725.85	716.04	754.16
2. Other sectors	1,684.64	2,057.41	2,235.53	2,424.97	2,529.61
2.1. Credit	2,087.77	2,505.16	2,707.00	2,927.50	3,069.08
2.2. Debit	403.13	447.75	471.47	502.54	539.47

Source: CNB, (2020), [available at: https://www.hnb.hr/statistics/statistical-data/rest-of-the-world/balance-of-payments, accessed March 15, 2020].

DOES THE (MIS)TRUST IN PUBLIC INSTITUTIONS LEAD TO GREATER PREVALENCE OF THE 'ECONOMY OF FAVORS' IN THE EUROPEAN UNION SOCIETIES: A BUSINESS SECTOR PERSPECTIVE

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Abstract

The interactions between economic, social and political factors have been increasingly researched to enhance the understanding of the (postsocialist) business environment. Namely, despite the EU membership of most East European countries, the gap between formal and informal institutions is increasing. Simultaneously, despite the change of the system, the practices based on redistribution of public resources appear to be omnipresent in postsocialist societies. The use of personal relations appears to be rising. Besides, it reflects the predominant features of national mind-sets already identified in the postso-

cialist business environments and shown to be negatively correlated with competitiveness. These include collectivism, high power distance, indulgence versus restraint and uncertainty avoidance.

Predominantly based on the business executives survey done by WEF, this paper contributes to the debate on the resistance of informal institutions in the macroeconomic business environment. More precisely, this study examines the long-run and the short-run relationship between trust in public institutions (including rule of law and judicial independence), informal practices and economic development. To assess this relation empirically, the pooled mean group estimator of dynamic heterogeneous panel data on the sample of selected European countries is used.

Hence, this article adds to our understanding of informal practices as indicators of weaknesses in society's official structure. Moreover, it provides empirical evidence of the role of informal practices as complements or substitutes to the official economy depending on the country's level of economic development and its (mal)functioning or underdeveloped rule of law.

Keywords: *institutions; trust; European Union; postsocialism; economy of favors*

JEL Classification: O17, P37, P39

1. INTRODUCTION

Personal relations and networks are deemed to be invaluable resources all over the World. Yet, there are varieties in their prevalence, role, dynamics, and importance. Based on the data for the European Union countries, this article attempts to examine the dual relationship of "economy of favors"-like practices and trust in public institutions as determinants of economic performance. Besides, it questions the role of informal practices as substitutes to the official economy in the "new" EU (mostly post transitional) countries and simultaneously the role of informal practices as complements to the official structure of the society in the "old" EU members.

The contribution of this article is threefold. First, it adds quantitative analysis to the most qualitative body of "economies of favors" literature. Second, it provides economic insights whilst most existing research would fall into the other fields of social sciences. Third, it provides empirical evidence for the linkages of trust in public institutions and pervasiveness of "economy of favors"-related practices. Thus, this article enriches our understanding of informal practices as indicators of dysfunctionalities of society's official structure and their related varieties over time and in different socio-economic systems.

The article is structured as follows. After the introductory section, the relevant literature review and data description are presented in Section 2. Section 3 covers the research methodology and estimation results. Finally, Section 4 discusses the findings while Section 5 provides the concluding remarks and further research recommendations.

2. LITERATURE REVIEW AND DATA DESCRIPTION

The concept of the "economy of favors" is based on favors of access and mostly originates in the re-distribution of public resources (Ledeneva, 1998, 2008, 2017). The study of the "economy of favors" originates in the research of *blat* – the use of personal networks for getting things done in Russia (Ledeneva, 1998). The concept of the "economy of favors" includes various aspects of clientelism, nepotism and state capture as those favors usually imply the avoidance of formal procedures. Besides, those favors often imply the use of public resources for private gain. Despite the widespread use of personal relations, it is still under-researched in the economic literature covering post-socialist Central and southeast European societies. Contrary to that, Western, Chinese and Russian networking practices have been thoroughly investigated so far, *blat* and *guanxi* in particular[1].

Culture is increasingly recognized as a key contextual factor in institutional change (Roland, 2004; North, 2005, 2008; Guiso et al., 2006; Tabellini, 2010; Aoki, 2011; Jellema & Roland, 2011), but also very influential for the business environments. Whitley (1997), for instance, demonstrates that markets, companies, and economic outcomes are socially constructed and embedded. Besides, a legal setting is considered a very relevant factor for the execution of economic activities (La Porta, Lopez-de-Silanes & Shleifer, 1998, 2008; Djankov, McLiesh & Ramalho, 2006; Aldashev, 2009; Dixit, 2009).

[1] Key differences between *blat* and *guanxi* on one side and personal networking in the West on the other are succinctly summarized by Michailova and Worm (2003: 510).

In a nutshell, the favorable business environment is vital for economic progress and the appropriate interplay of rule of law and national culture crucial for the business-friendliness of a certain country. Analysis of interaction between Hofstede's cultural dimensions and doing business regulations[2] indicate that a favorable business environment is found in societies characterized by weak power distance, high individualism, low uncertainty avoidance and indulgence instead of restraint. These cultural features are mostly found in Western European societies whereas Eastern European countries predominantly show the opposite characteristics (Šimić Banović, 2016). Besides, Vučković et al. (2016) show that business environment reforms encourage private sector development and entrepreneurship (especially small and medium ones (SMEs)) in EU countries. Precisely, the authors show that business environment reforms have a positive effect on the total early-stage entrepreneurial activity (TEA) expressed as a percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business. However, a much more interesting finding is that higher corruption is connected with increased TEA, which points out to some previous findings that corruption could facilitate new firm creation (Vučković et al., 2016).

On the other side, when analyzing the specific type of entrepreneurial activity measured by a motivational factor calculated as the ratio between opportunity- and necessity-based entrepreneurship, the variable Index of Business Freedom is no longer statistically significant, implying that relaxing business regulations (such as costs of registering a company) is not a crucial factor for increasing the number of opportunities- based entrepreneurs. On the other side, a crucial factor in this model is control of corruption, where an increase in the *Control of Corruption* index (lower corruption) results in the larger motivational factor which implies an increase (decrease) in opportunity (necessity)-based entrepreneurship.

Following afore-elaborated, in this section, we briefly identify the set of variables used in the empirical analysis for the 2000-2015 period. We selected yearly time series data for European countries from the UNECE, the World Bank and World Economic Forum. The analysis includes 28 EU member states divided into two groups: EU15 and NMS13. The former group consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy,

2 Sample included EU countries, Serbia and Russian Federation.

Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The latter group comprises the European countries that joined the EU after May 1, 2004: Bulgaria, Cyprus, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia. As already mentioned, the study covers the period 2000–2015 which includes the phases of both economic downturn and post-crisis recovery[3].

Our empirical strategy begins with the selection of the independent variables. More precisely, we empirically assess whether (missing) trust in public institutions, judicial independence, the economy of favors, and export (as a control variable) are significant determinants of GDP per capita. Due to the missing data for certain explanatory variables for some countries, to estimate the appropriate model, we take advantage of an unbalanced panel model. The choice of variables in the model is formed due to the specific needs of this research. Table 1 describes the variables and their expected signs that are in line with economic theory.

Table 1. Data description and sources

Code	Variable	Source	Expected sign
gdp_pc	GDP per capita	World Development Indicators	Positive
ptp	Public trust in politicians	World Economic Forum: Global Competitiveness Index	Positive
ji	Judicial independence	World Economic Forum: Global Competitiveness Index	Positive
rol	Rule of law	World Governance Indicators	Positive
dpf	Diversion of public funds	World Economic Forum: Global Competitiveness Index	Negative
ex_t	Exports of manufactured goods	UNCTAD	Positive

Note: United Nations Conference on Trade and Development (UNCTAD)

The dependent variable is GDP per capita as a proxy of living standards or quality of life. More precisely, GDP per capita is gross domestic product divided by midyear population and is expressed in current US dollars. The first explanatory variable measures public trust in politicians as a proxy for trust in public institutions (from Global Competitiveness Index: *In your country, how do you rate the ethical standards of politicians? 1 = extremely low; 7 = extremely high*). Namely, since Putnam's (1993) influential study, scholars (Knack & Keefer, 1997; Sang-

[3] The analysis ends with year 2015 due to the change in WEF methodology.

nier, 2013; Algan & Cahuc, 2010, 2013) have raised lots of evidence about the impact of social capital (trust) on economic performance. According to Dincer and Uslaner (2010), a positive relationship between trust and economic growth is found. More specifically, a 10 percentage point increase in trust increases the growth rate of per capita income by 0.5 percentage points, the growth rate of housing prices by 1.25 percentage points, and the growth rate of employment by 2.5 percentage points over a decade.

The next explanatory variables are rule of law (from the World Bank) and judicial independence (from Global Competitiveness Index: *In your country, how independent is the judicial system from influences of the government, individuals, or companies? 1 = not independent at all; 7 = entirely independent*). According to Worldwide Governance Indicators methodology, rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Besides, since the better rule of law / judicial independence leads to higher GDP per capita, the expected sign is positive. The selection of those two variables (level of economic development and rule of law) is following the theoretical framework provided by Aligica and Tarko (2014).

As a proxy for the economy of favors, we use diversion of public funds (*In your country, how common is illegal diversion of public funds to companies, individuals, or groups? [1 = very commonly occurs; 7 = never occurs*). Namely, it is assumed that a greater diversion of public funds leads to a lower GDP per capita. This proxy variable cannot fully cover the "economy of favors", yet; it is in line with the definition of "economy of favors" and captures the criteria of practices exercised at the expense of public resources. As already stated, the quantification of the "economy of favors" is very demanding due to several issues, access to data in particular.

The control variable in our model is export which should have a positive expected sign. More precisely, the data for exports are extracted from the UNCTAD database (trade matrix by product groups). The values cover manufactured goods (SITC 5 to 8 less 667 and 68), which are originally expressed in thousands of dollars, but for this analysis, they are transformed into base indices (2010=100). Namely, the importance of export growth for the EU in recent years has been considerable.

3. RESEARCH METHODOLOGY AND ESTIMATION RESULTS

The literature on dynamic and cointegrated panels developed quickly over the past two decades offering several methods that deal with endogeneity bias and accommodate nuisance parameters and serial correlation. In the empirical analysis of the long-run and the short-run relationship between economic development and trust in public institutions, we take the advantage of a single equation modeling approach using the Pooled Mean Group estimator (PMG) of Pesaran et al, 1999. Namely, this approach allows for very flexible assumptions in the panel framework, giving the pooled estimation of economic development (approximated by GDP per capita) elasticities concerning selected independent variables, while the speed of the adjustment, innovation variances, and the short-term parameters are left unrestricted across countries.

According to the pooled mean group (PMG) procedure, firstly, all variables were tested for stationarity using tests with individual unit root processes: Im, Pesaran and Shin (IPS) unit root test (Im et al., 2003) and Fisher Augmented Dickey Fuller (ADF) unit root test (Choi, 2001). Based on conducted tests, it can be concluded that all the series of interest are integrated of order one, or difference stationary. In the next step, Westerlund (2007) panel cointegration tests are used to assess whether the variables are cointegrated in the long run. These tests confirmed that the variables of interest were cointegrated at the 5% significance level[4].

Using the PMG estimator, we proceeded to test whether there were the long run and short-run relationship between GDP per capita (gdp_pc) and the following set of independent variables: public trust in politicians (ptp), judicial independence (ji), diversion of public funds (dpf) and the control variable (total) exports (lnex_t). Accordingly, our model can be represented by equation (1):

$$\boldsymbol{gdp\_pc_{t,i} = \gamma_{0i} + \gamma_{1i}ptp_{t,i} + \gamma_{2i}ji_{t,i} + \gamma_{3i}dpf_{t,i} + \gamma_{4i}ex\_t_{t,i} + \varepsilon_{t,i}, i = 1,2,\ldots,N; t = 1,2,\ldots,T} \quad (1)$$

where GDP per capita and total exports are expressed in logarithms. The error term that captures the effects of unexpected shocks to GDP per capita is denoted by $\varepsilon_{t,i}$. The subscripts *i* and *t* denote country and time, respectively. Deviations from the long-run relationship given in equation (1) are possible

4 The results of panel unit root and panel cointegration tests are not presented here in order to save space, but are available from the authors upon the request.

in the short run. Additionally, according to the PMG procedure, it is assumed that in the short-run GDP per capita differs across countries. This assumption is implemented using conventional statistical criteria and determining lag length for each variable. In our case, the most common representation was that GDP per capita is lagged once, while all the independent variables are given in levels. Thus, the model is given in equation (1) can be written as an autoregressive distributed lag (ARDL) (1,0,0,0,0) model:

$$\boldsymbol{gdp\_pc_{t,i} = \delta_{0i} + \gamma_i gdp\_pc_{t-1,i} + \beta_{10i} ptp_{t,i} + \beta_{20i} ji_{t,i} + \beta_{30i} dpf_{t,i} + \beta_{40i} ex\_t_{t,i} + \varepsilon_{t,i}} \quad (2)$$

Finally, the error-correction reparametrization of equation (2) is employed:

$$\Delta gdp\_pc_{t,i} = \alpha_{0i} + \varphi_i(gdp\_pc_{t-1,i} - \alpha_{1i} ptp_{t,i} - \alpha_{2i} ji_{t,i} - \alpha_{3i} dpf_{t,i} - \alpha_{4i} ex\_t_{t,i}) + \beta_{11i}\Delta ptp_{t,i} + \beta_{21i}\Delta ji_{t,i} + \beta_{31i}\Delta dpf_{t,i} + \varepsilon_{t,i} \quad (3)$$

and it represents the preferred specification to be estimated using a PMG estimator. The results of the estimated long-run and short-run relationship between economic development (approximated with GDP per capita) and trust in public institutions (approximated with a selected set of independent variables) for EU 15 and NMS 13 are represented in Table 2.

According to the results, in the case of NMS 13, GDP per capita and public trust in politicians (ptp), judicial independence (ji), diversion of public funds (dpf) and the control variable (total) exports (lnex_t) reach their long-run equilibrium somewhat more promptly as compared to EU 15 (speed of adjustment coefficients are -0.934 and -0.461, respectively). Namely, in the case of NMS 13, the long-run equilibrium relationship is reached within a year, while in the case of EU 15 it takes more than two years to reach it. Moreover, one can notice that all the independent variables are statistically significant in the long-run on the 1% significance level, for both analyzed groups of countries. Besides, public trust in politicians (ptp) and judicial independence (ji) have more impact on GDP per capita in the long-run in the case of NMS 13 when compared to EU 15. On the contrary, diversion of public funds (dpf) and total exports (lnex_t) have a higher impact on GDP per capita in the long-run for EU 15 when compared to NMS 13. However, in the short-run, only judicial independence has a statistically significant impact on GDP per capita for NMS 13, with the elasticity coefficient of 0.375, while for EU 15 in the short-run, none of the independent variables have a statistically significant impact on GDP per capita.

Table 2. PMG estimation results for EU 15 and NMS 13

	EU 15	NMS 13
Speed of adjustment	-0.461***	-0.943***
Long-run coefficients		
ptp	0.019***	0.034***
ji[5]	0.400***	0.415***
dpf	-0.393***	-0.038***
lnex_t	0.934***	0.118***
Short-run coefficients		
Δptp	-0.001	-0.031
Δji	-0.123	0.375**
Δdpf	0.155	0.061
constant	-3.452***	6.917***
Number of observations	135	115
Number of countries	15	13
Hausman test	$\chi^2(9)=0.00$ (p-value=1.000)	$\chi^2(9)=0.00$ (p-value=1.000)

Note: PMG denotes a pooled mean group estimator. Reported short-run coefficients and the speed of adjustment are arithmetic means of country-specific coefficients. ***, ** denote significance level of 1% and 5%, respectively.

4. FINDINGS AND DISCUSSION: A TRADE-OFF BETWEEN ' ECONOMY OF FAVORS' AND INSTITUTIONAL TRUST?

This paper seeks to investigate whether reliance on the "economy of favors" is influenced by missing trust in public institutions and therefore affects economic performance in the EU countries. Considering context-specific and culture-specific boundaries of informality, this research relies on the premise that informal practices indicate structural constraints of the system (Ledeneva, 1998, 2008). More precisely, our empirical model draws upon the dichotomy of the role of informal practices initially introduced for developing versus developed countries (Dreher & Schneider, 2010; Aligicia & Tarko, 2014). Our model is developed and applied to the "old" versus "new" EU members and it examines whether informal practices act as substitutes to the official structure of the soci-

[5] In the model for NMS 13 the variable ji (judicial independence) is replaced with the variable rol (rule of law)

ety in the new EU members while in the more developed ("old") EU countries they play a reinforcing role to the official economy, i.e. serve as complements.

The quantitative analysis indicates that the adjustment is significantly faster in the countries that joined the EU since 2004 (NMS13). In the short run, the only rule of law / judicial independence shows a statistically significant impact on economic performance whereas none of the variables in the EU15 group of countries shows such impact. The analysis of the long-run equilibrium indicates the statistically significant impact of all independent variables. Namely, public trust in politicians (ptp) and rule of law / judicial independence (ji), i.e. variables that reflect institutional trust, have more impact on GDP per capita in the long-run in case of NMS13 when compared to EU 15. The relatively small difference between those coefficients in the observed groups of countries may be explained by the stability and confidence in public institutions in the "old" EU members and the EU legacy (the *Acquis Communautaire* in particular) that provided robust formal institutions in NMS13. Yet, there is a considerable difference in the long-run coefficients of diversion of public funds (as a proxy for "economy of favors") in EU15 and NMS13. Taking into account that the public institutions in the "old" EU members are on average more efficient and consequently more credible, it appears that the realm of interpersonal trust in in-groups serves as a complement in the public sphere and consequently, "economy of favors"-like practices do not play a compensating role. It is important to note that interpersonal trust in the observed case refers to the ingroups and these include both weak and strong ties. Opposite to that, in most of the new EU members, the public institutions are still insufficiently efficient, and that leads to informal practices serving as substitutes to the formal procedures. Balancing between interpersonal and institutional trust in (post)transitional societies may also be viewed as a trade-off. Namely, according to Helmke & Levitsky (2004), ineffective formal rules (enforced through public institutions) in co-existence with substitutive or competing informal institutions result in divergent outcomes. That further leads to a growing role of the informal economy (Wallace & Latcheva, 2006) that predominantly relies on informal practices. Furthermore, the data in our empirical model suggest that "economy of favors", i.e. informal practices equivalent to the "economy of favors" compensate for the trust in public institutions (shown by the public trust in politicians and judicial independence/rule of law) in NMS13 in the long-run. The judicial independence/rule of law confirms that finding even in the short-run. Besides, according to our empirical model, the very high negative impact of the "economy of favors" (dpf) in EU15 shows the lesser presence of that phenomenon. Quite the opposite, "economy of favors" in NMS13 appears to be rather embedded in the structure of the society.

It is still ambiguous where the "reversing point" of increased systemic/institutional trust and consequently diminished reliance on the "economy of favors" lies. This appears to be quite specific for the (post)transitional societies and is not expected to be fully comparable with the levels of interpersonal and institutional trust in more developed societies. The main reason is most probably to be found in the socio-economic legacy and path-dependent factors. It is rather known that informal institutions are culture-specific (Ledeneva, 2008; Choi & Storr, 2018) and that culture changes very slowly, measured in decades and even longer periods (Roland, 2004; Aoki, 2011; Choi & Storr, 2018). The afore-mentioned claims on the inherited issues are supported by numerous evidence of trust trajectories in other regions of the World. Nunn and Wantchekon (2011) explain variations of (mis)trust in Africa by the issues dating back to the slave trade; Algan and Cahuc (2010) find linkages between observed trust of descendants of US immigrants and their ancestors' origin and immigration period to the USA. Besides, Tabellini (2010) shows that interregional cultural differences (like trust) are to a large extent determined by early political institutions.

5. CONCLUSIONS AND IMPLICATIONS

This article attempts to examine the dual relationship of "economy of favors"-like practices and trust in public institutions as determinants of economic performance. Besides, it questions the role of informal practices as substitutes to the official economy in the "new" EU (mostly post transitional) countries and simultaneously the role of informal practices as complements to the official structure of the society in the "old" EU members. We perceive the informal practices as indicators of society's weaknesses and their variations being dependent on the changes of the system (Ledeneva, 1998, 2008). In the socialist period of the "new" EU members, the informal practices were needed to compensate for various deficits of the planned economy. It is highly likely that almost three decades after the beginning of transition they still play that role in the post-socialist countries.

Our quantitative analysis results in several conclusions and policy recommendations. We examined the afore-mentioned dual role of informal practices while considering the determinants of economic prosperity in the short- and the long-run. Our first strong conclusion relies on the fact that in the short run, the only rule of law / judicial independence (as one of the proxies for trust in public institutions) shows a statistically significant impact on economic performance whereas none of the variables in the EU15 group of countries shows such impact. This finding is following bourgeoning literature sources (Knack & Keefer, 1995; Messik, 1999; Davis & Trebilcock, 2001, 2008; Ata et al, 2012) pinpointing legal reforms as one of the key steps aimed at enhancing economic prosperity. Still, the same authors (Messik, 1999; Davis & Trebilcock, 2001, 2008) warn on the inconclusive recommendations on the optimal set of legal institutions. At the same time, there are informal mechanisms that serve as efficient substitutes in post-transitional and developing societies. Moreover, Messik (1999: 118) remarks "sudden introduction of a formal mechanism to resolve legal disputes can disrupt informal mechanisms without providing offsetting gains". In other words, "the success of legal solutions depends on their legitimacy in the eyes of law's addressees" (Deakin et al, 2017: 198). To underline, the rule of law in NMS13 is shown to be the only significant determinant of economic performance in the short run.

Our second strong conclusion relies on a considerable difference in the long-run coefficients of diversion of public funds (as a proxy for "economy of favors"-like practices) in EU15 and NMS13. Considering that the public institutions in the "old" EU members are on average more efficient and consequently more credible, it appears that interpersonal trust in ingroups serves as a complement in the public sphere; in other words, the practices equivalent to "economy of favors" do not need to replace the official structure of the society. Hence, since in EU15 there is a rather stable and functional institutional framework that citizens can rely on, there seems to be a lower presence of informal practices. Opposite to that, in most of the new EU members, the public institutions are still insufficiently efficient, and that appears to lead to informal practices serving as substitutes to the formal procedures. This presents a trade-off between institutional trust and reliance on informal practices in new EU members. Most of these countries are post-transitional societies and it is highly likely that major part of the explanation lies in their (post)socialist legacy as already detected by numerous authors (Kornai, 2008; Pejovich, 2008: Ch 11; Ofer, 2012; Berglof, 2012; Cornia, 2012; Roland, 2012, 2014; Treisman, 2014; Havrylyshyn et al, 2016; Šimić Banović et al, 2018). In this case, the legacy is particularly reflected in the use of personal relations as a way of circumventing formal procedures (Michailova & Worm, 2003; Kryshtanovskaya & White, 2005; Ledeneva, 2008; Efendić et al, 2011; Yalamov, 2012; Brković, 2015; Kaneff, 2017; Williams & Bezeredi, 2017; Šimić Banović, 2019; Skokic et al, 2019).

Thus, our major finding is to be found in the quantitative evidence supporting the duality of functions of informal practices depending on their location and related socio-economic circumstances (in previous research: developed versus developing countries, i.e. high-income versus low-income countries). It is quite common that the same or very similar practice functions as a substitute in a developing country and as a complement in a developed country (Dreher & Schneider, 2010; adapted by Aligicia & Tarko, 2014). Our empirical model confirms robust positioning of the substitute-complement dichotomy in both EU15 and NMS13 in the long-term, while in the short-run that finding is confirmed for the NMS13. Finally, the evidence in this study shows that improvements in judicial independence/rule of law are expected to affect GDP per capita even in the short-run. Hence, unlike many other structural reforms that require more than one political cycle to show results, this one is likely to yield immediate benefits. Overall, the results of long-run coefficients strongly argue in favor of systemic, large-scale public sector reforms.

As the possible limitations of this research, we can identify the unaccounted sources of bias that may undermine the causal interpretation of the coefficients that are also true for similar, highly cited sources (Alesina & La Ferrara, 2000; Guiso et al, 2006). Besides, as these findings are the result of the currently available data and the use of specific statistical methodology, in our next research we will seek to estimate the 'tipping point' at which the level of institutional trust would reverse the (growing) reliance on informal practices in the new EU member states.

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CROATIAN ECONOMIC POLICY AND THE GOALS OF THE EU FOR THE PERIOD 2020-2026

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Abstract

The Republic of Croatia has had full EU membership for nearly seven years. It has been a period of intense economic and social change conditioned by accelerated processes of globalization and then (abruptly) a shift toward a dominant appreciation of a newly established balance of global and national goals. How to implement a national development strategy and conduct economic policy in such conditions is a great challenge for each country individually and the EU as a whole.

A key interest and objective of the paper are to establish how Croatia has been able to achieve national development priorities during the period of its EU membership and to ascertain the expectations in the next six-year period. In other words, the paper will seek to determine the extent to which EU membership has contributed to the achievement of its own economic and social goals and to identify the untapped potential resulting from that membership.

Keywords: *economic policy of the Republic of Croatia, EU policies and priorities, globalization, industrial policy, sustainable development, green deal.*

JEL Classification: E60, E61

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1. INTRODUCTION

In the past, Croatian economic policy was characterized, on the one hand, by a reactive response to external events (globalization), while at the same time demonstrating a high degree of passivity in formulating its development strategy and, consequently, the instruments of economic policy to be implemented. The ultimate consequence has consistency is clear and has been paid for by the high degree of lag in economic growth compared to the group of transition countries in central and eastern Europe.

Croatia's belated EU membership (in 2013) created opportunities and prospects for formulating policies that could be successfully implemented with the support of EU funds for growth and development. This paper aims to determine the extent of what happened in the period from 2013 to 2019. It will also, identify promising opportunities in the 2020-2026 time period so that such a common orientation can be transformed into public policies to create a development strategy and then the economic policy measures to support and achieve it.

All of the above will occur in the context of activities of the new session of the EU Commission (confirmed by the EU Parliament at the end of 2019) and the new EU budget for 2021-2026. By its structure, it will also express new priorities (especially a green economy, digitalization) whose financial and development importance will be strengthened about the existing priority model: cohesion policy and regional development, which strongly expresses the social dimension directed at additional assistance to countries in transition. The new orientation starts from the dominant global trends - strengthening the competitive position, which is a special interest of the leading countries and economies of the EU, aware that any lag behind the trendsetters (especially the USA and China) threatens their marginalization. How Croatia will operate in such a context and environment is a fundamental question for the protagonists of political and executive power.

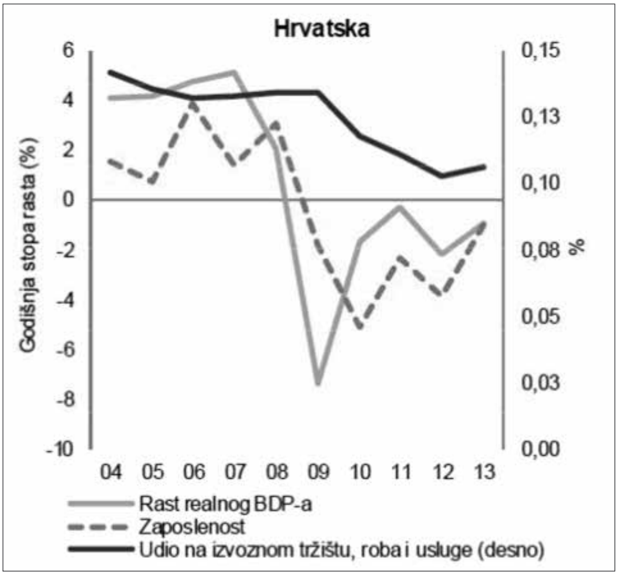
The added weight and complexity of this state of affairs is compounded by the economic and social consequences of the COVID-19 virus, which has devastated the existing structure of the national and global economies, and the rehabilitation from whose consequences will mark the upcoming period.

2. ECONOMIC POLICY OF CROATIA: CURRENT AND FUTURE

Since mid-2013, Croatia's economic policy has been fundamentally framed by guidelines laid down by the European Commission, especially for those member states that are part of the implementation of measures to eliminate macroeconomic imbalances, especially those that are excessive. Croatia has undergone several stages on this path within specific programs of the European Semester: a) the process of excessive economic imbalances and b) the process of economic imbalances.

Already in the first year of Croatia's membership (2014), the European Commission concluded from an analysis that "Croatia has excessive macroeconomic imbalances that need to be specifically monitored and for which decisive political measures need to be taken regarding external commitments, declining exports, highly indebted companies, and soaring general government debt in the context of low growth and poor adjustment capacity. In March 2014, the Commission launched a program of specific monitoring of policy implementation in Croatia. The updated PMN updated table showed some indicators above the indicative threshold, such as NIIP, losses in export market share, public sector debt, and unemployment. The high negative NIIP declined slightly as the current account recorded a surplus. The adjustment of the current account was a consequence of the fall in domestic demand and investment, with a possible detrimental effect on Croatia's growth potential. Export performance is poor and accumulated losses in the share of the export market remain large, although there has been some slowdown and moderate progress recently. Increasing competitiveness is still limited, although ULCs and REERs began to increase in 2013 after being in decline since 2010. Private sector debt, although below the threshold, is relatively high compared to comparable countries and is still not declining, despite negative credit growth. The arrears of the debts of state-owned enterprises represent considerable potential liabilities for the government and indicate weaknesses in management. The economic downturn and high budget deficits have resulted in rapid growth in the share of public debt in GDP, and fiscal consolidation has been hampered in the context of a recession. Slow wage adjustments contribute to accelerating job cuts and high and rising unemployment. High youth unemployment and long-term unemployment and low activity rates further disrupt growth prospects, foster negative feedback, and burden the social structure."[2] The following graph depicts the essential parameters of Croatia's position of Croatia at this time.

Figure 1. Export market shares, employment and GDP growth



Source: Report of the Commission of the European Parliament, the Commission of the European Central, and the European Economic and Social Commission, Report on the Warning Mechanism 2015, European Commission, Brussels, 28 November 2014, p.26.

The depicted rate of decline of GDP, viewed in aggregate, is the highest within the groups of transition countries. Unemployment increased dramatically, especially in the sector of the real economy. Particularly worrying was the strong drop in Croatia's share of the export markets.

Croatia's initial position upon entering the EU showed deep structural deficits, which means they need for action, i.e. the implementation of structural reforms. The Commission also concluded that "... among other things, given the imbalances identified in March 2014, it would be useful to examine more closely the persistence of macroeconomic risks and to monitor progress in eliminat-

[2] Report of the Commission of the European Parliament, the Commission of the European Central, and the European Economic and Social Commission, Report on the Warning Mechanism 2015, European Commission, Brussels, 28 November 2014, p.26.

ing excessive imbalances."[3] The state of affairs at the moment of Croatia's EU membership (2013-2014) was a continuation of the economic crisis that began in Croatia in 2009 and lasted much longer and was more intense than the EU reference countries (those in the accession process of 2004 and 2007).

Thus, the literature states (European Commission, European Semester) that the existence of excessive imbalances has been identified for Croatia in recent years: "According to the PMN Warning Mechanism indicators for 2013 (Scoreboard), Croatia has crossed the upper limit in four indicators (general government debt, unemployment, international investment, and its share in international markets.) The alert mechanism report for 2014 confirmed the existence of excessive imbalances because Croatia failed to keep the four mentioned indicators within acceptable limits. The alert mechanism report for 2015 stated that Croatia's excessive imbalance "requires decisive policy action and specific oversight." In the last, fifth Alert Mechanism Report 2016 (European Commission, 2015, p. 102), Croatia has crossed the permitted limit by six indicators (some of which are new). According to this report, Croatia is at the bottom of the scale in the area of macroeconomic imbalances. The following indicators are for 2014: general government debt according to EU indicators is 85.1% of GDP (60% is the limit); unemployment rate, the 3-year average is 16.9% (10% is allowed); the net 15 international investment position is -88.6% of GDP (the threshold is -35%); the share in export markets (% of world exports, change in % over the last 5 years) is -18.0%, while is a threshold of -6%. There are also two new indicators: long-term unemployment rate, expressed in % of the active population aged 15-74: the change in percentage points in 3 years was 1.7% (the threshold is 0.5%), and youth unemployment rate (% of the active population aged 15-24, change in percentage points in 3 years) amounts to 8.8% (the threshold is 0.2%)." (Samardžija, Jurlin & Skazlić, 2016: 14) The ratings indicate the important structural problems that the Republic of Croatia faced during the crises of 2009 and 2013; the recovery began only in 2015, much later than both in the countries of old Europe and new Europe. Furthermore, in 2015, the EU Commission also noticed structural deficits, which were also pointed out in the following way:

[3] Report of the Commission of the European Parliament, Council, European Central Bank and the European Economic and Social Committee, Report on the Warning Mechanism 2015, European Commission, Brussels, 28 November 2014.

Box 1. Croatia Report 2015 - Detailed Review on Preventing and Correcting Macroeconomic Imbalances

The Croatian economy declined for the sixth consecutive year in 2014, and its economic outlook remains poor, although it is expected to emerge from recession in 2015. The economic downturn slowed down in 2014, bringing the total GDP decline to -0.5%. Growth is projected to be just above zero in 2015 and should rise slightly to 1% in 2016. Given these circumstances, it is not expected that the unemployment rate will drop significantly, which currently stands at 17%.

Croatia is experiencing excessive macroeconomic imbalances. More specifically, the risks posed by high external commitments, falling export performance, high corporate indebtedness, and rapid general government debt growth, and in the context of low growth and poor adjustment capacity, required special monitoring and decisive policy measures.

The main conclusions of the detailed review contained in this Report for Croatia are as follows:

Poor growth delayed corporate restructuring and extremely poor employment results are rooted in the inefficient allocation of resources.

Poor external competitiveness and very negative international investment threaten external sustainability. Croatia's merchandise exports remain far behind in potential.

The increasing general government debt is a cause for concern, exacerbated by weaknesses in public sector management

Household debt and corporate debt stifle consumption and investment. Both sectors are deleveraged by a moderate tempo, but corporate debt remains largely concentrated in poorly profitable companies, and relatively high rates of bad credit need to be monitored, especially in the corporate sector.

Source: Working Document in the Commission: Report for Croatia 2015 – With a detailed examination of preventing and correcting macroeconomic imbalances, European Commission, Brussels, 26.2.2015, p.1.

The long-awaited moment, characterized by a slight but continuous trend of economic recovery (2015-2016), is evident from the European Commission's assessment, which states as follows: "Regarding progress towards the national targets under the Europe 2020 strategy, Croatia is on track to reach its targets, or has already done so, in energy efficiency, greenhouse gas emissions, renewables (except in transport), early school leaving and poverty and social exclusion. The target for tertiary education attainment by 2020 does not appear within reach, while the largest distance to target remains in R&D investment."[4] More significant and stable signs of economic recovery can also be seen from the European Commission's Report for 2018. It repeated that Croatia was in a period of deep recession from 2009 to 2015 and reached the pre-crisis level of GDP (not other development indicators) only in the period 2018-2019.

Box 2. Country Report Croatia 2018 - Main Findings

In 2017, the general government debt ratio is projected to have declined further on the back of continued growth and fiscal discipline. During the protracted crisis, the general government debt more than doubled, driven largely by deficits and reclassifications of state-owned enterprises' debt.

Nevertheless, public debt is still high in comparison with both pre-crisis levels and peer countries. Sustainability risks in the medium term have declined but remain relatively high, especially under some stress scenarios

Private sector debt reduction progressed, while still heavily exposed to currency risk. The decrease in private debt was driven by intensified economic activity. Furthermore, the continued appreciation of the national currency against the euro reduced the value of outstanding liabilities indexed to or denominated in foreign currency – a positive development that however highlights foreign currency risk.

[4] Commission Staff Working Document; Country Report Croatia 2018, including an in-Depth review of the prevention and correction of macroeconomic imbalances, accompanying the document communication from the Commission to the European Parliament, the Council, the European Central Bank and the Eurogroup, 2018 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No. 1176/2011, Brussels, 7 March 2018., p. 2.

Indirect credit risk weighs on the well-capitalized and increasingly profitable financial sector. Credit demand is recovering thanks to better macroeconomic conditions and lower interest rates. This, coupled with continued improvement in the quality of banks' assets and profitability, helped turn net credit flows positive in 2017.

Competitiveness and investment are hindered by a restrictive business environment. The functioning of the product and capital markets is constrained, inhibiting the smooth allocation of resources to the most productive companies and sectors. The suboptimal performance of the research, development, and innovation system represents an additional barrier to increasing the competitiveness of Croatian businesses.

The fragmentation of the public administration continues to weigh on efficiency in the provision of public services. Croatia's marked territorial fragmentation and complex relations across levels of government are not conducive to the efficient utilization of resources and delivery of public services. Weak administrative capacity hinders the implementation of public policies and more effective use of European Structural Investment Funds. The wage-setting framework lacks consistency across public administration and public services.

Although falling, poverty and social exclusion levels are still high.

Education and health outcomes point to structural weaknesses. Education system performance indicators have stagnated or worsened in most relevant areas, highlighting the need for reform. The recent measures to implement the national strategy for education, science, and technology should, if maintained, help address the quality and inclusiveness challenges. Efforts to improve vocational education and training and equip the workforce with the skills needed in the labor market remain insufficient. Participation in adult education remains very low. Health outcomes continue to improve but remain below the EU average.

The indicated and long-awaited necessary step towards the establishment of economic growth was only the first step to opening the path to increase Croatia's credit rating that followed immediately (first half of 2019). Greater and more realistic opportunities for attracting new investments - domestic and foreign - have also been created.

Greater and more realistic opportunities for attracting new investments - domestic and foreign - have also been created.

Another important feature of this period is the increased reliance on the use of EU funds for various purposes, of which investments (predominantly) in the municipal infrastructure of different levels and types are assumed by investments in the real sector.

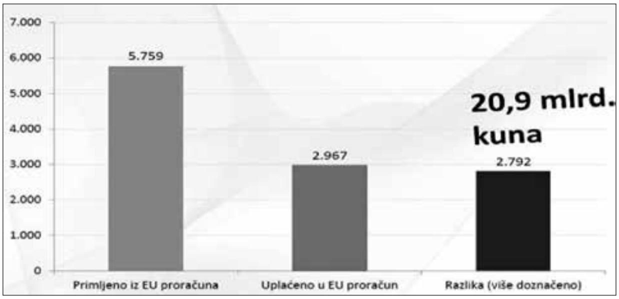
Table 1. Financing of the EU budget and costs (by EU member states)

Member state	Member state contribution[22] (€ mil)	Total member state contributions incl. TOR[23] (€ mil)	Total EU expenditure in member state (€ mil)
Germany	25,815.9	29,143.0	11,484.5
France	19,573.6	20,967.7	13,479.1
Italy	14,368.2	15,888.6	10,695.2
United Kingdom	11,341.6	14,072.3	6,984.7
Spain	9,978.1	11,111.0	11,538.5
Netherlands	6,391.0	8,372.7	2,014.4
Belgium	3,660.2	5,232.7	7,044.3
Sweden	3,828.2	4,294.3	1,691.0
Poland	3,526.5	3,954.6	17,436.1
Austria	2,690.9	2,869.5	1,572.6
Denmark	2,213.4	2,507.6	1,511.7
Greece	1,826.6	1,949.8	7,095.0
Finland	1,777.2	1,904.1	1,061.9
Portugal	1,636.9	1,747.9	4,943.0
Ireland	1,425.1	1,650.6	1,563.1
Czech Republic	1,308.8	1,506.7	4,377.2
Romania	1,353.1	1,458.9	5,943.9
Hungary	890.3	995.8	6,620.2
Slovakia	625.1	720.2	1,668.8
Bulgaria	403.9	460.5	2,255.4
Croatia	387.2	429.8	584.3
Slovenia	326.8	385.0	1,142.5
Lithuania	320.4	384.7	1,885.9
Latvia	244.1	270.0	1,062.2
Luxembourg	232.1	246.2	1,713.9
Estonia	178.2	200.4	667.6
Cyprus	142.8	160.6	272.9
Malta	65.7	76.1	254.9

Source: Savić, Z.: *Pregovori o proračunu EU za 2021-2027: Kada će završiti i što Hrvatska može očekivati?* (EU Budget Negotiations for 2021-2027: When will it end and what can Croatia expect?), HGK, February 2020.

In addition to the overall data on the position of individual member states on the liabilities and revenue side of the EU financial matrix, it is of interest to consider the specific position of Croatia, as shown in the graph below:

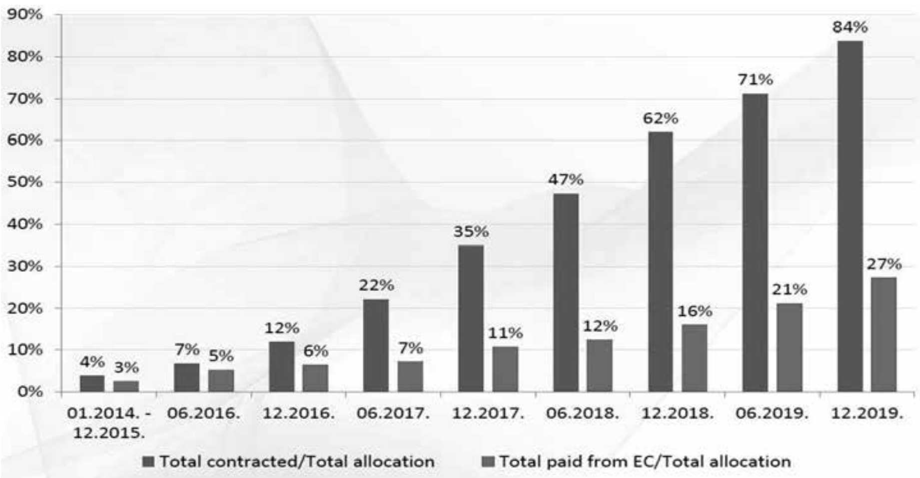
Figure 2. Payments to and from the EU budget (millions of euros) (2013-31 January 2020)



Source: Savić, Z.: *Pregovori o proračunu EU za 2021-2027: Kada će završiti i što Hrvatska može očekivati?* (EU Budget Negotiations for 2021-2027: When will it end and what can Croatia expect?), HGK, February 2020.

The information presented indicates a positive financial balance in favor of Croatia. However, the dynamics and relationship of contracted and disbursed funds are also important, as can be seen from the data in the graph below.

Figure 3. The Dynamic of Withdrawal of Resources from EU Funds - Croatia



Source: Savić, Z.: *Pregovori o proračunu EU za 2021-2027: Kada će završiti i što Hrvatska može očekivati?* (EU Budget Negotiations for 2021-2027: When will it end and what can Croatia expect?), HGK, February 2020.

The funds generated through the use of EU funds certainly have an impact on GDP growth at the national level, with increased and domestic demand, generated in part by tax relief on wages and partly by increased household borrowing (lower interest rates) on current consumption, which together is the backbone of total GDP growth. All of the above is useful in achieving positive economic shifts, but it is not enough: either qualitatively or even less than qualitatively. Passiveness in the economic policy explains only partially the successful attempts to stimulate investment[5] while carrying out complex but also demanding structural reforms, for which concrete programmatic and time commitments have been taken through the continued adoption of the National Reform Program 2014-2020, is still delayed.[6]

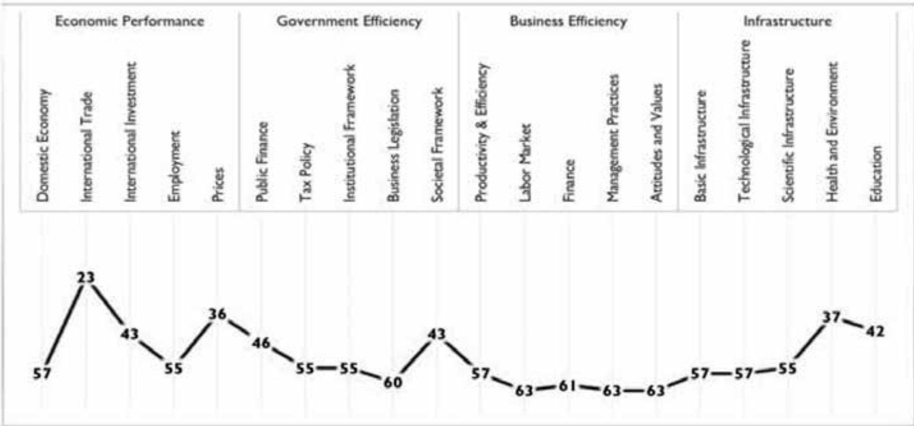
Another consistent development document that the Croatian government intends to implement on an annual basis as its platform for conducting economic policies, and with which instruments and deadlines, does not exist. There is only an announcement - the expectation of the Ministry of Finance about the economic growth rate - expressed as the projected GDP growth rate, which is contained in the document of the Convergence Program ... where again for EU evaluation the total expected economic and financial position for the next three years will be included, without elaborating on the activities or measures that will be continuously and consistently implemented.

A factual assessment of our position is available (in a comparative list) from individual international competitiveness rankings. One of the most respected is from the International Institute for Management Development (IMD) in Lausanne). It gives a picture of the conditions, but also a partial indication of their causes.

[5] For example, the Slavonia project, assistance for the continuation of shipbuilding at the May 3 Shipyard in Rijeka, and consolidation of Petrokemija in Kutina.

[6] The National Reform Programs are adopted every calendar year in April and are a complete statement of the commitment of the Government of the Republic of Croatia to the realization of those reforms, which synergistically observed, can significantly contribute to raising the level of national competitiveness.

Figure 4. Croatia - The Competitiveness Landscape



Source: IMD- Global Competitiveness Yearbook 2019 - Country Profile Croatia, Lausanne, May 2019.

Croatia's position in all of the areas that were analyzed - economic performance, government efficiency, business efficiency, and infrastructure - is at the bottom of the ranking list. Of particular concern is the fact of stationarity, which means states without positive shifts over a decade and is indicative and credible confirmation of the absence of active economic policy.

3. EUROPEAN UNION – PROGRAM AND DEVELOPMENT GOALS

3.1. The Period from 2011-2019

Following a period of economic crisis (2009-2011), the EU began an intensive search for solutions that would allow the accelerated development of its economic area (and all member states) as part of an increased globalization process, but also because of increased competitive pressures from two major players: the US and China, or more broadly, the Far East. In this context, a document was adopted *Industrial Policy - Reinforcing Competitiveness* (2011),[7] which clearly stated that the EU's efforts to formulate economic policy measures such

[7] Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions - Industrial Policy: Reinforcing competitiveness, COM(2011) 642 final, Brussels, 14.10.2011., p. 3

as industrial policies were the only possible answer not only to overcoming the crisis (2008-2010) but especially in the ability to compete in a globalized world.

Box 3. Industrial Policy: Reinforcing competitiveness

The EU economic recovery from the crisis has been relatively slow and remains fragile. Kick-starting the economy and higher growth is necessary to create jobs and wealth, and essential to get the public finances of the Member States onto a sustainable path. The difficult fiscal environment sets limits to policy action, but robust growth will reduce the burden of public deficit and debt, in line with the goals of the Stability and Growth Pact1. The main drivers of strong economic growth are competitive firms of all sizes. For this, they require an environment that favors new ideas and new businesses. This Communication identifies the following areas as necessary to make significant progress towards the Europe 2020 goals: (1) structural changes in the economy; (2) the innovativeness of industries; (3) sustainability and resource efficiency; (4) business environment; (5) the single market; and (6) small and medium-sized enterprises. Rising to these challenges can improve the competitiveness of European firms both internally and globally, and the Commission aims to help the Member States to use their limited resources smartly to increase the global competitiveness of their industries. Addressing these challenges will improve the growth prospects of all enterprises, whether industry, services, or socially oriented. European industry is of critical importance for the EU as a global economic leader. A competitive industry can lower costs and prices, create new products and improve quality, contributing thus decisively to wealth creation and productivity growth throughout the economy. The industry is also the key source of the innovations required to meet the societal challenges facing the EU. As part of the Europe 2020 strategy, the Commission launched in 2010 an ambitious new industrial policy2 that highlighted the actions needed to strengthen the attractiveness of Europe as a place for investment and production, including the commitment to monitor Member States' competitiveness policies. It also outlined a renewed trade policy.

This activity continued with the document *A Stronger European Industry for Growth and Economic Recovery - Industrial Policy Communication Update*.[8]

Box 4. A Stronger European Industry for Growth and Economic Recovery

At a time when financial problems persist, Europe needs its real economy more than ever to underpin the recovery of economic growth and jobs. Our industry is well placed to assume this role: Europe is a world-leader in many strategic sectors such as automotive, aeronautics, engineering, space, chemicals, and pharmaceuticals. The industry still accounts for 4/5 of Europe's exports and 80% of private-sector R&D investment comes from manufacturing. However, the continuing economic crisis has put Europe's industry under pressure: production is 10% lower than before the crisis and over 3 million industrial jobs have been lost. Consumer and business confidence are low. Problems in the banking sector make it difficult to access finance. Investments are held back, and factories are under pressure to close.

Europe needs to reverse the declining role of industry in Europe for the 21st century. This is the only way to deliver sustainable growth, create high-value jobs, and solve the societal challenges that we face. To achieve this, a comprehensive vision is needed, focusing on investment and innovation, but also mobilizing all the levers available at the EU level, notably the single market, trade policy, SME policy, competition policy, environmental and research policy in favor of European companies' competitiveness. This Communication proposes a **partnership between the EU, its Member States and industry** to dramatically step up investment into new technologies and give Europe a competitive lead in the new industrial revolution. After extensive public consultation, the Commission proposes to jointly focus investment and innovation on **six priority action lines**: advanced manufacturing technologies, key enabling technologies, bio-based products, sustainable industrial and construction policy and raw materials, clean vehicles, smart grids.

8 Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions - A stronger European Industry for Growth and Economic Recovery - Industrial Policy Communication Update, COM (2012)582 final, Brussels, 10.10.2012, pp. 3-4

The Commission outlines the approach it will take in each of these areas through setting up specialized partnership task-forces. It shows how the EU will bring into play policy levers to support the reindustrialization of Europe by mobilizing all instruments at its disposal in an integrated way. The industry is expected to play its part by rolling out the necessary investments and products while the Member States and regional authorities should adapt these priorities according to their national needs. The joint action of industry and public authorities should also contribute to reducing competitiveness gaps across the Member States and EU regions.

Source: Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions - A stronger European Industry for Growth and Economic Recovery - Industrial Policy Communication Update, COM (2012)582 final, Brussels, 10.10.2012, pp. 3-4.

The development and dynamic presence of the concept of industrial policy at the EU level continue to be elaborated in the documents adopted in the subsequent period.

3.2. The Period from 2020 to 2026

The start of a new term of the EU Parliament and the EU Commission continues the agenda of the previous term based on the new circumstances of the global economy and the new EU reality formulated in several documents of recent date. Some of these points of departure are also present in a document of the Vienna Institute: "The present study provides proposals for a coherent European overall strategy that not only addresses existing problems and renders possible the often-promised upward convergence between EU countries, but also provides a potential basis for dealing with key future challenges (such as digitization, aging society, climate change or global trade) based on common European objectives. The focus is on safeguarding and expanding European values and institutions, to deepen European integration at key points; and thus, also to contribute, in the medium to long run, to a transformation of the global economic order from the European side. A central argument is that coordinated measures in various policy areas – especially in wage, monetary, fiscal and industrial policy – are of central importance in creating a long-term successful economic basis for the common European economic and monetary area." (Kapeller, Gräbner & Heimberger, 2019: 1) As already stated, the new EU Commission will bring a new political and economic agenda (von der Leyden, 2019: 2). Its essential content can be summarized in the following statement: "Today's world feels ever more unsettled. Existing powers are going down new paths alone. New powers are emerging and consolidating. Changes in climate, technology, and demography are transforming our societies and way of life. This has left a feeling of unease and anxiety in many communities across Europe. In the next five years, we have to work together to allay fears and create opportunities.

Europe must lead the transition to a healthy planet and a new digital world. But it can only do so by bringing people together and upgrading our unique social market economy to fit today's new ambitions.

- A European Green Deal
- An economy that works for people
- A Europe fit for the digital age
- Protecting our European way of life
- A stronger Europe in the world
- A new push for European democracy"(von der Leyden, 2019: 2).

How to do this is further elaborated within the document. A European Green Deal takes a special place in the program, where further action frameworks are defined. "To help drive the change we need, I will put forward my plan for a future-ready economy, our new industrial strategy. We will be a world leader in the circular economy and clean technologies. We will work to decarbonize energy-intensive industries. Europe is an industrial economy, and for many parts of our Union the local manufacturer, plant or factory is the hub for our communities. This is why I believe that what is good for our planet must be good for our people, our regions, and our economy." (von der Leyden, 2019: 5). The conceptual agenda expressed in the first hundred days of the new EU commission has been given a concrete framework - A New Industrial Strategy for Europe - with clear definitions:

BOX 5. Europe's New Industrial Way

Europe has always been the home of industry. For centuries, it has been a pioneer in industrial innovation and has helped improve the way people around the world produce, consume, and do business. Based on a strong internal market, the European industry has long powered our economy, providing a stable living for millions and creating the social hubs around which our communities are built. Throughout its long history, the industry has proven its ability to lead change. And it must now do the same as Europe embarks on its transition towards climate neutrality and digital leadership in an ever-changing and ever more unpredictable world. The twin ecological and digital transitions will affect every part of our economy, society, and industry. They will require new technologies, with investment and innovation to match. They will create new products, services, markets, and business models. They will shape new types of jobs that do not yet exist which need skills that we do not yet have. And they will entail a shift from linear production to a circular economy. These transitions will take place in a time of moving geopolitical plates which affect the nature of competition. The need for Europe to affirm its voice, uphold its values, and fight for a level playing field is more important than ever. This is about Europe's sovereignty. The breadth and depth, the scale and speed, the nature and necessity of the twin transitions are unprecedented. This is reflected in President von der Leyen's Political Guidelines, the priorities set out by the European Parliament and the European Council's Strategic Agenda 2019-2024. The European Green Deal1 and the Commission's recent Strategy on Shaping Europe's Digital Future2 set the ambition, speed, and direction of travel for the years to come. We now need a new industrial way for Europe, fit for the ambitions of today, and the realities of tomorrow. At the heart of this is the ability of Europe's industry to lead the twin transitions and drive our competitiveness. It cannot afford to simply adapt – it must now become the accelerator and enabler of change and innovation. Our industrial policy must help make this ambition a reality. Europe's industrial strategy must reflect our values and social market traditions. We will rely on our strengths: our diversity and talent, our values and way of life, our innovators, and creators. We need a European industrial policy based on competition, open markets, world-leading research and technologies, and a strong single market which brings down barriers and cuts red tape. And we must resist the simplistic temptations that come with protectionism or market distortions, while not being naïve in the face of unfair competition. This strategy recognizes the strength and the role of the European Union, primarily as an enabler and regulator. Setting the framework and providing political and policy direction is crucial to offer the certainty needed for investors, innovators, and industry alike. Our new industrial strategy is entrepreneurial in spirit and action. The Commission is ready to co-design and co-create solutions with the industry itself, as well as with social partners and all other stakeholders. (von der Leyden, 2019: 1-2)

This document confirms the 10-year continuity in understanding the need for an active economic policy, both at the EU level and for each member state, through up-to-date, well-formulated activities within the concept of industrial policy. In the understanding and the degree of acceptance and implementation of these development priorities, it is possible to find answers with a different degree of success by individual countries: GDP growth, employment, attractiveness for investments, export shares in GDP, etc. The passivity of Croatian economic policy has resulted in and determined the country's current economic position, in absolute and referential terms.

4. AND NOW: COVID-19

A new and important factor influencing the position, priorities, and overall direction of events within the EU for the upcoming period and as a reflection of global events, is certainly the consequences – economic, social, logistical, and investment – of the coronavirus. The outbreak of this virus has created (i) an economic crisis, at this moment of incomprehensible scale, which is already considered more dangerous today than the global one in 2008-2009, and with greater disruption, especially unemployment, lack of demand and investment than the 1929-1933 Great Depression. A package of intervention measures with strong financial measures and parallel and synchronous action by the European Commission and the European Central Bank, and the adoption of a new EU budget for the period 2021-2026, are expected to create the financial instruments and incentive mechanisms that will be necessary to overcome the sudden and sharp decline in economic activity internally (national, EU level) and externally (globally) with all the implications for GDP, public revenues and new debt at all levels: government, business sector, population.

All of this is a new challenge that has been recognized in EU documents that identified at an early stage (February 2020) the possible changes that the new situation would require as part of the concept of building EU economic policy shortly. The chosen approach can be observed in the following assessment: "The outbreak and spread of the COVID-19 coronavirus and its impact on public health, human lives and economic activity have been a source of mounting concern. It has spurred uncertainty about the short-term prospects of the Chinese economy and about the degree of disruption across borders at a moment in which global manufacturing activity remains at a cyclical low. The baseline assumption is that the outbreak peaks in the first quarter, with relatively limited global spillovers. The duration of the outbreak, and the containment measures enacted, are a key downside risk. The longer it lasts, the higher the likelihood of knock-on effects on economic sentiment and global financing conditions."[9] All of these concerns are of particular importance from the national economy, both because of the recent effects of the 2009 crisis and the high share of the tourism industry in GDP, activities extremely sensitive to health disorders, and consequent logistical and communication constraints.

5. CONCLUSIONS

The clear fact is that several changes have taken place in Croatia since it acceded to the EU: economic, social, legal, and regulatory. The adoption of European legislation, its involvement in the use of EU funds, enhanced foreign trade with individual EU member states, as well as drastically enhanced migration flows - especially skilled labor towards economically developed EU member states - have created a series of effects whose value and reach have been analyzed from different aspects. An assessment cannot be made unilaterally, and the question is whether it is possible to create an unambiguous balance of these events. In addition to the dominant effects of financial transfers, the need to create a more effective legal framework essential for stimulating and realizing investments and accelerating the process of overcoming the delayed start to economic recovery, especially compared to the referent transition countries, has been reinforced. Furthermore, it is not easy to determine what else Croatia has

9 European Economic Forecast - Winter 2020 (Interim), Institutional Paper 121, European Commission, February 2020, p. 1.

actively used in the conduct of national economic policy by the fact of EU membership to create the basis for lasting sustainable economic and social growth.

Analyzed in parallel - over the same period as indicated in the text - Croatia has remained at the bottom of the scale, observed relative to other transition countries in terms of its success in implementing a catch-up strategy, i.e. reducing developmental disparities as measured by the average development of EU member states'.

Therefore, the question and challenge of what to do in the next budget period (2021-2026) become a topic of overriding interest. How Croatia should position itself in the context of the new priorities formulated by the EU Parliament and the EU Commission, which will also be the basis for structuring the new EU budget for the medium term, is not only a financial question - how and in what amount and on what basis it will participate in EU budget funds. The fundamental question is how, within the framework of the new EU priorities cited in the paper, it should design and then implement an economic policy that will (finally) developmentally activate the potential that it possesses, and whose outcomes (results) will match demand and competitiveness within the EU market and also globally.

All the above will be an even more demanding task given the existence of new normality created by the emergence of the COVID-19 virus, that is, a dramatic impact on economic and logistical, but also health and social flows, both at EU level and in the world at large.

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Financial economics

INVESTOR PROFILE AND ANALYSIS OF FINANCIAL CONTAGION PHENOMENA ON ROMANIA AND NATO MARKETS: CASE STUDY OF ROMANIA

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Abstract

Through this research, we have tried to analyze how investors' behavior influences investment choices and market characteristics. In this sense, we applied the model established in the specialized finance literature, which was formulated by the economist Emanuel Fama, namely the theory of efficient financial markets.

We tried to answer several questions, namely: what influences the investor in the choices made? If there is transparency in the market? If investors are properly informed and where do they get their data from? What kind of efficiency does the Romanian capital market have?

Of course, this approach would not have been possible without a "literature review", a necessary action to succeed in creating a general framework and to try to develop research on the Romanian capital market, but also on the NATO member countries.

We thus immediately came to the analysis of the type of investor thinking that balances between rational and irrational. Thus, we understood that the boundary between the rational and irrational behavior of the investor is very fragile.

Often, logical thinking can lead to illogical decisions in the wrong context. However, there are cases in which certain information can be diminished, due to too strong an attachment to an idea that leads to the inability to recognize an opportunity. The context in which a decision is made, the existing mental framework, can also hinder a rational point of view. In our study, a lot of new economic paradigms were highlighted, as well as previous research in this field related to different financial behaviors.

Keywords: *investors, economic growth, capital market, NATO*

JEL Classification: E22, G11

1. INTRODUCTION

The experience of the financial crisis of 2008 helped us to analyze the economic phenomena from several points of view, one of them is the psychological one, more precisely the behavior of the investors concerning the evolution of the markets. Thus, we are talking about the emergence of a new domain in the economic sphere, namely: Behavioral Finance. In this respect, the spectrum of market analysis has been widened, which has been addressed up to a point of time from informational factors, focusing on classical analysis, but to which has been added modern analysis, which takes into account and social, emotional, but especially psychological. This approach allows economic analysts to look at the mechanism of functioning of capital markets from a much wider angle, thus being able to observe how participants act on these markets, but also their behavior concerning developments or failures that occur on the market. capital markets.

This article shows that the investor profile can be identified from several points of view. We can talk about normal behavior, that of the investor who is oriented towards obtaining higher returns, but also of the inefficient behavior, which goes towards non-steady yield. In other words, we are talking about rational behaviors and irrational behaviors. In most cases, investors are proving to have irrational behavior just for fear of losing. At the same time, with these two categories of behaviors, we can also divide the market as efficient when we are dealing with rational behavior, and less efficient when investors build their asset portfolios based on the behavioral portfolio theory.

European financial markets represent new challenges for investors, and the actions of all investors focus on continuous decision making, which does not always have to be rational, therefore unexplained by traditional economic theory, assuming that all investors operating on the capital market are rational, and the market is efficient. For this reason, behavioral finance theory, despite traditional financial theories, has begun to develop actively. Based on this theory, it is assumed that rationality is not the only way in which the estimation of investment decisions can be made, but there is also a significant influence of the subjective evaluation of the given situation that may have an impact on the investor's decision.

2. LITERATURE REVIEW

2.1. Contagion and investment behaviors

Analyzing the characteristics of the investors, especially through their behavior, the researchers in the field have concluded that it is precisely the irrational factors that affect the behavior of the investors and the smooth running of the economy. Thus, the impact that the financial crisis of 2007 has had on the capital markets in Europe has been of great size, due to an inadequate positioning regarding the decisions that the investors considered appropriate at that time. In other words, any exogenous factor that intervenes in the economic activity of an investor who seeks only to make a profit, without judging his behavior, so an irrational behavior, represents a real danger for the economy. Thus, a state of restlessness and insecurity is installed among investors, when they act chaotic, which makes them quickly sell their risky assets, thus causing a collapse of prices. The consequences of this behavior are precisely the triggering of financial crises, which will lead the economy to declines and create problems worldwide.

Regarding the methodological approaches, the complexity and scope of the methodological approaches in the studies on the contagion and the investment behaviors have evolved reaching nowadays extremely laborious stochastic models.

Ahmad, Bhanumurthy and Sehgal (2014) aimed to track the transmission effects of Greece, Ireland, Portugal, Spain and Italy (GIPSI) and US stock markets on seven euro area markets and six non-euro area markets for period 2009-2012. As a research method, a dynamic conditional correlation model known as the DCC-GARCH (Dynamic Conditional Correlation-Generalized Autoregressive Conditional Heteroskedasticity) model was approached to estimate the conditional correlations. According to the empirical results, during the crisis of the euro area, GIPSI member markets, Spain, Italy, Portugal, and Ireland are the most contagious for the euro area and non-euro area markets. Countries most strongly affected by the contagion shock are France, Belgium, Austria and Germany (in the euro area) and the United Kingdom, Sweden, and Denmark (outside the euro area). In this research, we highlight a significant impact on the regulatory authorities, because the results can be taken into account in the evaluation and the continuation of the political researches regarding the financial integration in the EU. Considering investors globally, EU-based diversification strategies appear to be inefficient and insufficient during the eurozone crisis.

King and Wadhwani (1990) report in the study or also the fall of the stock market in 1987, despite all the economic circumstances and its consequences in the economy. An empirical model was considered in which the "transmission of information" between markets appears as a result of the information held by rational agents regarding price changes in other markets. In the financial market, such data transmission is a channel through which an "error" in an investment market can be transmitted to other markets because the information published on this topic affects all markets at the same time, but in different ways, the significance a news item may be different from one country to another, and as far as information is concerned, not all of them can be publicized, and the protection of certain classified data is respected here.

Khalfaoui et al. (2015) studied the effects of volatility and shocks between oil prices and G-7 stock markets, based on multivariate GARCH models and the 'wave analysis' method. The database for the period June 2003 - February 2012 was used for oil and stock indices from Canada, France, Germany, Italy, and stock prices in the United Kingdom and the USA. The empirical results provide strong evidence regarding the variability over time of volatility across all markets studied. It has been shown that oil prices and stock prices are directly influenced by volatility and public information and are indirectly affected by the volatility of other prices. Thus, to make the best portfolio allocation decisions based on the behavior of different groups of investors and market traders, it is necessary to calculate risk coverage rates for all the related periods. According to the study, it can be mentioned that investors and financial market participants should have a lower weight in tradable shares and more in oil.

Natarajan et al. (2014) tried to provide utility in using the GARCH average model (1,1), to obtain a further picture of the degree of interdependence between the five stock markets in Australia, Brazil, Germany, Hong Kong, and the USA. The data used were extracted for five indicators on the global market traded globally for the period 2001-2011. It has been found that the US market is the most influential among the analyzed markets, any event that takes place in the US directly influences other markets. Empirical results show that the financial markets in Australia, Brazil, Germany, Hong Kong, and the US are integrated.

Philip et al. (2015) studied the behavior of investors in emerging markets in Central and Eastern Europe from January 2008 to December 2010. Investor behavior on the financial market is an important cause in the speculative market, and when investors make similar trading decisions, they can reach a deviation of market prices from their normal value. The result showed that investors have different behavior in times of decline and crisis.

In their work Siikanen et al. (2018), showed that the activity on the Facebook social network influences the stock exchange transactions. The authors used Nokia's stock trading data and daily posting of Nokia Facebook data from June 2010 to December 2016 to perform a logistic regression for each type of investor (non-financial, financial and insurance companies, government organizations, non-profit organizations and households). It was also found that some decisions made by investors are directly influenced by the information published on the social network.

2.2. Behavioral economics and finance - challenges for modern finance science

In Keynesian theory, they consider that consumer demand is the main driving force of an economy. As a result, the theory supports an expansive fiscal policy. Its main tools are government spending on infrastructure, unemployment aid, and education.

Descartes and other scientists have long studied how the notion of body vitality is used. " Animal spirit " is a term used by J. Keynes in his studies on employment, the amounts of money invested by investors, their interests, their satisfaction, as well as the harsh repercussions of the consumers they address.

Keynes, in his 1936 paper, mentioned that government spending can also be considered as restraint, an essential factor driving aggregate demand growth. From another point of view, the researcher argued that the allocation of government spending incorrect percentages meant the creation of new jobs. He argued that even a deficit of these expenditures should be maintained in the contraction phase of the business cycle, the authorities supporting the deficit even in the expansion phase in recent years. We mention here that the spending deficit in 2006 and 2007 increased the debt, and contributed to the 2007 financial crisis. Unlike President Bush, President Trump is adept at increasing debt during stable economic growth, thus causing a new boom-and-bust cycle.

Akerlof A. and Shiller R (2009) study the behavioral economics and identity of individuals in the work of the same name. Akerlof considers that the existence of a macroeconomic subject also means the existence of behavioral macroeconomics, identifying many aspects related to human psychology, involuntary unemployment. As far as the natural explanation for unemployment is concerned, wages are much higher than the compensation on the market at that time.

The researcher Akerlof also carried out some studies on the role of identity in the economy, considering that it is important to consider the identity, because people are interested in who they are, and in the way that others look at them. Akerlof thus analyzes whether there is a correlation between how identity influences economic outcomes, taking into account discrimination in the workplace, in poverty and the production division in the household. It is found that the inclusion of identity in the empirical model as the variable can change the data regarding the influence of the individual's identity on the economy in general.

In 2010, Shiller supported the idea that to avoid a financial crisis, banks should use the so-called 'contingent capital', which can automatically turn into equity when needed, in critical situations, if the authorities deem it necessary.

In the free market, Akerlof A and Shiller R. (2009) can be called "admirers of the free market system", although they mention that competitive markets are not the only ones that can offer the best solutions for consumers in a given market. moment. Thaler et al (2008) used behavioral science principles in their work to show that people can be guided and guided to certain areas, giving them many examples in this regard and eliminating other options or setting them against examples.

The results of the research were also taken into account by the Obama administration and the effects of implementation were not delayed. Thus, the payment of taxes and taxes on time, organ donation, non-partisan recruitment, pension savings, and reduced consumption were encouraged. energy.

These measures have led to an increase in financial education, being considered cheaper than other traditional government instruments and useful.

3. METHODOLOGY AND DATA

One of the established hypotheses, that of the efficient market (EMH), states that asset prices fully reflect all the information available on the financial market at any given time. This was reported by Fame E. in the mid-1960s, who argued that shares are always traded at their fair value, which makes it impossible for investors to buy undervalued shares or sell shares at overvalued prices. Thus, it is impossible to overcome the performance of a financial market by selecting actions based on expertise or investing in riskier assets. Organizational or functional efficiency refers to the correspondence of assumptions regarding atomicity, market contingency, risk-free interest and the absence of tax and trading costs.

Information efficiency concerns the integration in the stock exchange of the fundamental information, regarding the intrinsic value of the listed securities (the historical evolution of the stock exchange rates, publicly available information, on the financial execution and the economic perspective of the issuing company, privileged information, accessible only to those initiated: managers, shareholders, etc.). According to the categories of information available and the rapid integration of this information in the course forecasts, Eugene Fama identified three forms of information efficiency: weak, semi-strong and strong.

Regarding the Romanian capital market, the rationality of the Romanian investors was investigated here, and the conclusions proved to be a useful tool for achieving this objective. Therefore, several researchers have focused on investigating the informational efficiency of the Romanian capital market. Most of these studies reported the inefficiency of the information market, using the coefficients of autocorrelation, normality, and stationary tests: Augmented Dickey-Fuller and Phillips-Perron. It is worth mentioning that the tests suggested by Fama (1970) have been successfully applied by many authors in their research.

Lazar and Ear (2007) also tested poor performance for eight emerging markets: Romania, Hungary, Czech Republic, Lithuania, Poland, Slovakia, Slovenia, and Turkey. The results suggested linear and nonlinear effects, which were not significant. Except for Romania, the other emerging capital markets reject the information hypothesis in a weak form.

Another study by Dima et al. (2007) report aspects related to the Romanian capital market, mentioning that the financial sector of the market reflected by the BET-FI index is considered to be "informationally efficient" in a weaker form. For the present research, we considered the two tests that are intended to study the random evolution of a time series, these being the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron test. With these tests, unit root testing is performed, which involves establishing a time-series station. The test of the informational efficiency in the weak form is performed with the help of the two tests mentioned above, which give probabilities to the accepted hypotheses. The Augmented Dickey-Fuller (ADF) test is based on a negative number and the larger the number, the greater the rejection of the hypothesis. However, if the ADF test statistics are positive, it can be automatically decided not to reject the null hypothesis of the root unit.

4. RESULTS AND DISCUSSIONS

The stock market has developed over time several indicators that respond to the needs of investors, but also due to the multiplication and diversification of financial instruments traded on the capital market.

Employing indices, we can track the evolution of a group of shares or a certain sector, allowing us to analyze market trends more easily through a unique index than by tracking each issuer.

The indices that represent a barometer of the capital market help us to compare the performance of the national stock exchange with the European or international stock exchange so that we can estimate the potential of our stock market for the big stock exchanges in the world.

If the evolution of an index convinces us, we can consider the option of structuring our portfolio according to the composition of the index, but we must take into account the fact that it is advisable to invest in different fields to reduce the sectoral risk.

Therefore, it is not advisable to pursue a sectoral index as a whole, but it is preferable to choose from it only those actions that meet our selection criteria.

However, the experience of the financial crisis of 2008 has helped us to analyze economic phenomena in several ways, one of which is psychological, namely the behavior of investors concerning the evolution of markets. In this regard, there is a broadening of the spectrum of market analysis that has been approached at a certain point in terms of information factors, focusing on classical analysis, but to which has been added modern analysis, which takes into consideration also social, emotional, but especially psychological. This approach allows economic analysts to look at the functioning of capital markets from a much wider angle, thus being able to see how participants act on these markets, but also their behavior to developments or failures that occur in capital markets.

To carry out the tests, we extracted prices for four BVB indices, namely: BET, BET-FI, BET-NG, and BET-XT, but also for five of the most traded shares on the capital market in the period 2015-2019. The conclusions of the calculation are related in tables no. 1, 2 and 3.

Table No. 1. Daily results

Simbol	ADF decision (1=reject)	ADF p-val	ADF stat	ADF crit. val.	PP decision (1=reject)	PP p-val	PP stat	PP crit. val.
BET Index	1	0.001	-19.38355556	-2.864762844	1	0.001	-31.74571625	-2.864762
BET-FI Index	1	0.001	-18.1817457	-2.864762844	1	0.001	-33.38100749	-2.864762
Bet-NG	1	0.001	-18.22726376	-2.864762844	1	0.001	-32.57931951	-2.864762
Bet-XT	1	0.001	-19.07880221	-2.864762844	1	0.001	-31.73136964	-2.864762
TLV	1	0.001	-20.6911006	-2.864762844	1	0.001	-31.76650203	-2.864762
BRD	1	0.001	-19.55421401	-2.864762844	1	0.001	-30.68652786	-2.864762
SNG	1	0.001	-17.83348726	-2.864762844	1	0.001	-31.29662224	-2.864762
SNP	1	0.001	-19.86466125	-2.864762844	1	0.001	-33.80114626	-2.864762
FP	1	0.001	-19.83907165	-2.864762844	1	0.001	-35.41138494	-2.864762

Source: own calculation

Table No.2. Weekly results

Simbol	ADF decision (1=reject)	ADF p-val	ADF stat	ADF crit. val.	PP decision (1=reject)	PP p-val	PP stat	PP crit. val
BET Index	1	0.001	-8.485260706	-2.874804	1	0.001	-16.03992081	-2.8747
BET-FI Index	1	0.001	-8.866011782	-2.874804	1	0.001	-15.22413644	-2.8747
Bet-NG	1	0.001	-7.962418689	-2.874804	1	0.001	-15.39444578	-2.8747
Bet-XT	1	0.001	-8.628526215	-2.874804	1	0.001	-16.08546622	-2.8747
TLV	1	0.001	-8.985694493	-2.874804	1	0.001	-16.63255746	-2.8747
BRD	1	0.001	-8.869548497	-2.874804	1	0.001	-16.91153452	-2.8747
SNG	1	0.001	-8.161921286	-2.874804	1	0.001	-15.06124368	-2.8747
SNP	1	0.001	-7.758282598	-2.874804	1	0.001	-15.68596912	-2.8747
FP	1	0.001	-9.622956209	-2.874804	1	0.001	-16.32742476	-2.8747

Source: own calculation

Table No. 3. Monthly results

Simbol	ADF decision (1=reject)	ADF p-val	ADF stat	ADF crit. val.	PP decision (1=reject)	PP p-val	PP stat	PP crit. val.
BET Index	1	0.001	-4.473235402	-2.92504	1	0.001	-7.259893129	-2.9219
BET-FI Index	1	0.00880659	-3.637666157	-2.92504	1	0.001	-6.992995031	-2.9219
Bet-NG	1	0.00148588	-4.315809967	-2.92504	1	0.001	-7.546721214	-2.9219
Bet-XT	1	0.0015404	-4.308309722	-2.92504	1	0.001	-7.527096821	-2.9219
TLV	1	0.0023383	-4.198530254	-2.92504	1	0.001	-7.972365125	-2.9219
BRD	1	0.001	-4.586144271	-2.92504	1	0.001	-7.97631118	-2.9219
SNG	1	0.00457373	-3.890968662	-2.92504	1	0.001	-7.814063169	-2.9219
SNP	1	0.00391108	-3.982139598	-2.92504	1	0.001	-6.898601479	-2.9219
FP	1	0.001	-4.959495835	-2.92504	1	0.001	-7.404012631	-2.9219

Source: own calculation

Thus, we analyzed the efficiency of the information market starting from the FAMA model. In this regard, we have subjected to analysis and observation 4 stock indexes and 5 securities, securities that have a share of approximately 70% of the market liquidity. In this regard, it can be seen that from this point of view, these securities are representative of the Romanian capital market. The observations were both daily, weekly and monthly for the chosen period, in order not to distort the results of any speculative operations.

The results of the study showed the existence of informational efficiency in poor form. This means that the cost of the assets represents all the historical sources to which the investors had and have access and none of the market players can develop trading strategies that allow them to make profits from these strategies based on the historical data they have access to.

5. CONCLUSIONS

Through this research, I tried to analyze how investor behavior influences investment choices and market characteristics. In this regard, we used the application of a model established in the specialty finance literature, which was formulated by the economist Emanuel Fama, namely the theory of efficient financial markets.

We tried to answer several questions, namely: what influences the investor in the choices made? If there is transparency in the market? If investors are properly informed and where do they get their data from? What kind of efficiency does the Romanian capital market have?

Of course, this approach would not have been possible without a "literature review", an action necessary to succeed in creating a general framework, thus trying to address the capital market in our country.

Thus, we immediately came to the analysis of the type of investor thinking that balances between rational and irrational. Thus, I understood that the boundary between the rational and irrational behavior of the investor is very fragile.

Thus, we conclude that rational thinking can often lead to irrational decisions in the wrong or misunderstood context, the prejudices of individuals or the information they have at a given moment can lead them to make wrong decisions. The context in which you are and where you gather your information is the mental frame of any individual.

The profile of an investor is characterized by an amalgam of particularities based on traits that relate to each person's personality, life stage, origin, wealth sources and other factors that are difficult to quantify. Mainly, holders of fixed assets have more confidence in their ability to invest and make the best decisions.

Empirical evidence on investor behavior shows that it is affected by:

- the tendency of under-reaction or over-reaction to news (Shleifer, 2000; Barber and Odean, 2000; De Bondt and Thaler, 1987; Lakonishok et al., 1994); investors can sell shares that have recently suffered losses and can buy shares that have experienced a price increase;
- flock instinct, which implies that investors focus only on a set of securities, ignoring others with similar characteristics (Hirshleifer, Subrahmanyam, and Titman (1994)); Cipriani and Guarino (2003) even assert that herd behavior can generate financial contagion;
- Culture (Brown et al., 2002);
- The difference between investments and profits on Friday compared to Monday in a week presented and studied by Gibbons and Hess (1980)
- The significant correlation between the weather situation and the behavior of investors in general, concluding that on sunny days they invest more than others, according to studies by Saunders (1993), Hirshleifer and Shumway (2003), Trombley (1997)

The essence of the market efficiency information hypothesis is based on the proven information theory based on which all investors benefit from macroeconomic behavior and rational arguments. But, as we have shown, researchers questioning this hypothesis have uncovered important evidence that rational behavior is not always as widespread as we might think. There is no need for a psychology specialist to understand that investors want a secure business return rather than an insecure one, to pay for financial risks, financial theory taking the notion of risk premium.

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THE EFFECT OF TRANSFER PRICES AS A SUBSTRATE FOR OPERATIONS OF MULTINATIONAL ENTERPRISE GROUPS

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Abstract

Multinational enterprises, i.e., their business operations, are the subject of interest of numerous economists, entrepreneurs, tax administrations and the public, each of whom, from its aspect, follows their activities by presenting sometimes completely opposite conclusions. Through a systematic approach, this paper aims at pointing out the existence of a link between the determinants of multinational enterprises and transfer prices and the possibilities that enable multinational enterprises to legally or manipulatively transfer funds between sisters' enterprises. The paper provides an overview of the essential characteristics of multinational enterprises, examines transfer pricing determinants and analyses in detail the impact of transfer pricing on the operations of multinational enterprises. Activities of international organizations, states and tax administrations in combating and preventing the emergence of tax avoidance by branches of multinational enterprises reporting their head office in *countries with low-profit tax rates are being investigated. The paper will review individual proven examples of malversations of world-renowned multinational enterprises, analyze the modalities used to increase their profits by avoiding real profit tax payments.*

Keywords: *multinational enterprises, transfer pricing, Arm's Length Principle, profit tax*

JEL Classification: M10, M19

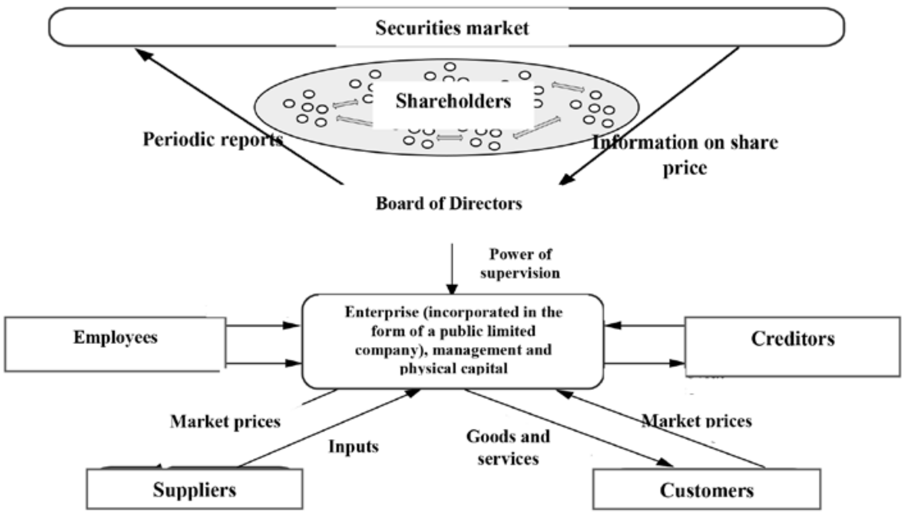
1. INTRODUCTION

A multinational enterprise consists of a group of economic units that, regardless of the legal form or business sector, operate in two or more countries in a decision-making system that enables the implementation of concrete policy and a common strategy with the assistance of one or more decision-making centers. The liberalization of world trade removes the obstacles to entry into formerly unavailable markets and facilitates the expansion of multinational enterprises' (MNE) operations in the world. This makes production resources more mobile, which for the MNEs means the easier placement of capital on foreign markets, cheaper labor, cheaper energy sources and easier access to raw materials. The MNEs have become a relevant and influential factor that implies the realization of a competitive advantage on the overall global market so that enterprises expand their business abroad. The assessment of the real role and significance of modern MNEs in the world economy implies a good understanding of all forms of MNEs and the functioning of the global market. Taking into consideration all aspects, large MNEs have their good and bad sides, but the results of their actions cannot be annulled; they are individually reflected in national economies around the world and are never held in one place; lack of one shows a favorable or unfavorable effect of large MNEs in the observed area. These international groups with their parent company and branches worldwide delegate sister enterprises functioning as standalone enterprises that are coherent with capital and entrepreneurial contracts. The development of such enterprises at the international level results in the popularization of transfer prices. Considering their affiliation, multinational enterprises measure the financial success of branches precisely through the transfer pricing mechanism. Transfer prices are observed within a particular company, which directly affects the profitability of each responsibility center, as well as the rate of return on investment. They can also be observed between sisters' enterprises operating within one or more countries. International expansion of an enterprise is a result of its desire and potential to increase profits. However, they can only be expanded under certain conditions. One of the conditions is certainly the level of the profit tax rate in another country. Multinational enterprises in this way use non-harmonization of tax systems at the global level and transfer profits from a country with a high tax rate to a country with a lower profit tax rate through internal transactions. In accordance with the development and expansion of the MNEs, transfer prices as transactions between members of international groups are becoming an increasingly serious problem for tax administrations, but also for enterprises themselves due to complex administration. Therefore, the implementation of the 1995 OECD (Organisation for Economic Co-operation and Development) Guidelines for Transfer Pricing, which are based on the Arm's Length Principle, is widespread. The principle aims to harmonize the prices of goods and services between sisters' enterprises so that they are equal to those that would be achieved by standalone enterprises under comparable conditions. Transfer prices are an important tool that can affect financial determination, i.e. maximization of profits of multinational enterprises. Transfer pricing management has drawn the interest of tax administrations around the world. Real transfer pricing, which would provide an appropriate tax base in all tax jurisdictions and avoid the potential for double taxation of multinational enterprises or prevent them from tax avoidance, is a complex problem due to a number of factors and the impact and importance of MNEs.

2. MULTINATIONAL ENTERPRISES

In modern development conditions, the science and technology of MNEs have become a crucial factor in economic and social development, and their role in the development of productive forces is continuously increasing. This tendency has far-reaching consequences on the international division of labor and the position of individual national economies in the world market. Nowadays, the world is characterized by an unequal position of developing countries in relation to developed countries. In order to bridge this gap, developing countries must connect with countries that are technologically and economically more advanced, and one of the basic ways of this connection is through international technology transfer. Technology transfer is impossible to imagine without multinational enterprises becoming the most important factor of technological advancement. MNEs are not a new phenomenon, nor is their significance tied exclusively to the globalization processes, but globalization is a period of affirmation for corporations; due to the general atmosphere, legal framework and rules, a new world order that facilitates corporate business operations and increases profit. The emergence of multinational enterprises is closely related to the first industrial revolution when the circumstances for the foundation and broader operation of enterprises were created. The development of transport and technology at the time enabled enterprises to operate at interstate and intercontinental levels. Corporations are a complex form of business entities, i.e. companies comprised of many segments of the business process. They are also financial conglomerates that have significant financial resources with great influence in many spheres of human activity. Diversification of activities, territorial distance, multinational representation and work in an international environment are the characteristics of almost every corporation and represent the most advanced system for mass capital turnover, achieving the best business results in terms of sales size, placement of their goods and services, as well as maximizing profits that often far exceed the amounts of invested funds (Ogorec & Skenderović, 2014, 76).

Picture 1. A Basic Model of MNE Organisation



Source: authors' processing according to Galetić, L. (Ed.): Organizacija velikih poduzeća, Sinergija, Zagreb, 2011, p. 481.

Picture 1 shows the correlation and connection of all interest groups. Corporations differ from other economic entities in that there is (Galetić, et al., 2011, 475): (1) limited liability for owners, (2) free transfer of investment interests, (3) legal personality (which denotes separation of responsibility from individual and unlimited period of existence), and (4) centralized management. Corporations differ according to processes and systems governing relations between individual elements of the corporation and external elements affecting the corporation. These differences mainly originate from a different historical social and legal context. Multinational enterprises seek to ensure a presence on a foreign market which they can do in a number of ways: (1) export of own products, (2) licensing, i.e. entrusting the production of their products to a foreign company based on a contractual relationship, (3) moving a part of the production to a foreign country where a part of a complex product will be produced, and (4) moving abroad the production of the whole product by opening an identical or similar production facility to the one already existing in the home country. Whichever way they use in their expansion to other markets, MNEs face numerous challenges in their way, especially if they are underdeveloped or transition countries, in which the postulates of the free market have not been fully implemented. Local communities and various associations often accept MNEs with skepticism, regardless of the fact that under their influence they will achieve certain benefits. Today there are almost no countries or areas where high standards of environmental protection, sustainable development, and socially responsible behavior are not required. There are many ways, i.e. types of technology transfer (Senečić, 1982, 21-23): technical assistance contracts, patents, know-how, engineering, transfer of trademark, franchising licenses, and leasing. However, the most common or standard forms of technology transfer are (Strahinja, 2007, 158): (1) licenses – international transfer of industrial property rights, (2) patents – international transfer of production and technical documentation rights and (3) know-how – international transfer of knowledge and experience. Technology transfer can most easily be achieved through a license agreement (where the use of technological know-how is sold to a foreign company), the joint production of domestic and foreign producers, and direct imitation. The basic motives for technology transfer are (Višković, 2002, 7): development of an internationally-competitive and capable industry (developed countries) and ensuring faster industrialization based on foreign technology (developing countries). International technology transfer requires that two basic preconditions are met (Senečić, 1982, 5): (1) that economic entities in a country want to use a certain technology that is probably not available in this country, and (2) that there is a belief that it is cheaper to transfer technology from abroad than to reproduce it in the country.

2.1. Financial management and capital budgeting of multinational enterprises

The fundamental principles of financial management of a national and a multinational company are the same. What is significantly different is the much greater exposure of MNEs and the possibility of transferring capital between branches through internal mechanisms and channels. In addition to economic risks, MNEs are particularly exposed to political and social risks that they most often cannot manage or influence. In some cases, MNEs may even have a crucial impact on social and political developments and changes in some countries. The totality of risks encountered by the MNEs in their business operations can be presented in the following table.

Table1. Risk Totality of MNEs

Global systemic risks	• political conditions • trade regimes • global demand
Risks of changes in world prices	• price of goods • exchange rates • interest rates • risk premium
Country risk	• political stability, terrorism, civil unrest • financial and economic stability • expropriation tax fee • repatriation policy
Institutional/regulatory risks	• regular stability or interventionism • implementation of contracts
Industry/competition risks	• industrial revolution-costs • demand, growth rates • distribution terms on the supply side • prices • infrastructure
Project risks	• preparation • contracted negotiations • business • conflict with the partner • partnership • project management

Source: Lovrinović, I., (2015) *Globalne financije*. Zagreb: ACCENT d.o.o., p. 45.

Over time, MNEs have developed increasingly effective profit transfer mechanisms implemented by their branches around the world. These are sophisticated techniques and models that national regulatory systems hardly or do not even handle. Capital budgeting is a comparison of the costs and benefits of a project. MNEs are the most important investors in the world with the most important investments, and therefore budgeting is a capital critical function of financial management. It is well-known that many international projects cannot be sold easily to someone else at reasonable prices after they end, and therefore, capital budgeting is even more important. The most frequently used capital budgeting method, according to Lovrinović (2015, 46), is the net present value of the cash flow that will be realized in the future. In this context and in international capital budgeting, the same method; however, in this case, the situation is much more complex as the project is exposed to actions of additional factors that can significantly negatively affect the future cash flow. The key variable in the calculation of the net present value of a particular project, i.e. investment, is the discount rate. The discount rate is decisively influenced by the monetary policy of a given country, which may be restrictive or expansionary and which also takes into account other risk factors. Therefore, the question of choice is also raised in international business, i.e. determining the discount rate amount which is, in fact, interest rate. When budgeting the capital of an MNE, it should be taken into account that there are differences (Lovrinović, 2015,46):

- in the cash flow of the parent company and the cash flow of the project,
- in exchange rates in the home country and the country where the project is carried out,
- in tax rates,
- fees and prizes,
- in the ability to transfer money.

As a rule, profit from the project is transferred to the parent company in its entirety, but most often one part, while the other part is reinvested. In order to transfer part of the profits to the parent company, it is first necessary to exchange domestic currency for the currency requested by the parent company. If in the meantime, there has been a change in the exchange rate between the two currencies, there will be a change in the amount of profit transferred. From the position of a subsidiary and parent company, there are again significant differences in capital budgeting. It is not uncommon for a parent company, in order to realize an investment, to charge costs to its subsidiary that exceed the normal value in order to transfer a larger amount of money in order to partially avoid tax costs. In this case, the profit of the branch will be smaller and therefore the approach to capital budgeting will again be different as well as its effects. If the authorities of the country in which the investment was realized and in which the branch operates decide to ban the transfer of profits, then the parent company's project will again be unacceptable while it can be acceptable to the branch. In addition to these factors, international capital budgeting is influenced by the following factors (Lovrinović, 2015,46): inflation, the uncertain liquidation value of the project, and government decisions in the home country.

3. THE IMPACT OF TRANSFER PRICES ON BUSINESS OPERATIONS OF MULTINATIONAL ENTERPRISES

Transfer price is the price charged by a company for goods, services or intangible assets to a subsidiary or another sister company. Since these prices are not negotiated on a free, open market, they may deviate from the prices agreed on by unrelated trading partners in a comparable transaction under the same circumstances (Kesner-Škreb, 2004, 501). If the goods, services or intangible assets in the transaction between the associated parties are overestimated, the seller's gain is increased and the buyers are reduced. Vice versa, if goods, services or intangible assets are underestimated, the buyer's gain is increased and the seller's gain is reduced (Kesner-Škreb, 2004, 501). From the tax point of view, a very important issue is documentation and determination of transfer pricing by an appropriate method to prove the Arm's Length Principle. Transfer prices do not always have to be determined by market relations but are also used by sister enterprises to achieve other objectives, of which tax reductions are often mentioned. In this case, higher transfer prices are held by a sister company located in a country with a lower tax rate and lower prices the one with its head office in the country with a higher tax rate. In this way, more profits are kept in a lower-rate country, so that the total tax paid is lower. Precisely because these are significant transactions and potentially large amounts of taxes, business activities of associated entities and business relationships are under special scrutiny of tax administrations. Namely, the issue of transfer pricing control is today the most important global issue placed before tax administration. The main possibilities for the implementation of a transfer pricing strategy are in the field of intangible assets, within-group services, business restructuring and tax oases (havens).

Worldwide, more attention is being focused on their supervision and control (North and Latin America, Asia-Pacific). Developing countries are considering the conditions they should meet to successfully implement transfer pricing regulations into their legislation. Transfer prices, as an inseparable substrate for the operations of multinational enterprises, are the subject of interest of experts in the field, academia, and public. They often appear in a negative context by opponents of the globalization processes, protectors of national interests, numerous activists or simply economic analysts of different opinions. The only thing that is certain is that, without transfer pricing, there would be no sister companies, because transfer prices are the ones that connect them. This particularly applies to multinational enterprises which have their branches in different parts of the world where they operate in different political and social situations with different labor prices and different tax systems. Multinational enterprises for transfer pricing management set up reinvoicing centers that investigate tax systems, tariffs, and foreign exchange controls in countries where they have branches or plan to establish branches and make transfer pricing decisions based on the research obtained. Furthermore, multinational enterprises can also decide on the currency of payment, and therefore issue invoices in a currency other than their own. All of this is a result of the interests of a multinational enterprise and its central financial management, whose main goal at the global level is to achieve as much profit as possible (Lovrinović, 2015, 38). It is clear that it is in the interest of all stakeholders in the business of the MNE that all transactions and transfers take place within the limits of permitted international trade and competition, and in accordance with the legal and tax regulations of the country in which they operate, as they are agents of economic development. It is therefore understandable that the economic and tax policies of the host country aim to adapt to the operations of the MNEs. In the Republic of Croatia, the previous transfer pricing agreement[1] is regulated by the Ordinance on the procedure for concluding a previous transfer pricing agreement based on the principles of (Lovrinović, 2015, 38):

[1] Advanced Pricing Arrangements (APA) and contractual relationships are, in accordance with the Profit Tax Act, an agreement between the taxpayer and the Ministry of Finance of the Tax Administration and the tax authorities of other countries in which the affiliated persons are residents or operating through a business entity, which establishes for transactions between affiliated persons, prior to commencing, an appropriate set of criteria such as methods, benchmarking, appropriate adjustments or key assumptions regarding future events, in order to determine transfer prices for those transactions over a certain period of time, according to: OG, (2018)/106. Profit Tax Act. Zagreb: Official Gazette, Art. 14.

1. actions in the good faith of the taxpayer and the Tax Administration,
2. transparency and willingness of the taxpayer to provide all relevant information,
3. mutual understanding of the taxpayer and the Tax Administrations in tax matters,
4. mutual trust between the taxpayer and the Tax Administration in terms of mutual expectations and taking responsibility for risks.

The objective of the Agreement is to resolve the transfer pricing issue on a partnership basis and the above principles in order to achieve a predictable result by rational use of taxpayers' and tax administrations' resources, neutralize tax risks and ensure legal certainty for the taxpayer in a specific business event or controlled transaction for which the Agreement is concluded.

3.1. Arm's Length Principle

According to the OECD (2005) Transfer Pricing Guidelines for Multinational Enterprise and Tax Administrations, transfer prices are the prices at which a single entrepreneur transfers physical goods and intangible assets or provides services to associated entrepreneurs. Since transfer prices can affect revenues and expenditures, i.e. profit of the company, manipulation or channeling of profits to certain enterprises in the group is possible. This may result in damage to parties having an interest in profits, i.e. tax authorities and shareholders who do not have control over company business. The OECD Guidelines are the key determinant for the international transfer pricing of multinational enterprises recognized for tax purposes, imposing the Arm's Length Principle as the basic principle in assessing the accuracy and fairness of the transfer pricing system (OECD, 2005). The application of the Arm's Length Principle enables the tax administration, when carrying out transfer pricing inspections of sister enterprises, to control the agreed prices and if it determines that they are not in compliance with that principle, to carry out a correction of the profit gained or the tax base of the supervised company. Failure to comply with transfer pricing regulations can lead to price adjustment, double taxation and the company to pay interest on unpaid tax liabilities and penalties which can ultimately lead to a decline in the company's reputation. The Arm's Length Principle is, according to the above-mentioned Guidelines, an international standard the application of which was agreed by the OECD Member States to set transfer prices for tax purposes, in order to ensure overall equality of the tax regime for international enterprises and independent entrepreneurs. The Arm's Length Principle avoids the emergence of tax advantages or a less favorable tax position, which stimulates the growth of international trade and foreign investment. The interpretation and application of the Arm's Length Principle in the EU Member States differ – between tax authorities and between tax authorities and the business sector. This may result in uncertainty, cost increases, and administrative burdens and may lead to possible double taxation or double non-taxation. These views have a negative impact on the normal functioning of the internal market.

4. ANALYSIS OF KNOWN CASES OF TAX AVOIDANCE BY TRANSFER PRICES

No matter how acceptable the perpetrator's explanations may be, tax avoidance is still a mere fraud. Fraud in the business world dates back probably to the first commercial transactions, i.e., primitive trading of goods. The point of fraud was not always unambiguous and pointed only against the customer. On the contrary, the fraud is multi-faceted because, in addition to the customer, it was also related to taxpayers or the state. The fraud was sometimes initiated by the state itself by using it to harm the enemy. Science has become involved in detecting financial fraud by siding with the "chief police officer", making available scientific knowledge in the fields of economics, finance, forensics, statistics, and stochastic science, which does not mean that the opposite side has been cut off for such insights. MNEs' business activities have also actualized the issue of the character of transfer prices. These are sales prices that are formed in the exchange between parts of multinational enterprises. Although they qualify as market prices, they are not effectively formed under the influence of market laws and are valid only within a given multinational company system. As a very successful strategy for MNE operations, transfer prices have increased the competitiveness of sister enterprises and could, as such, through the proper application, bring many advantages to the economy of the countries in whose territory they operate. Tax administration shows great interest in transfer prices, as they have a great influence on the manner of taxation. Tax administrations are conducting transfer pricing controls to prevent manipulation of tax collection. In this empirical part of the paper the research of publicly announced tax fraud was conducted, some of which are only in the phase of proven doubt, some in the phase of the sentence, but none of them have been processed by a valid court. The main actors of these actions, with slightly lower profits, continue to operate smoothly after paying (part of) the penalization. However, the main creators of recognized fraudulent processes remain esteemed lawyers, businessmen or eminent accounting and audit firms. Below, the paper provides two examples of tax avoidance in the case of Panama Papers and the Apple case.

4.1. Panama Papers

In 2017, the European Parliament published a Draft Report on the inquiry into money laundering, tax avoidance and tax evasion (Kofod, Ježek, 2017). The report chronologically states that the international tax scandal, colloquially called "Panama Papers", was published as a result of a thorough research work by journalists from 107 media organizations in 80 countries, united in the International Consortium of Investigative Journalists (ICIJ), who analyzed documents detailing the work of Mossack Fonseca using state-of-the-art software to process a large amount of data published. Thus, the example of Panama Papers shows the importance of free media and investigative journalism, which the European Parliament unreservedly considers an indispensable factor in functional democracies. The Panama Papers are the largest case of disclosure of confidential information; given that 2.6 terabytes of confidential information from the law firm and the registered Mossack Fonseca Trust contained 11.5 million documents, which is more than all data from the Wikileaks affair (2010), Offshore Leaks (2013), Luxleaks (2014), and Swissleaks (2015) together. The published data included confidential records from 213,634 offshore enterprises, including the names of 12 current and former heads of state, nearly 200 politicians from around the world and several public figures from various fields. The Mossack Fonseca established and managed these offshore enterprises between 1970 and 2015, and at the time of the publication of these data 55,728 entities were active. The vast majority of these entities remain active, about 90%, established in the British Virgin Islands, Panama, and Seychelles. The Panama Papers describe the systematic implementation of illegal practices, such as retroactive entry of document dates, and reveal the evident neglect of basic due diligence, attributed to lawyers, wealth managers, and other intermediaries, and documented, for example, as maintaining business relationships with enterprises whose nominal director died several years ago. It can be concluded that the root problem recorded in the Panama Papers is the movement of money between different jurisdictions – offshore and onshore. It is evident from the published documents that some multinational enterprises and persons of high net value have used trusts, fictitious enterprises, tax havens, and complex international financial structures to successfully protect their wealth from, for example, tax authorities and others who have justified financial claims against them, thus gaining immunity by putting their wealth in the legislative vacuum.

4.2. The Apple Case Study

In 2016, the European Commission found that the Republic of Ireland granted unlawful aid to the Apple Group in the form of certain tax advantages, the amount of which is estimated at EUR 16 billion (Gadžo, 2018, 79-125). Given the value of this amount, the return of which the Irish authorities must demand from Apple, as well as the fact that it is the largest multinational company in the world according to the criterion of market capitalization, the European Commission's decision has led to a number of discussions at the global level. A broader social and political context has come into focus here, particularly regarding the operation of the MNEs in the EU internal market and trade relations between the Union and the USA. Apple is a multinational company whose origins date back to the 1970 s and are linked to the initiative of IT experts Steve Jobs and Steve Wozniak. The Apple Group's operations are based on the production and sale of desktop and notebook computers (Mac product lines), telecommunications devices (e.g. iPhone), other platforms for displaying audio-visual content (e.g. iPad, Apple Watch), as well as on the development and use of software and other digital services (e.g. iTunes, iCloud apps). In 2015, the group had more than 100,000 employees, out of which 60,000 were employed in the United States. The organizational structure of the Apple Group is complex and includes a large number of sister enterprises established in a number of countries. The umbrella company is Apple Inc., established under the US law and based in California. In Ireland, he founded Apple Inc. in 1980, several subsidiaries, the most important being Apple Operations International (AOI), Apple Operations Europe (AOE) and Apple Sales International (ASI). The Commission found that there was room for 'tax engineering', i.e. the tax strategy of intangible assets. Tax-efficient management of intangible assets (e.g. copyrights, trademarks, patents, know-how, etc.) is crucial for the success of the Apple tax strategy. Namely, the resources of intangible assets are the main generator of the added value of these entities within their global value chains. Thus, the largest portion of the price paid by the end-users of Apple's goods and services is paid for the value of patents, trademarks, designs and/or brands used in the production, advertising and/or distribution of goods/services. Given that for-profit taxation purposes, it is of crucial importance to identify the entities (parent company and branches) within the group to which, starting from the principle of independence and transfer pricing rules, the total profit share associated with the exploitation of intangible assets belongs. For the Apple Group, the most profitable line of activity in the tax sense was to allocate the largest share of the total profit to "Irish" enterprises (AOI, AOE, and ASI) which are not tax residents of any country. The main tax and legal consequence of concluding a cost-sharing agreement are that ASI and AOI are considered "economic owners" of intangible assets used in all Apple products outside North and South America. Consequently, it is these entities that can be attributed to the largest part of the sales profit generated in the remaining part of the global market. In order to attribute part of the profits from these and other forms of intangible assets to Irish subsidiaries, Apple Inc. enters into a so-called Cost-Sharing Agreement with AOE and ASI under which the Parties agree to split the costs of research and development of certain forms of intangible assets that they will later jointly exploit. The Irish branches AOI, AOE and ASI took over, due to stimulating profit tax rates, only 0,005% in 2011, most of the profits from intangible assets generated in the US, South America and thus almost EUR 16 billion of ASI's 2011 total profits remained completely non-taxable (Gadžo, 2018, 79-125). By using this classic international tax planning technique, Apple Group, in fact, artificially increases the profits of Irish enterprises and thus reduces the overall tax burden on the group.

5. CONCLUSION

The role and economic power of MNEs is an intriguing topic of numerous scientific and expert discussions, joined by this master's thesis, in finding answers about their role in the global economy. This role is undoubtedly large and crosses national borders and economic systems. They affect the employment of millions of people, as well as the degree of economic activity in individual countries, have a privileged status in the World Bank and the International Monetary Fund. In this way, they exercise different forms of structural power, because they affect the international business climate. Exploring price trends in certain markets, labor-capital relations, market size and growth, political stability, financial concessions of individual countries, etc., multinational enterprises achieve their own development and power precisely thanks to a different network of conditions in individual countries. The creation and development of multinational enterprises in many ways mean a new international division of labor. The current transfer pricing theme from the aspect of possible tax fraud has provided a number of examples of such practices to financial and tax analysts, prompting international institutions such as the OECD, PAT or the European Commission to develop guidelines for managing the risk of transfer pricing fraud and to launch automatic exchange of information. In this sense, numerous arguments have been put forward to suppress the (so far) discovered modalities for avoiding tax obligations in multinational enterprises. However, it should be noted that transfer prices are a legal and justified instrument of business between the parent company and its branches as well as between branches as long as the tax and legal regulations of the countries in which they operate are respected. Similarly, due to the importance of attracting foreign investment, many states provide MNEs with certain benefits that should comply with fair market competition rules. This is not always the case, which is also confirmed by the examples described in the paper. As for the issue of transfer prices from the perspective of Croatian businessmen, the prevailing opinion is that transfers reduce costs and thus raise the level of efficiency and effectiveness and thus competitiveness, but fear of change and fear of job losses is the reason why domestic enterprises are rarely opting for this strategy. Negative experiences of sister enterprises (Agrokor, Uljanik) and sensationalist media coverage increase skepticism about transactions within sister enterprises and understandable refusal of comments. Furthermore, enterprises are often managed by managers who are not sufficiently familiar with the positive effects of transfer pricing implementation and are not sufficiently interested in new findings, which is why the application of transfer pricing in Croatian enterprises is limited. In conclusion, the importance of legally correct transfer pricing is presumed in order to determine the appropriate tax base of all tax administrations around the world in order to prevent potential double taxation of MNEs.

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MILITARY EXPENDITURE AND IMPACT ON ECONOMIC GROWTH: THE CASE OF NATO MEMBER COUNTRIES

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Abstract

The main objective of the proposed research paper is to highlight the correlation of military expenditures in literature and economic growth, their impact on economic development. This study was completed by applying the systematic review methodology, taking into account data on a group of countries, respectively NATO member states for the period 2009-2018. For the systematic literature review, the Web of Science databases was considered, taking into account specific research descriptors characteristic of the military field and economic growth. The analysis took into account the search string for each country in the list and the results obtained in the studies analyzing military expenditures and GDP and were followed with interest. It has been confirmed that a strong defense policy improves the security and well-being of a state. At the *same time, public funds dedicated to defense can change the level of other budgets or even production and investments.*

However, the results confirm that, following a long-term collaboration with the NATO alliance, the states have strengthened their defense policy, the impact on economic growth is positive in most cases, and negative or even without effect only in some situations. Therefore, we conclude that the results of this analysis can have important political implications, with effects on the macroeconomic area of the NATO member states under analysis, as well as on the future states that will continue to join. The scientific results obtained from this study confirm that in future research it is necessary to continue analyzing all the factors that determine the observance of international treaties and agreements concluded in all other areas of government, considering that a strong defense strategy directly leads to a developed state economy.

Keywords: *military expenditure, economic growth, systematic review, NATO*

JEL Classification: H50, O40

1. INTRODUCTION

The complex environment of security and defense since the beginning of the 21st century creates new distortions and challenges from the point of view of the security of the states, while also influencing their welfare and economic evolution. NATO membership of the 29 countries and strategic partnership with the United States States were the most important elements of the security of the country and defense policy.

This paper relates aspects of the correlation between military spending and the socio-economic development of NATO member states. In accordance with the basic international rules imposed by NATO to the Member States, each of them tries to adapt to its internal conditions. The results of the relationship between military spending and economic development are highlighted using the "Systematic Review" method for the period 2009-2018. If we look strategically, only from the point of view of the economic effect, the defense and security expenses of a state represent an important vector of public policies with direct effects on the economy. The effects can be significantly negative or positive on the creation of social infrastructure and on the development of the economy in general. Research studies show that a better allocation of these expenditures provides a picture of how governments can intervene with a good-luck strategy to help implement concrete economic procedures.

The year 2019 is a crucial year for foreign policy and this year marks 70 years since the founding of NATO. Thus, given the security, security, and prosperity at the eastern border of the North Atlantic Alliance and the European Union, we can also see the contribution of states that become visible within NATO representations at European level in the current geopolitical context by the percentage allocated from GDP to increase efforts to protect peace and investments in the defense field. In general, the relationship between defense and GDP is explained by the evolution of a state's GDP and its impact on social life, with budgetary implications regarding the level of military spending. The results may be different, the correlation between military expenditures and the economic development of a country can have positive effects in most cases, negative or even without effect in some situations.

The study presents a brief introduction and some reports studied by other researchers in the specialty literature on the relationship between military expenditures and economic development. Then continue with section 3 which relates the data and methodology "Systematic review". The results are reported and explained in section 4, and the conclusions of the case study are reported in the last section.

2. LITERATURE REVIEW

2.1. Analysis of the institutional and legislative framework of NATO structures

Most researchers, in their studies, analyze the existence of a correlation between ME and GDP, their impact being much wider, affecting the whole economic well-being, labor force, social and economic environment. Our study aims to analyze the impact of military spending on GDP, taking into account NATO member states and all their implications. The analysis is considered on a continental scale in the context of the military policy alliance specific to the North Atlantic Treaty Organization (NATO). NATO is known to comprise 29 member countries where the strategy of organization and functioning of institutions with responsibilities in the field, is a separate one, in accordance with the new security challenges, but especially for full adaptation to the status of NATO member state.

The organization gives everyone an open policy for expanding the Alliance with new member countries. Thus, any European state that respects the Washington Treaty and contributes to the Euro-Atlantic security area can be considered a member of the Alliance. The implementation of all political decisions has military implications on the actors on the political scene: the military committee, composed of the heads of defense of NATO member countries; The international military state, the executive body of the Military Committee; and the military command structure. By signing this treaty, the States voluntarily undertake to participate in the political consultations and military activities of the Organization.

The phenomenon of globalization and European integration are arguments that support the analysis of the institutional framework from the perspective of the recorded performances. EU-NATO cooperation has gained increased emphasis on the common agenda of the two organizations, given the increased dynamics in the security environment and the proliferation of asymmetrical threats in the east and south of the two organizations, with an impact not only on the immediate vicinity but also on the entire space. European and Euro-Atlantic.

Legislative adaptation to European requirements and directives supports the possibility of shaping an institutional comparison and evaluation framework in European and even global terms. Due to the large volume of NATO rules and regulations, each candidate country must adopt a number of their requirements as national legislation.

At the Warsaw Summit (July 8-9, 2016), after the adoption of the joint NATO-EU declaration, the main areas of cooperation were discussed, including combating hybrid threats, operational cooperation including in the maritime field, security and cyber defense, development interoperability, EU and NATO defense capabilities, defense and research industry, exercises.

In 2017, the consolidation and extension of NATO-EU cooperation were discussed and decided by adopting, at the level of the two organizations, a set of 32 additional measures, including new topics such as combating terrorism, cross-border mobility in Europe. Romania attaches special importance to obtaining concrete results that contribute to the consolidation and assurance of a coherent, comprehensive and effective response to the challenges in the security environment. In this respect, it is of particular interest; (i) Ensuring synergy and complementarity between the two organizations to avoid unnecessary duplication, in particular against current European efforts to strengthen the EU's role in the field of security and defense; (ii) Obtaining concrete results especially in combating hybrid threats, increasing resilience, cyber defense, exercises, strategic combat; (iii) Taking into account the circumstances generated by Brexit, the intensification of the phenomenon of terrorism in Europe, the possibility of finding solutions and overcoming these divergent positions is being studied.

2.2. The result of the analyzes in the specialty literature of the impact of military expenditures on economic growth

The research studies provide inconclusive information about the correlation between the state's defense field and the socio-economic development, giving us an analysis framework that is still worth studying, due to the robust tests present at the moment. We noticed that most of the studies in the field consider as the explanatory variable for the defense sector, the military expenses, and for the economic development, the economic growth is most often used as an explanatory variable related to the level of gross domestic product (GDP) or its growth rate.

According to research studies, we report that there are cases in which we have a positive relationship between the two variables military expenditures (ME) and economic growth (GDP), as mentioned in table no. 1, or a negative and inconclusive relationship according to the data in the tables no. 2 and 3 below.

Table No. 1 The results of the studies that conclude a positive relationship between the variables ME and GDP

Authors	Research methodology	The data set	Results
Chang et al. (2011, pp. 2416-2423)	GMM	Expenses for defense and economic growth	Positive impact on economic development
Huang et al. (2016)	ARDL cointegration analysis	ME and employment	The positive impact of defense spending on the long-term workforce
Chi Wei Su et al. (2018)	Granger Non-causality test	ME and GDP in China between 1952 and 2014	Positive bidirectional causality
Ying Zhang et al. (2016)	Panel analysis in several countries, for two time periods, 1998-2011 and 1993-2007	ME and social welfare index	Positive impact
Md. Ohiul Islam (2015)	Feder-Ram model, Test Fixed-effect Panel Model, Test for Serial Correlation	ME and GDP	The significantly positive correlation of capital on military spending and labor force
Kyriakos Emmanouilidis & Christos Karpetis (2018)	Methodology - time series	ME and GDP	There was a unilateral causality between military spending and economic growth
Masoud A. K and Zaleha M. N (2015)	System GMM estimates	ME and GDP	The positive effect of ME on GDP in developing countries 2002-2010
Hamid E. Ali & Sakiru Adebola Solarin (2019)	GMM method 1996 to 2016 for 59 countries	ME and corruption	The results show a positive correlation between the high degree of corruption and ME
Joerding (1986)	Granger causality test	57 underdeveloped countries between the years 1962 and 1967	Economic growth influences military expenses

Table No. 2. The results of the studies that conclude a negative relationship between the variables ME and GDP

Authors	Research methodology	The data set	Results
Cappelen et al. (1984, pp. 361-373)	Mathematical model economic theory	ME for investments	Impact negative of ME on GDP
Smith, Ron. (1977)	Empirical model	ME and GDP	The negative impact of ME on GDP
Muhammad R et al. (2017)	GMM method	ME and GDP	Inequality of military spending is considered to be significant and negative in comparison with economic growth

Table No. 3 Studies that do not reflect any correlation between variables ME and GDP

Authors	Research methodology	The data set	Results
Pradhan et al. (2013)	Cointegration	ME and GDP	Significant impact
Töngür et al. (2014)	Solow growth model	ME and GDP	ME do not have a significant effect on GDP - the case of Turkey
Sandino R (2017)	Instrumental variables	ME and GDP	The significant impact of ME on GDP in developing countries

According to research conducted by researchers, there is a positive correlation between ME and GDP in most cases. Taking into account the analyzed states, whether or not they are NATO members, based on different methods of analysis, using different descriptors to reflect the degree of economic development, there were also negative or insignificant results of the impact of military spending on growth. economic. At the beginning of the 21st century, the security situation in Europe was in a continuous change, with a new borderline appearing as a result of NATO enlargement to the states of the former east. block. On the foreign policy of the Slovak Republic, accession and the way in which the objectives were achieved, the admission of Slovakia to NATO exclusive organizations also mentioned Usiak J. (2018) in his study.

Eryigit S.B et al. (2012), in his activity, tried to study the relationship between the expenses with education, health, defense and the degree of economic development in Turkey. Annual data were used for the period 1950-2005, the dependent variables relevant for education, health, and defense spending and GDP for economic growth. As a result, defense spending may prove to be uneven for Turkey in terms of political experience, history, geopolitical instability. Thus, it has been found that the reduction of defense spending can be considered questionable, given that the impact of defense spending should be examined at the social level, depending on the political and economic contexts. Eryigit S.B et al. (2012) consider that the increase of the infrastructure expenses as a proportion of the defense expenses, with emphasis on the research and development activities and the minimization of the inefficient use of the resources are the main factors in eliminating the negative impact of the defense in correlation with the expenses with the human capital and the economic development in Turkey.

Caruso R. and Francesco A. (2011) also talk about the main factors contributing to Italy to the degree of economic development and the degree to which the defense sector affects the country's productivity and economy. They mention that in Italy, between 1988 and 2008, Italian military spending is strongly influenced by the choices of the entire NATO alliance, the results are less solid and conclude a negative relationship between Italian military spending and the country's long-term defense productivity. land taking into account the decisions taken by the US government and NATO.Afișați mai mult

3. METHODOLOGY AND DATA

The present research proposes an empirical analysis from the perspective of the knowledge stage regarding the correlation of military expenditures with the economic development applying the "Systematic Review" method. The data represents a balanced systematization of information relevant to the 29 NATO member countries for the 2009 and 2018 timeframe.

The systematic literature review used the electronic Web of Science database for journals, papers based on 11 keywords for the specific descriptors of the study " military spending"," economic development" for the 29 NATO member countries. The research project has led to the use in the analysis of 895 primary studies, based on the title and abstract of the works. The data sources used in the calculation of this study reflect the perceptions of a very diverse group of analysts (various non-governmental organizations, government statistical data, budget used and forecasted in the field of defense, as well as commercial businesses that are true information providers). Our research highlights a "Systematic Review Methodology" type, in which the data is collected based on a systematic review of the relationship between military expenditures and economic growth/development in studies undertaken by other authors or international organizations in the field.

Thus, the 895 primary studies identified as specific to the thematic approach obtained on a 10-year sample for countries belonging to NATO based on strict evaluation criteria were taken as the basis of analysis, using keywords expressed in English such as " military expenditures" or" military spending" or " defense spending" and "economic growth" or "government Spending" or "public expenditure" or "economic performance" or "investment" and "Nato".

In the second step of searching, we proceeded to evaluate the studies based on the complete information in the text using the criteria of validity, reliability, and applicability. The critical evaluation led to the inclusion of 101 representative case studies in which we found possible approaches on topics and in which the researchers present their opinions on foreign policy, representative analyzes on budgets, investments, economy, effects of fiscal policy and other issues related to state security, strategies and their impact on social and economic life.

The studies of the last years of the researchers have evaluated in time, thus we can notice the fact that in a sample of 101 works that publish systematic reviews, the impact of the military expenditures, security and national security on the economy, as well as the influence of the structure of the public expenses was mentioned in abstract (abstract) and body of text (full text), after their detailed and step-by-step verification, by the authors for 5% of the articles. Of the 101 possible papers to study, only a number of 5 studies actually highlight the correlation between ME and GDP in all the country's members NATO. The 9 studies not included in the analysis themselves can be considered negligible in our analysis, these reporting the effects of the government of some states, the general fiscal policies, the strategies and policies of the 18th century, the budget allocation modalities, the reforms implemented during the war/peace. / other political movements etc.

Thus, we noticed that a number of 5 articles attached major importance to the correlation of military expenditures and socio-economic development, highlighting their impact on investments, unemployment, social life, as well as influencing factors. Thus, a number of international initiatives are aimed at increasing the reliability and value of research literature, promoting transparency and accurate reporting of research studies in this field. The analysis considers the following criteria specific to our research objective: (1) a selection of NATO member countries, (2) a standardization of the information used in the comparative analysis; (3) structuring the results and data obtained; (4) evaluation of all the elements of the research models studied by critical comparison in the same period analyzed.

4. RESULTS AND DISCUSSIONS

The diagram of the workflow in our research study is represented by the information gathered in the different stages of the systematic review. It establishes information on the number of records identified in literature searches, the number of included and excluded studies, and the reasons for exclusions. In order to best exemplify the analysis steps in our study, we use the "Systematic Review" diagram to concretely observe how data were collected and selected. Thus we note in the considered study the bibliographic reference for our analysis a common methodology that combines a variety of methods input-output models, economic basic models, Keynesian regional multipliers, fixed effects estimators and approaches of case studies, inspired by geography, sociology and political science by the great researchers of the representative studies in this field.

Thus, we observe the first analysis of Dunne J. and Nikolaidou E. (2012). In his study, based on the Solow - Swan model, he highlighted the economic effects of military expenditures for the period 1961-2007 for a number of 15 EU member countries, of which 10 are NATO members. The existence of labor force fluctuations, investments, the allocated percentage of defense expenditures from GDP was considered. As can be seen from the analysis, the results are different, and there is heterogeneity in different cases, although for the majority it is noted a significant negative effect of military spending on the economy. A negative effect of military spending on the economy is observed in countries such as Denmark, France, Greece, Luxembourg, Portugal, Spain, and the United Kingdom. A positive effect was evident in his study in Belgium, Germany, and Italy. Overall, we conclude that the impact of military spending on the degree of economic development can be positive, negative or we can have results without any significant effect.

Another important analysis based on the variables mentioned above is performed by González N. et al. (2017). The study is related to the countries of the North Atlantic Treaty Organization and demonstrates the importance of a military alliance partnership, its positive effect on economic growth. Thus, we conclude the importance of the security and stability of a state and the positive correlation with the degree of economic and social development. The study was conducted for the period 1950-2014, addressed mainly to NATO member states. The results confirm that close and long-term cooperation with the alliance has increased the security of NATO members, and economic and social well-being and development are evident in these states.

Malizard J. (2012) studies the existence of a correlation between ME and GDP in France for the years 1960-2010. The results confirm the existence of a complex relationship and a two-way causality, which differs depending on the analysis periods. For a longer period, there was an impact on the positive temptation of the ME on GDP and the fact that most public investments are based on defense spending. Public investments are imperative for economic performance (Aschauer 1989). We can also mention here Barro (1991) who also analyzes the correlation between the two variables ME and GDP, also showing that the long-term effect of ME is positive on GDP and considers that these expenditures are some investments.

Yilgor M. et al (2012) also studies the relationship between ME and GDP in developed countries, based on the basic tests of the ADF and SURADF unit and the data for 1980-2007. The results showed that ME is an important factor in the economic development of a state, these having a positive impact on the economic development in the developed countries. The research study analyzed data from some NATO member states, including the USA, Germany, Belgium, Denmark, France, Holland, United Kingdom, Italy, Canada, Norway, and Portugal. As part of the analysis for NATO developed member countries between 1980 and 2007, it was observed that there is both an increase in the share of defense spending in the GDP of developed states and in absolute amounts. At the global level, it is observed that there is a real growth of the economy reflected by an increase in the investments and of the visible defense technologies, mainly in the developed countries.

Topcu M. and Aras I. (2013) carry out research in several countries between 1973-2010, the reported results being nonlinear for the analyzed states, finding that the end of the Cold War has a significant negative impact on defending the former countries of Eastern Europe. The results of the analysis show that the variables used by the researcher are cointegrated in Belgium, Denmark, France, Greece, Italy, the Netherlands, Spain, Sweden, and the United Kingdom. Thus, there is a two-way causal relationship between ME and GDP in Belgium, Italy, Spain and the United Kingdom. There is also a unidirectional causality in other states, such as France, the Netherlands, and Sweden, a causal relationship that states that ME directly influences GDP.

Thus, using the standard Granger causality test, it is concluded that there is a unidirectional causal relationship between GDP and ME for several countries analyzed, such as - Austria, Bulgaria, Hungary, Ireland, Poland and Portugal, economic development influencing largely the field of defense. In Germany, the results confirm a unidirectional causal relationship between the two variables, with military spending influencing economic development, and for Cyprus, Finland, Luxembourg, Malta, and Romania there was no significant causal relationship.

5. CONCLUSIONS

Due to the fact that the literature is very extensive, the research work offers different results. In the case of NATO member countries, the statistical data were analyzed between 2009-2018 with the help of the systematic review methodology, and the results suggested that ME can have such a positive effect on GDP for several states depending on the period in which they have become NATO members, by the dominant political-economic strategy, but there were also some cases in which the effect of ME on GDP is negative or there is no relation between these two variables.

The researches in this specific case included several barriers, one of them being the lack of recent literature on the studies of the own impact of the defense field on economic development. Another common problem in the elaboration of such specific research was the absence of statistical data on the economic indicators from different states in different periods. From an economic and social point of view, the analysis of the impact of military spending on economic growth in NATO member countries is considered useful and very important considering the specifics of each from the point of view of investments, of the period of integration of states in NATO, of the political involvement in coordination of economic development projects. Thus, research findings may be useful for the budgets of ministries and public institutions, as an increase in military spending could become one of the important pioneers in the financial market and economic development.

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Public economics

PUBLIC SECTOR PERFORMANCE ANALYSIS. CASE STUDY: THE EVOLUTION OF THE ROMANIAN PUBLIC SECTOR PERFORMANCE

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Abstract

This paper studies the evolution of the performance level of the public sector in Romania between 1998 and 2017. In this respect, we developed a composite index determined by aggregating several sub-indicators specific to important fields at the state level. The methodology employed in this study is Principal Component Analysis [PCA], and the data was collected from Eurostat, Worldwide Governance Indicators and World Bank. The results of the empirical analysis indicate strong variations in the public sector performance level without identifying a trend to increase this level over the period analyzed. As the results fail to emphasize an increasing trend of the performance, conclusions specify that it is influenced by legislative changes and electoral periods.

Keywords: *performance, public sector, Principal Component Analysis, Romania*

JEL Classification: D73, H49

1. INTRODUCTION

For the first time in the history of the country, in 2019, Romania holds the presidency of the Council of the European Union. Subsequent to this aspect, Romania must ensure the strategic achievement of Europe 2020 objectives, ensure Euro-Atlantic strategies and EU Member State commitments. A common point of all these goals and needs is to achieve a high level of performance in the public sector. In this context, it is necessary to identify the most efficient methods of measuring the performance of the public sector. Considering the size and complexity of the public sector, as well as its various functions and roles, measuring public sector performance is a complex and difficult task. However, this task is equally important for public decision-makers, citizens, and academia, and it is extremely important for setting up public policies at the state level. An exhaustive analysis of the specialized literature reveals multiple possibilities for measuring public sector performance and several international institutions that set the basis for this process. The public sector performance assessment must consider all the important areas and roles of the state.

This paper contributes to the specialized literature in the field with particular analysis on the public sector performance in Romania considering the most important domains from the state level by applying a macroeconomic approach.

The opportunity of the topic approached and its importance lies in the sustained process of our country to develop and reach the European average on the main socio-economic indicators. A limit of our research lies in the fact that the data set available allowed us to perform the analysis until 2017.

The paper is structured as follows: the first part contains an analysis of the specialized literature in the field of analysis of public sector performance and the concept of composite indices; the second part of the paper describes the methodology performed in the analysis; the results are presented in the third part of the paper and the conclusions of the study are described in the last part.

2. LITERATURE REVIEW

Investigation of specialized literature starts with the identification of the most important tools for quantifying the performance of the public sector. We anticipate the existence of a vast literature in this field of research, except for the particular situation of Romania. Thus, this paper represents a pioneering position in the performance analysis of the Romanian public sector.

Public sector performance assessment is always an important and up-to-date topic that raises the interest of the academic community. Performance analysis of the public sector is a process that requires the consideration of multiple fields and is of particular importance for several reasons. First of all, decision-makers and policy-makers need to know the current situation at the state performance level. The responsibility of state representatives towards citizens and the transparency of public information impose and allow citizens to know the level of performance in their country, calculated by exhaustive and objective economic methods. Another very important aspect that recommends the identification of methods for measuring the performance of the public sector is that only after identifying and analyzing the actual and real situation at the state performance level, measures can be established to increase performance and to improve the quality of life and the overall performance of the public sector. Thus, we identify various authors and international bodies that apply composite indicators to measure performance in the public sector. Saisana (2004) performs an analysis of the opportunity of using composite indicators in a study for the Joint Research Center and the European Commission. The advantages of using the composite indicators identified by the author are the ability to perform complex analyses on the performance and efficiency of states, the possibility of classifying or clustering the states according to the results indicated by the composite indicators, the determination of some performing states to act as a model for the states with reduced performance, and providing a realistic picture of the public sector to citizens. The most important drawback of using composite indicators is the sensitivity to the robustness of the database, which can lead to erroneous conclusions. In full agreement with the author, we also consider the selection of the sub-indicators as essential for the results of the analysis. Analysis of public sector performance should be done universally by all states, providing a comparison between states. Even though no approach is accepted by the entire scientific community, we focus our attention on the established works in the area of public sector performance analysis.

A popular contribution to the research area of public sector performance, which provides the basis for further research, is the work of Afonso et al. (2003, 2006, 2013). The authors' research is perpetual and always adapted to the peculiarities of the analysis periods. They consider seven important areas of study: "process" or "opportunity" indicators, such as (i) administration, (ii) education, (iii) health and (iv) public infrastructure outcomes, and the "Musgravian" tasks for the government consisting in (v) income distribution, (vi) economic stability and (vii) economic performance. Lobont et al. (2018) implements the model proposed by Afonso et al. (2006) and determines a composite index using the Principal Component Analysis methodology. With the help of the composite index, the authors analyze the performance of all EU states for 20 years, between 1995 and 2014. The results of the research indicate that the old European states have better results in the public sector than the new European states in the European Union.

Hudrliková (2013) employs the methodology of aggregating a set of indicators to verify the ability of European states to accomplish the strategic objectives of the European Commission on the Europe 2020 project. To this end, the author selects the following indicators for aggregating and determining a composite indicator: (i) Employment rate by gender, age group 20-64, (ii) Gross domestic expenditure on R&D, (iii) Greenhouse gas emissions, the base year 1990, (iv) Share of renewable energy in gross final energy consumption, (v) Early leavers from education and training, (vi) Tertiary educational achievement, age group 30-34, (vii) Population at risk of poverty or exclusion. The European Commission applies the Economic Sentiment indicator, obtained by aggregating five sectoral indicators: (i) Industrial confidence indicator, (ii) Services confidence indicator, (iii) Consumer confidence indicator, (iv) Retail trade confidence indicator. Annoni and Kozovska (2010), in a study for the European Commission, present a highly complex composite indicator performed by the European Commission, the Regional Competitiveness Index. This indicator is determined by the aggregation of three major groups of indicators: (i) the pillars institutions (institutions, macroeconomic stability, infrastructure, health, quality of primary and secondary education), (ii) efficiency pillars (iii) Innovation pillars (technological sophistication and innovation).

Since 1990, the United Nations defined and applied the Human Development Index, a composite indicator of three basic dimensions and four sub-indicators: (i) health (life expectancy), (ii) education (average years of schooling), (iii) living standards (gross national income per capita).

Mazziotta and Pareto (2013) highlight that the analysis of more complex phenomena can only be achieved using composite indicators and the most commonly used and appropriate methodology for determining composite indicators is Principal Component Analysis. Jollands et al. (2003) advocate the importance of using composite indices to perform more complex analyses. The authors also support the PCA as a highly effective aggregation method. They determine a composite indicator capable of analyzing environmental performance and efficiency by aggregating 14 sub-indicators. Thus, we find that the composite indicators can also be used in the analysis of the performance of certain components of the state.

Research of specialized literature has revealed multiple and distant approaches to defining and quantifying public sector performance. Furthermore, we have identified multiple indicators and sub-indicators used to determine performance. However, the concept of aggregation of sub-indicators is universally valid in all researches. An effective and complex methodology for determining a composite index by aggregating multiple sub-indicators or indicators is Principal Component Analysis.

3. METHODOLOGY

Considering the general research objective of analyzing the evolution of the performance of the Romanian public sector, we employ Afonso et al. (2006) to work as a research base. To determine the composite index of performance analysis of the public sector, we apply the Principal Component Analysis methodology.

Principal Component Analysis is a statistical procedure that performs an orthogonal transformation to convert a set of observations of variables possibly correlated to a set of values of uncorrelated variables called principal components. Developed by Pearson (1901), the Principal Component Analysis methodology originally presented a substitute for the main axis theorem in mechanics. Today, PCA is an extremely effective tool for determining predictive models and exploratory data analysis.

Considering a matrix of data, X, with n rows and p columns, PCA transforms a p-dimensional set of weight vectors $\mathbf{w}_{(\mathbf{k})} = (\mathbf{w}_1, \ldots \mathbf{w}_p)_{(\mathbf{k})}$ into a new set of vectors of main components $\mathbf{t}_\mathbf{i} = (\mathbf{t}_1, \ldots \mathbf{t}_\mathbf{m})_{(\mathrm{i})}$ with $\boldsymbol{t}_{k(i)} = \boldsymbol{x}_{(i)} \cdot \boldsymbol{w}_{(k)}$ so that individual variables from t of the data set comprise the maximum variation from x with each w vector, unit vector.

It can be noticed that the first vector $w_{(1)}$ satisfies the relation:

$$w_{(1)} = \underset{||w||=1}{\arg\max} \left\{\sum_i (t_1)^2_{(i)}\right\} = \underset{||w||=1}{\arg\max} \left\{\sum_i \left(x_{(i)} \cdot w\right)^2\right\} \tag{1}$$

Starting from equation (1) we can determine the equivalent as a matrix:

$$w_{(1)} = \underset{||w||=1}{\arg\max} \{||Xw||^2\} = \underset{||w||=1}{\arg\max} \{w^T X^T X w\} \tag{2}$$

Where $w_{(1)}$ is defined as a unit vector; we identify the next relationship

$$w_{(1)} = \arg\max \left\{\frac{w^T X^T X w}{w^T w}\right\} \tag{3}$$

The k component is determined by removing the first k-1 main components of X:

$$\widehat{X_k} = X - \sum_{s=1}^{k-1} X w_{(s)} w_{(s)}^T \tag{4}$$

Then, we identify the vector that removes the maximum variation from the new data matrix:

$$w_{(k)} = \underset{||w||=1}{\arg\max} \left\{\left|\left|\widehat{X_k} w\right|\right|^2\right\} = \arg\max \left\{\frac{w^T \hat{X}_k^T \widehat{X_k} w}{w^T w}\right\} \tag{5}$$

is proportional to the covariance matrix of the X data set, and the covariance Q between the two main components is:

$$\begin{aligned} Q\left(PC_{(j)}, PC_{(k)}\right) &\propto \left(Xw_{(j)}\right)^T \cdot \left(Xw_{(k)}\right) \\ &= w_{(j)}^T X^T X w_{(k)} \\ &= w_{(j)}^T \lambda_{(k)} w_{(k)} \\ &= \lambda_{(k)} w_{(j)}^T w_k \end{aligned} \tag{6}$$

Eigenvectors and w_i and w_k that correspond to the eigenvalues symmetric matrix are orthogonal.

The covariance matrix of the original variables can be thus written:

$$Q \propto X^T X = W \Lambda W^T \tag{7}$$

The covariance matrix between the two main components becomes:

$$W^T QW \propto W^T \Lambda W^T W = \Lambda \tag{8}$$

Where Λ is the eigenvalues orthogonal matrix $\lambda_{(k)}$ of

$$\mathbf{X^T X} \text{ și } \boldsymbol{\lambda}_{(\mathbf{k})} = \sum \mathbf{t}^2_{\mathbf{k(i)}} = \sum\left(\mathbf{x}_{(\mathbf{i})} \cdot \mathbf{w}_{(\mathbf{k})}\right)^2 \tag{9}$$

Considering the innovative work of Afonso et. al (2006) and, after them, Lobonț et al. (2018) we will assess the performance of the public sector by building a composite index based on seven relevant areas and 18 sub-sector indicators considered as resented in Table 1.

Table 1. Indicators structure by public sector domains

Domain/Area	Indicator	Source	Measurements units
Administration	Political stability and absence of violence	Worldwide Governance Indicators project	0 corresponds to the lowest rank and 100 corresponds to the highest rank
	Control of corruption	Worldwide Governance Indicators project	0 corresponds to the lowest rank and 100 corresponds to the highest rank
	Government effectiveness	Worldwide Governance Indicators project	0 corresponds to the lowest rank and 100 corresponds to the highest rank
	Regulatory quality	Worldwide Governance Indicators project	0 corresponds to the lowest rank and 100 corresponds to the highest rank
	Rule of law	Worldwide Governance Indicators project	0 corresponds to the lowest rank and 100 corresponds to the highest rank

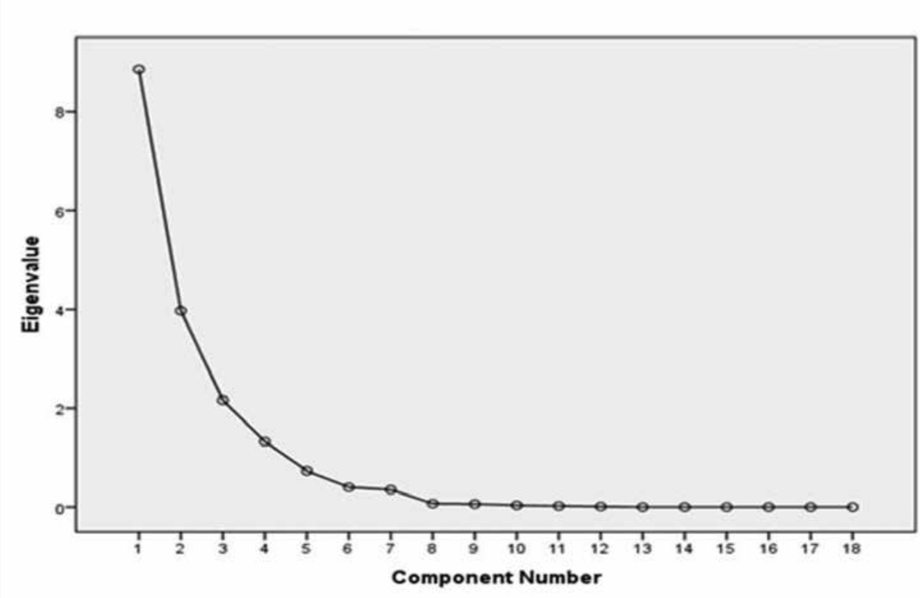
Domain/Area	Indicator	Source	Measurements units
Education	Early leavers from education and training	Eurostat	Percentage of population aged 18-24 years with no more than the lowest level of secondary education and who have left the educational process
	School enrolment lower secondary	Eurostat	Percentage%
	Quality of technology and science	Eurostat	Per 1 000 inhabitants aged between 20 and 29 years
Health	Life expectancy	Eurostat	Absolute numbers and gross ratios per 1000 of the average population.
	Infant mortality rate	Eurostat	Absolute numbers and gross ratios per 1000 of the average population.
Infrastructure	Electricity sources	World Bank	Percentage%
	Water sources	World Bank	Percentage%
Distribution	Gini Index	World Bank	Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.
Stability	Inflation	Eurostat	Annual%
	General government gross debt	Eurostat	% of GDP
Economic Performance	GDP growth rate	Eurostat	Annual%
	Unemployment	Eurostat	Annual%
	GDP per capita rate	Eurostat	Annual%

The composite index determination process is done through the Principal Component Analysis methodology using SPSS. The empirical analysis is done for the case of Romania for over 20 years (1998-2017). Data was collected from the National Institute of Statistics, World Bank, Eurostat and Worldwide Governance Indicators.

4. RESULTS

Data processing performing PCA methodology through SPSS software revealed the existence of four own values greater than 1, λ 1 = 7.878, λ 2 = 3.831, λ 3 = 2.990 and λ 4 = 1.614; therefore, the composite index model will contain four main components (Figure 1). Thus, by applying the extraction method of the main component analysis, we identified only four components of extraction sums of three-dimensional loads greater than 1. Each of them influences the result as follows: (i) the first component influences the result by 43.767%; (ii) the second component influences the result in a proportion of 21.284%; (iii) the third component influences the result in a proportion of 16.609%; (iv) and the last component influences the result of 8.966%.

Figure 1. Principal component analysis



Source: Author processing

Determining the matrix of the main components helps us determine the coefficient of every sub-indicator employed in the final form of the composite index (Table 2).

Table 2. Rotated Component Matrix

Variables	Components			
	1	2	3	4
1. Political stability and absence of violence				-0.810
2. Control of corruption	0.940			
3. Government effectiveness	0.638			
4. Regulatory quality	0.820			
5. Rule of law	0.758			

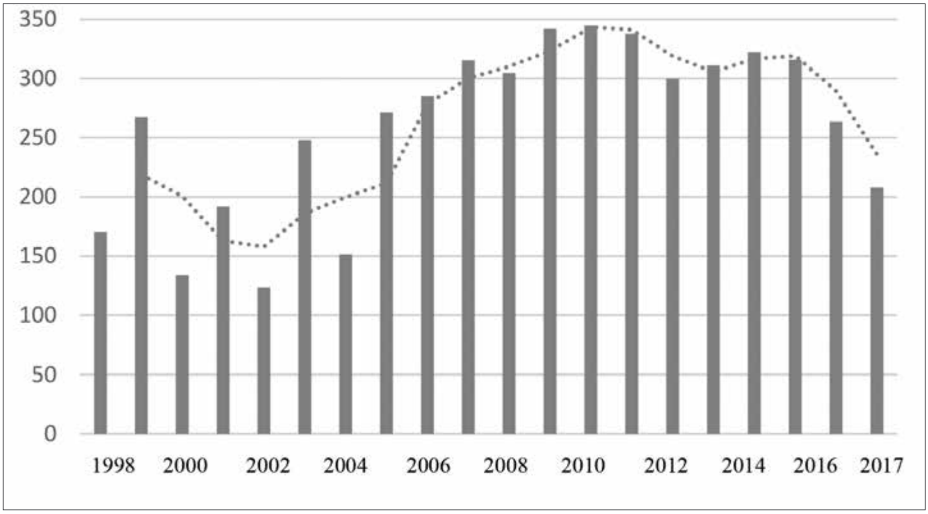
Variables	Components			
	1	2	3	4
6. Early leavers from education and training			0.783	
7. School enrolment lower secondary	-0.912			
8. Quality of technology and science				0.692
9. Life expectancy	0.925			
10. Infant mortality rate	-0.943			
11. Electricity sources		0.674		
12. Water sources	0.964			
13. Gini Index		0.811		
14. Inflation	-0.924			
15. General government gross debt		-0.798		
16. GDP growth rate		0.838		
17. Unemployment			0.943	
18. GDP per capita rate		0.835		

Extraction method: the Main component analysis.
Rotation: Varimax with Kaiser normalization.
a. Rotation converted to 10 iterations.

We obtain the following composite index for measuring the performance of the public sector: Public Sector Performance Index= (-0,810) * Political stability and absence of violence + 0,940 * Corruption control + 0,638 * Government efficiency + 0,820 * Quality of regulations + 0,758 * Rule of Law + 0,783 * Early school drop-out + (-0,912) Secondary school education + 0.692 * Technology and science + 0.925 * Life expectancy + (-0.943) * Infant mortality rate + 0.674 * Electricity sources + 0.964 * Water sources + 0.811 * Gini coefficient (-0.924) * Inflation + (-0,798) * General government debt + 0,838 * GDP growth + 0,943 * Unemployment + 0,835 * GDP per capita.

The result of the empirical analysis reveals strong variations in the calculated level of public sector performance from one year to the next (Figure 2).

Figure 2. Public Sector Performance level



Source: Author processing

We observe a very low level of public sector performance in the year 2000, which was an electoral year in which the ruling party has changed. Also, low values are recorded in 2002 and 2004. The year 2002 precedes the change of the Constitution in Romania, while the year 2004 was an election year in which, once again, the ruling party changed; besides, it was the first year in which the new constitution. We notice a trend of declining public sector paradigm level since 2014. This is due to political instability in recent years and the frequent changes of the parliamentary majority and governments.

5. CONCLUSIONS

This study explores the evolution of public sector performance in Romania. Assessing public sector performance turns out to be a complex and difficult task. A laborious study of the literature reveals multiple ways and tools to quantify performance in the public sector. Furthermore, we identify international bodies that support this process of performance analysis. Public sector performance assessment can only be done through composite indicators. There is no consensus at the level of the research environment on the selection of the sub-indicators forming the composite index. Principal Component Analysis proves to be an effective method for determining composite indices, often employed by international organizations that measure performance. The lack of a constant in the country's leadership project in Romania is evidenced by large variations in public sector performance scores. The values of the performance of the public sector in Romania over the period 1998-2017 do not point out an increasing trend, as results were influenced by legislative changes and election periods. This paper sets the basis for the adoption of efficient methods of performance evaluation in the public sector in Romania.

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VOLUNTARY ENTRY INTO THE VALUE-ADDED TAX SYSTEM

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Abstract

In the Republic of Croatia, micro and small businesses are faced with many difficulties when starting a business. In addition to administrative barriers, limited resources, conquering new markets and attracting new customers, micro and small businesses face numerous other challenges when starting a business. One of the challenges is entering into the value-added tax system. Entrepreneurs need to fully study all the essential components of the system, and upon that, they need to decide if the entry in the VAT system is financially profitable for them or not. There is no unique answer to which solution is better because this depends both on the circumstances and the type of the business itself. Any wrong decision can increase the tax burden even though this is not exclusive. It is very important to understand every essential component of voluntary entry into the value-added tax system in its entirety. Consequently, this paper aims to research the legal requirements, as well as the advantages and disadvantages of entering the value-added tax system, and to show the conclusions on the given topic. For the purposes of this paper, a research was conducted among taxpayers who had experience in value-added taxation, but also among entrepreneurs who are still unsure whether they want to enter the value-added tax *system on a voluntary basis. Based on the results of the research, recommendations were made for future research on value-added taxation.*

Keywords: *value-added tax, voluntary entry, micro and small business, the value-added tax system*

JEL Classification: H20, H25

1. INTRODUCTION

Considering that small business subjects are of great importance for the economy and present the main generators of employment and economic growth in the European Union (Nanić, 2013), as such, they also present a significant aspect of the Croatian economy considering the framework of taxation. Businesses that have deliveries of goods or services performed below the threshold stipulated by the Law on Value-Added Tax (Official Gazette 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121 / 2019) have the right to opt for a voluntary entry into the system of value-added taxation, and in accordance with the Ordinance on value-added tax (OG 79/2013, 85/2013, 160/2013, 35/2014, 157/2014, 130/2015, 115/2016, 1/2017, 41/2017, 128/2017, 106/2018, 1/2019, 1/2020) in case of higher value deliveries above the prescribed threshold, the entry is conditioned by law. Upon starting the business, it is important to make crucial decisions that will impact the course of the business in the future. One of those decisions is precisely the decision of voluntary entry into the value-added tax system (hereinafter referred to as the VAT system).

"In more than two decades since the establishment of the Republic of Croatia, there have been many changes in laws and by-laws" (Bedeković et al., 2019, p. 1276), which surely does not speak in favor of the economic activity of business subjects. The tax reform that began in 2016 sought to influence the reduction of the overall tax burden, to achieve a stable, sustainable and simple tax system, a socially fairer tax system, simpler and cheaper tax administration, and better legal certainty for taxpayers. Each tax reform strives to accomplish certain goals, so the last, fourth tax reform from January 1, 2020, continues to focus on taxpayer tax relief (Ministry of Finance, 2019).

Value-added tax is one of the most generous taxes in the budget of the Republic of Croatia and it is a tax collected by the widest circle of taxpayers (Sopek, 2012), which gives the value-added tax significance as a tax form, but also actuality due to frequent changes in legal regulations. The first part of this work highlights the theoretical framework of value-added taxation with reference to the tax reform. The second part of the work deals with the advantages and disadvantages of entering the VAT system, while the third part focuses on the research conducted through an in-depth interview with small business owners that have voluntarily entered the value-added taxation system, which substantiates the theoretical part of the work with direct examples from practice.

2. THEORETICAL BASIS OF THE VALUE-ADDED TAXATION SYSTEM WITH REVIEW OF THE TAX REFORM

Like the majority of other transition countries at the beginning of the 1990s, Croatia also began its tax reform. The independence of the state and the need for a new market-oriented system aligned with the tax systems of other developed countries certainly had an impact, too (Sopek, 2012). The same leads to the fact that "every tax system is subject to changes that seek to achieve greater efficiency and simplicity in tax collection" (Bedeković et al., 2019, p. 1275). The Law on Value-Added Tax (OG 47/95, 106/96, 164/98, 105/99, 54/00, 73/00, 127/00, 86/01, 48/04, 82/04, 90 / 05, 76/07, 87/09, 94/09, 22/12 and 136/12) was adopted in July 1995, but its application was delayed until January 1, 1998. It was assumed that the introduction of VAT would have an inflationary effect. However, it caused a one-time increase in prices that was already stabilized after the first quarter (Sopek, 2012; Šimunović & Deskar-Škrbić, 2016). Rosen & Gayer (2010) and Šimurina et al. (2018) define value-added tax as the tax in the percentage of the value-added that is charged at each stage of production. The same authors state that it is a tax that only taxes the value-added that an entrepreneur adds to inputs prior to the sale, where value-added is the difference between the value of sales of goods or services produced and the value of goods and services purchased in the production of goods and services.

Roller (2013), in accordance with the Law on Value-Added Tax (OG 73/2013, 99/2013, 148/2013, 153/2013), points out that taxpayers of value-added taxes in the Republic of Croatia are defined as persons who independently perform any economic activity regardless of the purpose and the result of performing that activity, while Šimurina et al. (2018) defines the said persons as legal and natural persons whose annual value of deliveries of products and services exceeds HRK 300,000, importers who import goods and exporters who have not exported products under certain regulations. Cinotti et al. (2015) points that public authorities, state administration bodies, and bodies and units of local and regional self-government are also considered value-added taxpayers in situations where they carry out certain activities, which in the case of non-taxation would violate the principle of competition unless the same transactions are carried out to a negligible extent. However, Markota et al. (2015) add that the mentioned bodies are not considered taxpayers if they carry out tasks within their scope of authority.

One of the more common questions is the question of the amount of basis on which VAT is to be paid. A fee, that is, whatever the supplier has received or should receive from the customer or another person for those deliveries may be given as a response that would cover 99% of business events – of course – in the case of deliveries that are within the taxpayer's economic activities (Cinotti et al., 2015). According to the Law on Value-Added Tax (Art. 33 para. 1, OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121/2019), the basis for the delivery of goods and services is a fee that makes up all that the supplier has received or should receive from the customer or another person for deliveries, including subsidies directly related to the price of the goods or services delivered.

In the Republic of Croatia a subject to taxation is the supply of goods for remuneration in the territory of a member state or the territory of Croatia itself by a taxpayer acting as such, as well as the acquisition of goods domestically for a fee within the European Union by a taxpayer (unless the taxpayer is exempt from VAT in accordance with regulations); provision of services abroad for a fee and import of goods into the territory of the European Union (Cipek et al., 2013; Roller, 2013; Cinotti et al., 2015); Law on Value-Added Tax, Art. 4 (1) 1 - 4, OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121/2019). According to the Law on Valued-Added Tax (Art. 30, Parag. 1, OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121/2019), taxable events are events on the basis of which the legal conditions necessary for the occurrence of VAT calculation are fulfilled, i.e. taxable events and liabilities that arise when goods are delivered or services rendered.

In accordance with the Law on Value-Added Tax (Art. 38 paragraphs 1 - 3, OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018,) and the latest Amendments to the Law on Value-Added Tax (OG 121/19), the Tax Administration (2020) and Croatian Chamber of Trades and Crafts (2020) point out that in the Republic of Croatia VAT is calculated and paid at the rate of 25% and at reduced rates of 13% and 5%. The Croatian Chamber of Economy (2012) points out that VAT revenues depend largely on the state of economic activity. Thus, at a time when economic activity is slower, revenue from its tax collection will also decline and vice versa. Moreover, an increase in the VAT rate can cause a rise in the price of products or services and consequently a decrease in economic activity, as it increases costs and delays or reduces consumption. Lower prices, zero rates or tax exemptions can also affect the price reduction of a product or service. In the same way, investment, consumption, employment and GDP can also be affected. However, such systems also have their disadvantages since the application of reduced rates does not signify a reduction in social disparities as well, because reduced rates also benefit the wealthier. On the contrary, higher rates make buying luxurious products more difficult for the poorer.

The goal and purpose of any tax system should be to maximize revenue to finance public expenditure in the most efficient way possible while ensuring that taxpayers are as equitable as possible (Sopek, 2012). As of January 1, 2020, certain tax changes have come into force under the 4th round of tax relief. By amending the legislation, the legislator seeks to additionally unburden entrepreneurs and create an enabling environment for entrepreneurship, as well as to stop the outflow of highly educated young workers from the Republic of Croatia (Mahović Komljenović, 2019). Changes that occurred in the period from 2016 to 2020 have greatly affected the tax and administrative burden, and the most recent changes under the 4th tax reform are shown in Table 1.

Table 1. Some changes to tax regulations applicable since 01/01/2020

Tax institute	Description
General VAT rate	The provisions for reducing the rate to 24% have been deleted, leaving the general VAT rate at 25% after 1 January 2020.
VAT registered	If the value of supplies of goods or services exceeds the amount prescribed by Article 90, paragraph 1 of the Law on Value-Added Tax (OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115 / 2016, 106/2018, 121/2019), and the taxpayer did not register it in the register of VAT taxpayers, the Tax Administration registers it ex officio upon which a decision is issued, and the appeal does not delay the execution of the decision.
Rate of 13%	The reduced rate of 13% also extends to preparing and serving meals and desserts inside and outside catering establishments according to the Law on Catering Industry (OG 85/2015, 121/2016, 99/2018, 25/2019, 98/2019). However, this reduced rate does not apply to the preparation and serving of beverages and drinks, but it applies to the holders of phonogram rights.
Knjiga U-RA	The new directives clarify that the U-RA Book is to be submitted with the VAT Form only for the taxation period for which the VAT tax return is indicated in item III.1., III.2., And / or III.3., or the taxpayer entered in the register of VAT taxpayers, with VAT returns, submits special records on received invoices for the taxation period.
VAT calculation according to the fees collected	According to new changes, the threshold for VAT calculation has been increased from the previous HRK 3,000,000 to HRK 7,500,000 excluding VAT.

Source: Adjusted according to Croatian Association of Accountants and Financial Officials (2019): Review of tax changes applicable from January 1, 2020[1]; Law on Amendments to the Law on Value-Added Tax (OG 121/2019); Mahović Komljenović, M. (2019). Expected legislative changes as of January 1, 2020, in Round 4 of the Tax Reform, Accounting and Taxes in Practice, No. 12/19, p. 14-21; Markota, Lj. (2020). Novelties in VAT Regulations, January 1, 2020, Accounting, Auditing and Finance, No. 1, p. 77-87 and Baica, N. (2020). VAT taxation newspaper. Accounting and Taxes in Practice, No. 1/20, p. 15-20; Ordinance on amendments to the Ordinance on value-added tax, OG 1/2020.

3. ADVANTAGES AND DISADVANTAGES OF VOLUNTARY ENTRY INTO THE VALUE-ADDED TAX SYSTEM

Upon starting a business, entrepreneurs and craftsmen are faced with making various business decisions that greatly affect the business itself. One such decision is the decision of entering the value-added tax system. This decision is quite complex and, of course, like many other business decisions, has its positive, as well as negative effects.

[1] Croatian Association of Accountants and Financial Officials (2019): An Overview of Changes in Tax Regulations Applicable as of January 1, 2020 [available at: https://www.rif.hr/pregled-izmjena-poreznih-propisa-primjenjivih-od-01-sijecnja-2020/ access February 06, 2020]

When it comes to VAT exemptions in the Croatian tax system, there are no major deviations from the European practice. One of the most important exemptions refers to small businesses and craftsmen and their status in relation to the VAT system. In the period since the introduction of VAT in Croatia until 2012, the threshold for mandatory entry into the system was HRK 85,000. In 2013, the threshold was increased to HRK 230,000 (Šimunović & Deskar-Škrbić, 2016; Tax Administration, 2020; Value Added Tax Act, OG 73/2013), and in 2017, the entry threshold was increased to HRK 300,000. The same threshold for entering the register of value-added taxpayers also applies in 2020 (Law on Amendments to the Value-Added Tax Act, OG 115/2016). In accordance with the Law on Value-Added Tax (Art. 90 (1), OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121 / 2019) small taxpayers are legal entities with their headquarters or permanent establishments, i.e. natural persons with permanent or temporary residence within the country, whose value of goods delivered in the current or previous year did not exceed HRK 300,000. Cinotti et al. (2015) and Markota (2019) state that the mentioned subjects are not obliged to pay VAT, i.e. they are not obliged to keep additional documentation, to charge VAT in the price of a product or service, they do not have to show VAT on their invoice and are not entitled to deduct tax. However, regardless of the turnover realized, many entrepreneurs and craftsmen who are not obliged to pay VAT, or those who have achieved a turnover below the prescribed threshold, decide to enter the value-added tax system for the purpose of obtaining a refund of input taxes paid for input production and service factors. The right to tax deduction presents a foundation upon which the value-added tax system rests. In accordance with Art. 58 (1) of the Value-Added Tax Act (OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121/2019) the rule applies that the taxpayer is entitled to deduct the amount of VAT, i.e. the pre-tax from the VAT, which he is obliged to pay or has paid in the country for the supplies of goods or services made by other taxpayers for the purposes of his taxable transactions. Šimurina et al. (2018) point out that the pre-tax represents the amount of value-added tax paid by the taxpayer to the supplier for the price of the inputs delivered, which the taxpayer is entitled to deduct from the value-added tax from his output. This difference represents the final tax liability of the taxpayer and the said taxpayer is obliged to pay this difference to the tax administration.

When the entrance to the system is conditioned by a legal obligation, we are talking about an entry by the force of law. However, in case there is no legal obligation, we are talking about a voluntary entry, i.e. an entry at own request by filing an Application for Enrollment. Thus, if the taxpayer exceeds the threshold of HRK 300,000, he is obliged to enter the system from day 1 of the next month following the month in which the taxpayer received deliveries above the prescribed threshold. If the taxpayer voluntarily enters the Registry of value-added taxpayers, he/she may enter it at any time during the business year and is obliged to remain in the mentioned registry over the course of at least three calendar years. The taxpayer should report the entitled tax office of his/her decision to enter the VAT system. The taxpayer submits the application for registering in the VAT system electronically to the entitled office of the Tax Administration, depending on his/her place of permanent or temporary residence or the location of the headquarters of his/her company. If the Tax Administration fails to issue a decision not to approve the VAT system within eight days, the request is considered to have been approved. Upon entering the VAT system, the taxpayer is required to calculate the VAT on his/her taxable deliveries as well as the right to use the tax prepayment on the supplier's invoices. Entering the VAT system also obliges taxpayers to assemble monthly or quarterly VAT calculations using the prescribed VAT form (Zuber, 2019). After entering the system, the vast majority of regular taxpayers have a greater obligation of paying VAT than when they operated as small taxpayers. It is very likely that such taxpayers will first take the opportunity to exit the VAT system, which occurs once a year, when the prescribed conditions are met (Baica, 2019). The threshold of HRK 300,000 also applies to exit the VAT system. A taxpayer who entered the system by force of law and who had a lower value of supplies of goods and services without VAT than the prescribed threshold in the previous year has the opportunity to submit a request to exit the VAT system, which must be submitted no later than January 15, 2020. The "voluntary" taxpayer may exit the VAT system if he/she has made taxable deliveries of goods or services in the amount of less than HRK 300,000 in the previous year, irrespective of whether they have been in business for a full year or just a few months, and regardless of deliveries being charged or not – in a situation where, at the prescribed delivery threshold, the taxpayer has fulfilled the condition of expiry which obliged him/her to be in the system for at least three calendar years. If taxpayers do not apply for exiting the VAT system, they remain within the system, but the said decision does not oblige them to stay in the system for the next three years. This means that if the taxpayer does not submit the Deletion Request, the Tax Administration will conclude that the taxpayer still wants to remain in the system regardless of the turnover. It is also important to note that if a taxpayer fulfills all the conditions for exiting the VAT system, he has an obligation to declare that he wishes to remain in the value-added tax system voluntarily (Baica, 2017; Baica, 2019; Markota, 2019; Ordinance on value-added tax, Article 186 (9), OG 79/2013, 85/2013, 160/2013, 35/2014, 157/2014, 130/2015, 115/2016, 1/2017, 41 / 2017, 128/2017, 106/2018, 1/2019, 1/2020). In order for the taxpayer to know how to exit the system, a crucial element is to know which way he entered the system in the first place. As can be concluded, taxpayers who entered the VAT system by the force of Law have distinct conditions for exiting the system from the taxpayers who entered the system voluntarily (Baica, 2019).

In cases where the taxpayer has calculated the VAT before the transfer according to the deliveries made, the deliveries made before the transfer are not taxed after the transition or exit from the VAT system. In the case where the taxpayer was calculating the VAT before the transition, the invoices that were made but not paid before the transition or exit from the VAT system are included in the VAT return filed for the last tax period (Markota, 2019), where the taxpayer must make all adjustments and corrections for that calendar year (pursuant to Article 85, paragraph 7 of the Value-Added Tax Act, OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121/2019). The aforementioned correction refers to the pre-tax, i.e. the correction of the pre-tax, which the taxpayer is required to show in the VAT Form and submit by January 20, 2020, except in situations where the correction period has not expired. Thus, when crossing the VAT system, taxpayers must be cautious to ensure that certain deliveries do not remain untaxed or double taxed (Baica, 2019; Markota, 2019).

Considering the options for calculating the VAT, there are two options. The first option indicates a situation where the VAT charged from the supplier's account is higher than the VAT calculated by the taxpayer, where the amount of tax is credited to the taxpayer as an advance payment by the tax administration for the next tax period, i.e. the taxpayer is entitled to a return on the invoice surplus. On the other hand, the second option would be when the VAT charged on the supplier's invoices is less than the taxpayer's calculated VAT and in this situation, the taxpayer would pay the value-added tax (Šimurina et al., 2018). In accordance with the Law on Value-Added Tax and the Law on Amendments to the Law on Value-Added Tax (OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115/2016, 106/2018, 121/2019) the taxpayers whose value of supplies of goods and services did not exceed HRK 7,500,000 without VAT were allowed the right to apply the procedure of taxation at the collected fees.

Prior to entering the VAT system, the taxpayers should make a good effort in studying all obligations and expenditures, i.e. numerous advantages and disadvantages of entering the system. When entering the VAT system, the taxpayers should take into account all the expenditures for fulfilling the tax obligation, primarily the cost of maintaining books of business, which is by no means negligible for small businesses or craftsmen. The registration of numerous business subjects with a small scope of business and smaller tax incomes mean higher administrative expenditures for the state. Therefore, taxing authorities should beware of the determination of the entry threshold for entering the system. Creating the most favorable relationship between tax abundance and the simplicity of the tax system is a very demanding task (Šimurina et al., 2018; Law on Value-Added Tax (OG 73/2013, 99/2013, 148/2013, 153/2013, 143/2014, 115 / 2016, 106/2018, 121/2019); Bejaković, 2016). The tax reform that came into force as of January 1, 2018, therefore sought to influence precisely the administrative relief in form of an increase of the threshold for entering the VAT system, when the threshold was raised from HRK 230,000 to HRK 300,000 (Ministry of Finance, 2019). One of the advantages of entering the VAT system is the possibility of deducting input tax. If a business entity does not plan to invest significantly at the beginning of its business, it is not necessary to immediately enter the VAT system. On the other hand, if the business entity plans significant investment for which he will receive VAT invoices, the entry into the VAT system will certainly be worthwhile. Otherwise, if the entity is not in the system, it will not be able to grant the VAT, i.e. to deduct input tax. If the business owner is not in the VAT system, the delivery of goods and services is 25% less costly for the end consumer. However, when the business owner purchases inputs, their price is 25% more expensive, because the VAT does not represent a deductible item. The main disadvantage of entering the VAT system is the higher price, that is, the price of end products is 25% higher, which is not a problem for legal entities because they can deduct it as a pre-tax. Another disadvantage is are more expensive accounting services because the business owner is obliged to calculate VAT and has many other obligations related to it. The decision of entering the VAT system is considered as complex as deciding about the model of business registration. If it is a business entity that engages in a service activity and does not have a lot of input bills and therefore no VAT for the deduction, it is very likely that it would not be profitable for the business entity to be in the VAT system. In any case, it is necessary to assess the need for the acquisition of assets at the very beginning of the business, because if a larger acquisition is required and the business entity is not in the system, the entity will not be able to deduct the input tax (Šimleša Vondrak, 2020; Center for Entrepreneurship Osijek, 2020).

4. RESEARCH ON ATTITUDES OF CRAFTSMEN ON TAXATION BY MEANS OF VALUE-ADDED TAX AND RECOMMENDATIONS FOR FUTURE RESEARCH

The primary research was conducted on a selected sample of N=four subjects. Data on attitudes of craftsmen and entrepreneurs on taxation by means of value-added tax were collected through qualitative research and an in-depth interview technique called the "face to face" method. Each subject was presented by 11 structured open-type questions which were defined prior to the interview and posed according to a previously established plan which examined the views of business owners on the topic of value-added tax system, its advantages and disadvantages, what impact the entry to the VAT system had on their business, i.e. how the exit from the system would affect their business and the questions alike. The duration of interviews differed from subject to subject, but on average approximately 60 minutes per interview was required to obtain quality responses to the questions posed. All interviews were conducted during February of 2020.

The first respondent was a business entity with limited liability for photography and services whose primary activity under the NKD (Nacionalna klasifikacija djelatnosti = National activity classification) is under the number 74,20 – photographic activities. The business entity is registered as a micro-enterprise and employs one person. The business was established in 2012 and is based in Virovitica. The mentioned business entity is not entered in the VAT register because it is not obliged to become one. Also, this business subject did not decide to voluntarily enter the VAT system because the owner believes that the business would lose some of its clients and become less competitive in the market by automatically increasing their prices by 25%. The decision-making process for entering the VAT system was conducted in such a way that the company analyzed the advantages and disadvantages, and came to the conclusion that entering the VAT system would have more negative than positive effects for the company. The said enterprise does not have to become a taxpayer, as the value of the supplies and services provided by the enterprise does not exceed the threshold of HRK 300,000.00, and since the business does not require high values in invoice accounts, i.e. the value of the purchased means and materials necessary for the work is not significantly high, so the owner decided not to enter the VAT system. In terms of business awareness, the owner pointed out that she had many years of experience working with entrepreneurs and was thus well informed of the advantages and disadvantages of entering the VAT system, which has greatly helped her to make the decision for her own business. As stated earlier, the owner considers that there are more disadvantages of entering the VAT system when it comes to her business. She stated that entering the VAT system would result in an automatic rise of 25% in the price of services, which would pose a great risk of reduced turnover and the appearance of uncompetitiveness in the market. Service prices were adjusted to those of the competition so she is of an opinion that the increase in prices would lead to her loss of clients. Moreover, she pointed that in case she needed to purchase certain equipment of higher value, she would still decide against entering the VAT system because she concludes that entering the VAT system would not be lucrative taking into consideration her business in the long term. However, if her business were to depend on the constant procurement of more expensive equipment and materials for work, then she would very likely decide to enter the VAT system. From all the above-mentioned facts, it can be concluded that the entry into the VAT system has more disadvantages than advantages for this type of business. When it comes to exiting the VAT system, the business owner has no experience with such a case. In her opinion, the biggest advantage of entering the VAT system would be a deduction of 25% of the price of purchased goods, equipment, etc., but only in cases where the company purchases more the equipment that is more expensive or when it can afford to increase prices by 25%. On the other hand, the biggest drawback is the increase in prices, which is not acceptable for their business and competitive environment. With regard to changes in the VAT, the respondent considers that reducing the tax rate would certainly have a positive effect on entrepreneurs. She also noted that frequent changes to legal regulations have a negative and disincentive effect on entrepreneurs and herself and stated that this hindered her decision-making process.

The second respondent is in the sales business and is registered as a private limited company. According to its size, the said business falls into the category of micro-companies and it employs one person. The primary activity of this company according to NKD is 47.41, which means the retail sale of computers, peripherals, and software in specialized stores. This business subject entered the VAT system and the owner decided to enter the Register voluntarily. This business entity made the decision of entering the VAT system at the recommendation of his accountant, and the reason for entering was tax deduction, but also to keep the partners with whom he cooperated in the way of issuing invoices with the expressed VAT, which also enables the partners to deduct the tax. Before entering the VAT system, the said entrepreneur was not sufficiently informed of the advantages and disadvantages of the VAT system and indicates that he would not have been able to make the right decision on his own without the help of his accountant. He certainly believes that entering the VAT system has more advantages than disadvantages for his business and points out that he has no intention of exiting the system because he feels this would have a negative impact on his business. According to him, one of the advantages of joining the system is the possibility of deducting input tax, which is extremely important to him in his business, given the nature of the business, while the disadvantage is more expensive accounting services. Unlike the time when he was not registered in the VAT system, he now has the obligation to keep U-RA / I-RA books and to calculate and pay VAT. What he would change in the value-added tax system is certainly the rate he considers to be high and feels that its reduction would encourage the development of entrepreneurship. He is also convinced that frequent changes to legal regulations have a negative impact on entrepreneurs and points out that an entrepreneur cannot keep up with the changes and amendments to legal regulations alongside his regular business operations. The said entrepreneur generally considers the VAT system to be extremely complicated and states that he had a problem with making business decisions without professional help.

The third respondent is the owner of a catering business based in Virovitica, whose primary activity according to the NKD is 56.10 - Restaurants and mobile food service activities. The business currently employs 6 persons and was established in 2017. As of 2018, the said business has been subject to the VAT and has been entered into the taxpayer registry by force of law, which implies a value of deliveries in excess of HRK 300,000.00. The owner stated that he had consulted with an accountant before launching the entrepreneurial venture and was briefed on all the advantages and disadvantages of the value-added tax system, but since he became a taxpayer by force law, he did not have to make the decision of entering the VAT system on his own. He is of the opinion that the entrance into the VAT system brings his business a greater number of disadvantages than advantages and feels that exiting the system would greatly facilitate his business. He pointed out that in his case, the deduction of input tax does not play an important role and thus cannot point to any advantage of entering the VAT system. According to him, the biggest drawback is certainly the high rate at which value-added tax is levied. However, he welcomes the reduction of the VAT rate on serving meals and desserts to 13% but resents the retention rate of 25% for serving beverages. He believes that this does not encourage the entire hospitality industry, but only restaurants whose primary activity is the preparation and serving of food. In the end, he concluded that frequent changes to legislation relating to value-added tax have a negative impact on entrepreneurs as well as himself but acknowledges that such changes do not greatly affect decision-making for his business entity.

The final respondent to participate in the survey was the owner of a trade and accounting business whose activities are registered according to the NKD 69.20 - Accounting, bookkeeping, and auditing activities; tax consulting. The business was established in 2003 and there are no employees. The business subject is registered in the VAT Registry and he entered the system voluntarily. More specifically, he stated that his decision was conditioned by trade and agriculture production, which reduced the production costs by input tax. Taking into consideration the nature of his business, as well as the literature available to him along with educations, seminars and other available sources, the entrepreneur stated that he was well-informed of the advantages and disadvantages of entering the VAT system. Another important fact is that the said business subject does his bookkeeping on his own. When it comes to the advantages and disadvantages of entering the VAT system, he believes that entering the VAT system certainly brings more advantages than disadvantages for his business, and the reason lies in the fact that inputs related to production represent a lower cost for the business. In other words, they affect the overall depreciation of production, which ultimately signifies greater competitiveness in the market. In contrast, leaving the VAT system would have many more disadvantages than good sides. According to him, the biggest advantage of entering the VAT system is the cheaper agricultural production, since the VAT paid on input bills is deducted as a pre-tax and does not enter the cost of production. He also pointed out that the biggest drawback of entering the system is that there must be a cash flow for the amount of VAT, which causes reduced liquidity for the amount of VAT in paid invoices. The owner sees the possibility of improvement in the form of value-added taxation through the equalization of the VAT calculation procedure with businesses within the members of the EU, which would mean the simultaneous recognition of both VAT prepayment and liabilities without the involvement of funds. In the end, the respondent stated the opinion that frequent changes to legal regulations relating to value-added tax had a detrimental effect on most businesses but he also stated that they did not have a particular impact on decision-making when it came to his business.

5. CONCLUSION

Based on the analysis of the value-added tax system as well as the research conducted, it can be concluded that the main advantage of entering the VAT system is the possibility of deducting the input tax on invoices, which makes the production of goods or services, and therefore their output lower in price and thus, of course, affects their competitiveness in the market. A disadvantage of entering the VAT system is the high costs of bookkeeping services, since, when entering the VAT system, the taxpayers are obliged to keep additional books of account and to calculate and pay VAT on a monthly or quarterly basis. The respondents consider the taxation rate too high and a disincentive for entrepreneurship. Moreover, the majority of respondents consider frequent changes in legal regulations related to value-added tax to be deficient and impossible to track along with keeping the business. Based on the research, it can be concluded that the owners of the businesses that took part in the research were well-informed about the advantages and disadvantages of the value-added tax in terms of their businesses prior to making the decision of entering the system. They have collected the information through various seminars and training or were provided with the needed information by the experts in the field.

The respondents also stated that for certain businesses that do not require too much investment inexpensive equipment, it was more lucrative to stay out of the VAT system because they could base their competitiveness on a 25% lower price than others since they are not obliged to express VAT in their output accounts, but they pointed the inability to deduct input tax as one of the drawbacks. On the other hand, in production businesses where it is necessary to invest in expensive equipment, the owners pointed out that it was more cost-effective to be in the VAT system because cheaper output might be affected by the possibility of deducting input tax. Once business owners decide to voluntarily enter the VAT system, they are obliged to remain in the same system for at least three calendar years. It is therefore important to carefully consider, given the type of business activity, under which circumstances the entry into the VAT system would be profitable and in which situations it would bring more disadvantages than advantages. When the entry into the VAT system is conditioned by the force of law for certain activities, this may present more disadvantages than benefits.

Given that the value-added tax system is a fairly topical issue that almost every business entity faces, more research should be conducted on a larger number of respondents to determine the respondents' views on entering the value-added tax system on a voluntary basis.

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RELATIONSHIP OF STUDENTS 'MIGRATION INTENTS AND SCIENTIFIC FIELD OF STUDY IN PROFESSIONAL STUDIES

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Abstract

The Republic of Croatia faces an increased emigration of its population. Since 2013 the emigration of the highly educated young population has been a particular problem. It is necessary to continually explore this phenomenon with different groups of people to identify the key factors contributing to migration and to influence them through public policies. This paper aims to provide an overview of past research since 2013 and to identify the correlation of migration intentions of final year undergraduate students concerning scientific fields of study. Students in the social, technical, and biotechnical fields of science (STEM area) were selected. An anonymous online survey examined the attitudes of students in their final years of study towards the factors for emigration and their attitude towards education.

According to previous research, the push factors for migration are more important for the less educated workforce and the attractive factors are more important for the highly educated workforce. The results of the research can help *policymakers to design policies that will be more effective in creating conditions for young and highly educated people to stay in a country that has invested financial resources in their education and to develop careers in their country of origin. The survey was conducted at one local higher education institution, which is a limitation and it is recommended that similar research be conducted on a larger sample of respondents and at several different higher education institutions.*

Keywords: *Emigration, students, highly educated young population, scientific field*

JEL Classification: I21, I29

1. INTRODUCTION

Every country faces the problem of unemployment, and it particularly concerns the unemployment of young people, who are significant human capital and are the driving force that is, stimulate the growth and development of a country.

Unemployment is a sociological and economic category that causes negative phenomena in the development of a country's economy. The unemployment rate is inversely proportional to the level of economic development. Unemployment is caused by a mismatch of supply and demand in the labor market.

Unemployment is a problem for an individual when he/she is unable to turn his / her work into money with which he/she can continue to provide for his / her existence, and to provide the goods needed to maintain a dignified life. Because of the above, the unemployed person is faced with extreme stress, and this situation is considered to be hopeless, which calls into question their life survival.

In recent years, youth unemployment has been a particular problem in Croatia. Compared to other EU countries, Croatia is at the top in terms of the number of unemployed young people. We conclude that the demand for jobs is far higher than the current supply in recent years. This causes discouragement for young people, and part of them prolongs their educational cycle until a part of young people is present in either the education system or the labor market. The popular abbreviation NEET describes young people who are not present anywhere - Not in Education, Employment or Training.

Also in recent years, there has been an increasing presence of emigration for young people who are "moving their bellies" to developed European countries, seeking their careers and livelihoods beyond the borders of their homeland. With Croatia's accession to the European Union and the disappearance of borders, the relocation process has been simplified.

After the accession of the Republic of Croatia to the European Union, the problem of emigration of the population from the Republic of Croatia is growing, especially when it comes to brain drain, which characterizes the migration of young highly educated professionals from their home country where they were born and graduated. Research throughout history has shown that Croatia has traditionally been an ex-pat country, with migration occurring in several major waves. The negative migration balance has been present since 2009 and is growing steadily. The causes of migration may be political, economic or a combination of the above causes. Among the economic causes of migration is the inability to work permanently, low wages, long-term employment, a negative entrepreneurial climate, rising unemployment and falling living standards. These economic considerations are the most common driving factors in the decision to leave the country temporarily or permanently.

1.1. Methodology of survey

The survey was conducted during January 2020 at a higher education institution. The institution is located in the area of eastern Croatia. There are studies in three different fields of study: social-scientific field, biotechnological and technical-scientific field.

For the purposes of this research, the biotechnological and technical fields have been combined together under the name STEM area.

The survey was conducted through an online survey, the participants voluntarily participated in the survey, the anonymity of the respondents was ensured. A number of research participants: 89. Data were processed in the SPSS program. Descriptive statistics were used to describe the sample (sex, scientific field). The answers given by the respondents were measured by a Likert scale from 1 to 5 (1-disagree at all, 2-disagree, 3-cannot agree or disagree, 4-mostly agree, 5-completely agree).

The Shapiro Wilks test was used to test the normality of the distribution of variables. Based on the results of the Shapiro Wilks test, it was decided to use nonparametric statistics methods (Mann-Whitney U test) to detect differences between independent samples.

Three research questions were asked:

1. Are there any differences in the migration intentions of social science students versus STEM students (biotechnological and technological field) in the migration variable due to preferred working conditions?
2. Is there a correlation between the preferred working conditions and the migration variable due to the preferred working conditions?
3. Is there an association between attitudes towards workplace education and preferred working conditions?

The aim of the study was to determine if there are differences in migration intentions due to preferred working conditions between social sciences students and STEM area students. The second objective of the study was to determine whether the preferred working conditions are related to migration abroad due to the preferred working conditions. The third objective of the research was to determine whether attitudes toward workplace education were related to preferential working conditions.

For this purpose, the following hypotheses were made:

$H_{0:}$ there is no difference in the migration intentions of social science students versus STEM students (biotechnological and technological field) in the migration variable due to preferred working conditions

H_1: identified a statistically significant difference in migration intentions of students of social science field versus STEM students (biotechnological and technological field) in the migration variable due to preferred working conditions.

H_2: there is a statistically significant positive correlation between the preferred working conditions variable and the migration variable due to preferred working conditions.

H_3: there is a statistically significant correlation between the variable "attitudes towards workplace education" and the variable "preferred working conditions".

Previously, two similar studies were conducted on the variable "preferences related to working conditions (so-called intangible compensation for work): the first research was initially conducted at the Faculty of Economics in Zagreb, to students belonging to the field of social sciences (Galetić et al, 2016), and then to students belonging to the field of technical sciences (four faculties of construction: Osijek, Zagreb, Rijeka, Split) (Šandrk Nukić, 2017). This research (non-financial rewards preferences) builds on the two aforementioned studies, with the additional research question: how much students are prepared to migrate abroad due to preferred working conditions (non-financial rewards preferences), and how education is associated with preferred working conditions (non-financial rewards preferences).

2. YOUTH UNEMPLOYMENT IN THE REPUBLIC OF CROATIA

Young people are the generator of growth and development of every society, and as a result of the economic crisis, they have become the most vulnerable age group affected by unemployment. The problem of youth unemployment has hit all European countries, including Croatia. Of particular concern is the fact that the youth unemployment rate in Croatia is far higher than the average unemployment rate at EU level.

Youth unemployment causes economic, political and social consequences that not only affect the individual who is unemployed but leave a mark on society as a whole.

"In Croatia, young people are seen as a population between the ages of 15 and 29. The transition of young people into the world of adults is increasingly complex and time-consuming as education lasts longer, so it is important for me to expand the youth category by the age of 29. When explaining youth unemployment, the three most important indicators should be distinguished:

- Unemployment rate – unemployed/active population
- Unemployment ratio - unemployed / total population
- NEET category (Bilic & Jukic, 2014, p. 486)

The unemployment rate represents the share of unemployed persons in the total number of unemployed at the level of a country observed. The unemployment ratio represents the share of unemployed persons in the total population of a given country. NEET category - a part of the population that is not present in either the education system or the working population.

Table 1. Trends in the number of unemployed young people for the period 2015-2019.

Year / Age	2015.	2016.	2017.	2018.	2019.
15-19	14.814	11.849	8.401	6.370	5.412
20-24	34.910	28.009	21.173	16.131	13.682
25-29	35.001	28.683	22.384	17.254	14.611
Total:	84.724	68.541	51.959	39.756	33.705

Source: Croatian Employment Service, https://statistika.hzz.hr/Statistika.aspx?typeReports=1 (02.14.2020.)

Based on statistics from the Employment Service in table No. 1 shows the trends in the number of unemployed young people in Croatia for the period 2015-2019. As stated earlier in Croatia, unemployed young people fall into three age groups: 15-19 years, 20-24 years, 25-29 years. The data in the table shows that in each observed year the largest share of unemployed young persons is 25-29 years. It is positive to note the tendency of the number of unemployed young people to decline during the observed period.

Table 2. Share of unemployed youth in total unemployment for the period 2015-2019.

Year	2015.	2016.	2017.	2018.	2019.
Total unemployment	285.906	241.860	193.967	153.542	128.650
Youth unemployed	84.724	68.541	51.959	39.756	33.705
% youth unemployed in total unemployment	29,63	28,34	26,79	25,89	26,20

Source: Croatian Employment Service, https://statistika.hzz.hr/Statistika.aspx?typeReports=1 (02.14.2020.)

Based on statistics from the Employment Service in table no. 2 shows the movement of the total number of unemployed in Croatia, and a comparison with the movement of the number of unemployed young people for the period 2015-2019. It can be seen that the total number of unemployed as well as the number of unemployed young people tended to fall over the observed period.

Except for the last observed year, the share of unemployed youth in total unemployment has also been decreasing. It is necessary to implement active labor market policy measures that will continue the tendency for the share of youth in the total unemployment to decline.

2.1. Youth unemployment and the alignment of the education system with the labor market

The transition from the education system to the labor market is a major turning point in the life of each individual, as it should create an opportunity to become independent and secure a standard of living. However, the current situation indicates that the education system is not well aligned with the labor market, which is why youth unemployment is emerging. According to data from European countries, the number of unemployed is decreasing with a higher level of education. The situation is different in Croatia - it is more difficult for young highly educated people to find a job adequate to their educational background.

The education system should cooperate with the economy in order to target young people in deficit education, thus securing a job after graduation. Good coordination of these institutions would create a cadre for job openings, not a cadre to move from education to the Employment Service.

Economic policymakers recognized the importance of the problem of unemployed youth and began to work more intensively to address it. For the first time in 2011, enrollment quotas have been set following the recommendations of the Employment Service, which aims to limit enrollment in surplus occupations, and directs young people to enroll in scarce occupations with which they will be able to find their place in the labor market.

“The mismatch between education policy and labor market needs is a structural problem that cannot be solved overnight, and the analyzes to date of the Croatian labor market show large mismatches between existing needs and the supply of adequate labor. As part of the implementation of active employment policy measures, the Croatian Employment Service also analyzes and evaluates future market needs. Collaborating with employers, i.e. conducting surveys, provides information on their needs, monitors specific occupations, and defines their status as scarce or surplus. By exchanging information with educational and labor market institutions, harmonization is also being made.“ (Obadic, 2017, p. 140)

2.2. Contemporary eviction of young people in Croatia

"Emigration from Croatia has emerged as a specific and extremely negative factor in the population dynamics since the second half of the 19th century, after which several stronger emigrant currents were recorded. The last major emigration wave began with the global economic crisis in 2008, intensified by Croatia's accession to the European Union in 2013, and maybe the most unfavorable so far because it takes place in circumstances of reduced fertility, natural decline, overall depopulation, and an accelerated aging process." (Pokos, 2017, p.178) In its history, Croatia has encountered displacement several times. The latest emigration wave is related to Croatia's accession to the European Union in 2013. We can say that the wave of emigration is still ongoing. By joining the European Union, borders were abolished, and young people were given access to a much larger labor market. Germany, Austria, and Ireland are particularly popular with young people leaving, while there are ex-pats in Switzerland and Norway.

According to double market theory, the cause of migration lies in the so-called Push and pull factors that work in combination as stimuli that affect migration, that is, they are a necessary motivating factor for people to choose to migrate. Push factors are a set of factors that make a person decide to relocate, while pull factors are those that attract a person to settle in a certain area (Mikac & Dragović, 2017, p.257)

According to research by the Croatian Employers Association, expatriates cited the reasons for the push and pull factors. Young unemployed people cite the poor situation in the country, poor management of current political parties, the strong influence of corruption, the existence of nationalism, etc. The reasons for their relocation are security, better living conditions for the individual and his family, what attracts them to life and work in other countries. growth and development, and meeting (at least) basic life needs.

Continuing on the mismatch of the education system with the labor market, the mismatch of supply and demand for work, young, highly educated people are in great difficulty. The emigration of this population is known as the "brain drain", which will be discussed in more detail below.

3. KEY DETERMINANTS OF THE EMIGRATION OF A HIGHLY EDUCATED POPULATION

The most competitive regions in the knowledge economy are most often ones with high levels of human capital, while slow-growing or stagnated regions are ones with a low level of human capital. "Highly educated experts, scholars, intellectuals and artists are carriers of the economic and social development of each country, so they are called human capital." (Relja, Reić & Čerenić: 2015, p. 4).

The key role in the creation and bringing of human capital to the regions are universities. Regions that have universities in their territory have a continuous inflow of human capital and are therefore more competitive compared to other regions. However, the question lays whether the regions with universities manage to retain newly acquired human capital. Do students remain in the place of the country where they studied or not and for how long? The fact that students will stay in a place of study is influenced greatly by the fact of whether they are large metropolitan areas with a large and developed labor market or a smaller university region.

Research through history has shown that Croatia is traditionally an emigrant country, and migrations have happened in several big waves. A negative migratory balance is present from the year 2009 and constantly growing. The causes of migration can be political, economic or a mixture of the aforementioned causes. Among the economic causes of migration are the inability of permanent employment, low wages, a long period of employment, a negative entrepreneurial climate, rising unemployment and a decline in living standards. These economic reasons are the most common push factors in the decision to leave the country temporarily or permanently.

In recent years, the trend of emigration initiated by economic reasons is the most pronounced in the eastern part of the Republic of Croatia. To encourage the daily outgoing titles of leaving young people from Slavonia, we compared the data presented in the following table. The table shows that the largest number of total emigrant population is from the city of Zagreb, but if we observe the total number of emigrant in relation to the total number of the population, it is clearly evident that the Vukovar-Srijem County is in the first place and immediately behind it is located Brod-Posavina County.

Since the mentioned area is leading by the number of emigrated populations, we have decided to conduct research among students on their plans and affinity for the future and their plans to stay or to leave in another country.

Table 3. Number of emigrated populations by Counties in the Republic of Croatia

County	Estimated number of population in 2017.	Number of emigrated people in 2017.	Part in the total number of emigrated in 2017. (%)	Number of emigrants in relation to the total number of the population (%)
Republic Croatia	4.124.531	47.352	-	11,5
Zagrebačka	311.416	3.201	6,7	10,3
Krapinsko-Zagorje	126.334	593	1,3	4,7
Sisak-Moslavina	152.546	3.211	6,8	2,1
Karlovačka	118.263	1.194	2,5	10,1
Varaždinska	168.560	1.346	2,8	8
Koprivnica-Križevci	109.137	989	2,1	9,1
Bjelovar-Bilogorska	109.822	1.015	2,1	9,2
Primorje-Gorski Kotar	286.667	2.962	6,3	10,3
Ličko-Senjska	45.943	608	1,3	13,2
Virovitičko-Podravska	77.086	1.322	2,8	17,1
Požega-Slavonia	69.583	1.564	3,3	22,5
Brodsko-Posavina	143.827	3.271	6,9	22,7
Zadar	168.672	1.367	2,9	8,1
Osijek-Baranja	283.035	5.094	10,8	18
Šibenik-Knin	101.436	1.199	2,5	11,8
Vukovar-Srijem	159.213	5.091	10,8	32
Split-Dalmatia	449.610	2.992	6,3	6,7
Istrian	208.229	1.543	3,3	7,4
Dubrovnik-Neretva	121.381	788	1,7	6,5
Međimurje	110.999	1.187	2,5	10,7
City of Zagreb	802.762	6.814	14,4	8,5

Source: Balija, M. (2019, p. 105)

After the accession of the Republic of Croatia to the European Union, the problem of the emigration of the population from Republic Croatia is becoming ever-growing, especially when it comes to the brain drain that characterizes the migration of young highly educated experts from the home country in which they were born and completed their education. "This fact is particularly worrying when it is viewed in the context of unfavorable factors such as demographic situation, high youth unemployment rate and the low share of highly educated in the total percentage of the Croatian population. Since the accession to the EU, Republic Croatia has lost around 5% of the population so far, and it is estimated that a recent emigrant's wave has caused a loss of 13% of potential GDP. Also, in the group of Central and Eastern European countries, Republic Croatia, together with Romania, Bulgaria, and Slovakia, is most exposed to the problem of emigration of the highly skilled population." (Troskot, Prskalo, Šimić, Banović, 2019, p. 898)

3.1. Brain drain

"The brain drain represents a specific form of population migration that relates to the emigration of highly educated experts, scientists, and intellectuals of some country." (Kostanjevački, 2002, p. 47). Speaking of "brain drain" we divide them into two types.

"In practice, the emigration of scientists is manifested in two migration directions: external and internal. The external direction of migration is manifested as brain drain and migrating of a highly educated population in a foreign country. The internal migratory route represents the abandonment of the professional position in science and departure in other activities within the country." (Relja, Reić, Čerenić, 2015, p.4). "The external migratory stream is known as the brain drain, while the internal migration or change of profession and departure from the profession is called brain waste." (Ibid, p. 4).

Some authors share the opinion that migration in the short term has positive effects and that reduces the unemployment rate. However, the long-term effects of emigration are not positive. Emigrating of the population leads to the loss of the most valuable, which is human capital. The loss of human capital leads to a change in the workforce structure and a decrease in the proportion of the population able to work. Reduced productivity and reduction of gross domestic product, in the end, destabilizes functions in the Republic of Croatia. The consequences that are most pronounced after the emigration of the population, especially in Slavonia are the reduction in the number of families and ultimately the number of children who are the future of each country. Class departments are getting smaller, schools in rural areas are closing, and villages are slowly dying. Another one of the losses that are pronounced is the loss of a highly educated population, which after completion of its education at the expense of the Croatia Republic, goes to another state creating its country multiple losses and the multiple benefits for the country they have chosen for migration.

When we talk about brain drain, it's important to distinguish the brain drain from the mobility of academic citizens and brain circulation. While the brain drain is characterized by the emigration of a highly educated population after education in their own country, and as a consequence of dissatisfaction with life in the same, mobility of academic citizens is characterized by emigration abroad for a certain period of time to studying and acquiring new knowledge and skills and refers to students eager of training in the international environment. Brain circulation is characterized by a mixture of students and highly educated population and temporary migrations for scientific and research contributions to society.

3.2. Brain drain – push factors and effects on countries of emigration

"Migratory flows are determined by the push factors in the countries of origin and attracting factors in the destination countries. Migrations are inherent in human civilization and exist since there are a human species." (Potočnik & Adamović, 2018, p. 29).

The reasons that lead to a decision on migration largely depend on the dissatisfaction of all or some factors influencing the quality of life and living. If a person who is willing to migrate gets an offer for a better quality of life in another country, the possibility of acquiring some new experiences and solving some life problems in his country, most people will decide to migrate. Lately, we have witnessed the departure of a large number of doctors from the Republic of Croatia. The reasons for this may be various, but the most common is the large differences in salary, greater opportunities for further professional development and greater opportunities for new works and research.

Economic, educational, legal and political reasons are essential when a highly educated population is deciding about leaving or staying in the country. Economic reasons are mentioned in the example of the departure of a large number of doctors, but they are also applicable to all other activities. Doctors are an exception because of their incomes in the Republic of Croatia, and for example in

Germany or Austria, significantly different. One of the most common economic reasons is the unresolved housing issue and large loans whose repayment lasts almost the entire life of an average highly educated person. In addition to such a way of resolving housing issues, the quality of life and the standard of living are in question because a small part of the income remains for leisure and quality spending time with the family. The unfavorable situation in the economy is another economic reason, together with a high unemployment rate, especially in Slavonia. The educational reasons are better opportunities for training and advancement in the profession as well as the conditions relating to scientific work. One of the most common reasons to leave the home country is also legal. The rate of corruption that is high directly affects the migration of scientists. Revolt over the inability to get a job because of nepotistic and other connections will surely be a factor deciding on leaving the country. Conversely, the high rate of corruption will not attract human capital from other countries, which has a negative impact on the entire economy in the long term. The last-mentioned factor is a legal factor, i.e. poor legal regulations.

The consequences of emigration are different depending on the aspect of which we observe them. In the short term, they have an impact on reducing the unemployment rate, but over a longer period of time, they cause disruption in the labor market. With the emigration of the highly educated population, the home state is in a financial loss for the amount of schooling of each highly educated person, but the most important loss to be emphasized is the loss of human capital. The negative consequence that affected Slavonia is the loss of the population of childbearing age, as well as the emigration of entire young families. Class departments are smaller, schools are closing, teachers and professors lose their jobs, the „future" of the Republic of Croatia goes to another country in search of better conditions and a better quality of life.

3.3. Brain drain-pull factors and effects on countries of immigration

The main pull factor in the destination country is the opportunity that the highly educated population does not have in the home country. Some of the research has shown that a large number of highly educated populations will remain in their home country if the opportunity is given to them, an opportunity that every person who left his country is looking for. These are the quality of life above all, an opportunity for improvement, advancement and scientific work, higher wages and an opportunity for quality spending time with the family.

If we observe the positive effects of the influx of highly educated populations in the countries of destination, it is evident that the population that has decided to migrate is contributing to the development and standard of the country of destination, while at the same time causes negative consequences in the economy of the home country from which has been migrated.

4. RESULTS

The following two tables (table 4 and 5) provide a basic overview of respondents, in the form of descriptive statistics.

Table 4. Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Men	39	43,8	43,8	43,8
	Woman	50	56,2	56,2	100,0
	Total	89	100,0	100,0	

Source: own study

Table 5. The scientific field of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Social sciences	47	52,8	52,8	52,8
	Biotechnological sciences &				
	Technical sciences (STEM area)	42	47,2	47,2	100,0
	Total	89	100,0	100,0	

Source: own study

Before proceeding to examine the statistical significance of differences between groups, it is necessary to examine the preconditions for the use of parametric tests. The results of the Shapiro Wilks distribution normality test showed that the distributions of results on migration variables due to preferred working conditions, preferred working conditions and attitudes toward workplace education differed from normal (Table 6).

Table 6. Distribution normality test

Variable	Shapiro Wilks test	p
Migrations due to preferred working conditions	.898	.000
Preferred working conditions	.882	.000
Attitudes towards workplace education	.828	.000

Source: own study

Therefore, in order to answer the main problem of this research, we conducted a nonparametric Mann-Whitney test to compare student outcomes of the "scientific field of study" regarding "migration due to preferred work conditions". The results in Table 7 show that there is a statistically significant difference between the "scientific field" invariable "migration due to preferred working conditions" ($p<.05$). Social science students show a higher level of aspiration for this type of migration (Table 8).

Table 7. Testing the significance of the difference between scientific field in terms of migration due to preferred working conditions, Mann-Whitney test

Independent variable	Scientific field	Mean rank	Mann-Whitney	p
Migrations due to preferred working conditions	Social sciences	51.29	691.015	.015
	Biotechnological and technical sciences (STEM area)	37.96		

Source: own study

Table 8. Ranks

	The scientific field of study	N	Mean Rank	Sum of Ranks
Migrations due to preferred working conditions	1,00 – social sciences	47	51,29	2.410,50
	2,00 - Biotehnological and technical sciences (STEM)	42	37,96	1.594,50
	Total	89		
Preferred working conditions	1,00	47	52,98	2.490,00
	2,00	42	36,07	1.515,00
	Total	89		
Attitudes towards workplace education	1,00	47	51,24	2.408,50
	2,00	42	38,01	1.596,50
	Total	89		

Source: own study

Table 8 shows the Mean rank for the variables, for students of the social science field and STEM area. Students in the social science field express more value in all three observed variables. Mann-Whitney U test will show whether these differences between students are statistically significant (p .05), by the "scientific field of study" (grouping variable).

Table 9. Test Statisticsa

	Migrations due to preferred working conditions	preferred working conditions	Attitudes towards workplace education
Mann-Whitney U	691,500	612,000	693,500
Wilcoxon W	1.594,500	1.515,000	1.596,500
Z	-2,437	-3,088	-2,500
Asymp. Sig. (2-tailed)	,015	,002	,012

a. Grouping Variable: Scientific field of study
Source: own study

Further analysis showed that students in the social science field were statistically significantly different from STEM students ($p < .05$) in all three observed variables (Table 9).

Table 10. Correlation coefficients between variables included in the study (Spearman rho correlation coefficients)

	Preferred working conditions	Attitudes towards workplace education
Migrations due to preferred working conditions	.440**	.378**
Preferred working conditions	1	.810**

**p=.000
Source: own study

Based on the results of the survey (table 10), it is identified a significant positive correlation between variables "Attitudes towards workplace education" and "Preferred working conditions" ($r = .810$, $p = .000$). We can conclude, although caution because of the sample size, the students prefer education in the workplace. There is a statistically significant positive correlation between variable "preferred working conditions" and "migration due to preferred working conditions" ($r= .440$, $p= .000$). Migrations are significantly and positively associated with preferred working conditions. Attitudes towards workplace education are positively and statistically significant correlate with migration due to preferred working conditions (r= .378, p= .000).

Based on the results obtained, initial assumptions will be analyzed:

H0 there is no difference in the migration intentions of social science students versus STEM students (biotechnological and technological field) in the migration variable due to preferred working conditions*- the hypothesis is rejected.*

H1 identified a statistically significant difference in migration intentions of students of social science field versus STEM students (biotechnological and technological field) in the migration variable due to preferred working conditions- the hypothesis is accepted.

H2 there is a statistically significant positive correlation between the preferred working conditions variable and the migration variable due to preferred working conditions - the hypothesis is accepted.

H3 there is a statistically significant correlation between the variable "attitudes towards workplace education" and the variable "preferred working conditions"- the hypothesis is accepted.

5. CONCLUSION

Croatia shares the fate of most European countries that are struggling with high youth unemployment, whose share in overall unemployment is worryingly high. Unemployment particularly affects young people with a high level of education who, after completing the educational process, are unable to find a job adequate to their professional qualifications. Although the institutions have recognized this problem and are actively working to adopt measures to combat the unemployment of highly educated young people, this is still not enough to prevent emigration to developed countries. The latest wave of emigration, which we can say is still on-going, began with Croatia's accession to the European Union.

Economic crises, rising unemployment, economic, educational, political and legal instability are the drivers of each of the great emigration waves that have been affecting the Republic of Croatia throughout history. These factors are key drivers for the emigration of a highly educated population to another country that offers better conditions for more quality and dignified life. The brain drain is the outflow of human capital that leaves empty towns, villages, and streets behind, and leads into question the further development of the country. Because the brain drain process is impossible to stop altogether, it is necessary to adopt a strategy and measures that will encourage and keep the educated population in the home country to contribute and create a successful and strong economy of our country.

Based on empirical research, there is a statistically significant difference in terms of migration due to preferred working conditions, social science students show a higher level of aspiration for this type of migration. To examine the association between the variables included in the study, we calculated nonparametric correlation coefficients. The results show a positive statistically significant correlation of all variables. In other words, participants who exhibit a higher migration tendency due to preferred working conditions also show more preferred work conditions as well as higher attitudes toward workplace education. Participants with a higher preference for work conditions also exhibit higher attitudes toward workplace education. The null hypothesis is rejected and the other hypotheses are accepted.

The main limitation of this research is the size of the sample and it is not possible to generalize the results to the total student population. In future research, it would be useful to include more scientific fields and increase the sample size. Employers and public policymakers could certainly take results like this into consideration, and increase investment in on-the-job education through various employer-approved incentives.

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IS THERE ANY EFFECT OF FISCAL POLICY UNDER CONTRIBUTIONS FROM AN OBJECTIVE ASSESSMENT OF PUBLIC POLICIES?

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Abstract

The purpose of the paper is to study the correlations between public policies and fiscal policies in the 28 European Union Member States divided into old and new countries by the integration year in the European Union, between 2002-2017. We define public policies by implying the Worldwide Governance

Indicators (WGIs), known as Government Effectiveness (GE), Regulatory Quality (RQ) and Control of Corruption (CC) collected from the World Bank database. The components that were applied to describe fiscal policies are Government Revenue as a percentage of GDP (GREV), and Government Expenditure as a percentage of GDP (GEXP) collected from the Eurostat database. The research methodologies performed are the Pearson coefficient and the panel model with Random and Fixed Effects. The results point out that fiscal policies are playing a lead role in implementing public policies through the quality of regulations that can determine the level of fiscal revenues. The research is relevant to the national projection of budget revenues and expenditures in terms of social and economic options policies of public decision-makers.

Keywords: *public policy, fiscal policy, EU countries*

JEL Classification: H30, H39

1. INTRODUCTION

The objective of the paper is to study if a correlation exists and the nature of the correlation between public policy defined by the Worldwide Governance Indicators (WGIs): Government Effectiveness, Regulatory Quality and Control of Corruption, and fiscal policy expressed in terms of Government Revenue and Government Expenditures as a percentage of Gross Domestic Product. Two different methodologies were applied to obtain, and the goal of this research is the Pearson correlation and the panel model with Random and Fixed Effects.

The main priorities of fiscal policies in European Union countries are to eliminate the financial obstacles that hamper economic activity, the battle against harmful fiscal competition and fiscal evasion, and to ensure control on fraud and corruption. The European Union countries have the competence to introduce, eliminate or to adjust their tax system.

In general terms, public policy refers to a set of concrete measures that includes decisions on local resources, a complex of rules and measures meant to ensure economic development of the structure of society. The formulation of public policy consists of monitoring and increasing process effectiveness, but also it considers recognizing the pressures for continuous improvement in public policy. The growing influence of behavioral insights of fiscal policy in policy design involves the analysis of such an impact to assess the successful implementation of reforms.

The present paper is structured as follows: In the first part, we present a short introduction to the current study. In part two, we are revealing the theoretical approach regarding fiscal policy and its implication on public policy. Part three explains the data and methodologies applied. The fourth part comprises the study results and discussions of the results obtained after applying the Pearson correlation and the panel model with Fixed and Random Effects. Part five reveals the conclusions of the present study.

2. LITERATURE REVIEW

There are extensive literature and studies regarding fiscal policy and how governments should balance the revenues, expenditures, and debts to sustain public finances. Fiscal policy and public policy play an important role to stimulate the economy.

Fiscal policy can reflect the ability of an economy to produce goods and services, and it also affects the wealth distribution and aggregate demand. Some changes in expenditures and taxes can modify the model and size of goods demands. Meanwhile, the distribution of resources and the productive capacity of an economy through the influence of human capital, allocation of resources and investments are affected by aggregate demand. (Kopcke et al., 2006). Fiscal policy was based on the adjustments and levels of revenues and tax structure against decreasing expenditures for maintaining a budgetary equilibrium. The main goal of authorities is to ensure equilibrium in a short time. (Dima et al., 2009)

An adequate fiscal policy has been considered as a mandatory tool applied to obtain an increase in employment rate, price stabilization, and sustainable growth. (Lojanica, 2015). The effectiveness of fiscal policies is based on the links between Government Revenue and Government Expenditure.

Fiscal policy is characterized by being expansionary and restrictive. Consequently, fiscal policy is expansionary at that time when tax rates decrease and government expenditure increases, and it may determine a budgetary deficit. It is demonstrated by covering data on 85 developing economies that fiscal policy has more stabilization is far gone economies compared with the emerging markets. (IMF, 2015).

Government Revenues are composed of taxes, such as taxes on income, health, and social contributions. The primary purpose of Government Expenditure is to serve a large area of goals, such as providing medical care, education and justice, and for citizens to maintain public order. Changes that occurred in the structure of expenditures may appear from policy choices like socioeconomic trends, such as demographic changes, economic cycles, and implementing agreements from aboard. (OECD, 2019)

Public policy is based on how problems are solved when we are referring to the structure of government and society. To achieve the purpose of public policy, the main tools that are applied are the following ones: debating, improving positive incentives in adopting expected attitudes, quality of regulation of the public program, stimulate cooperation, the evaluation made by public institutions and commercial networks. (Howlett & Ramesh, 2003)

The effective factors of successful public policy implementation are as follows: clarifying policy measurement tools, avoiding the forced use of technology or specific approaches to policy execution, ceasing ineffective policies, concern for citizens' interests and preferences. (Staley, 2006).

Governance plays an important role when we are referring to the transmission of fiscal policy. Low governance leads to a reduction in the efficiency of investments as a transmission channel that will lead to an increase in fiscal policy. (Baldacci et al., 2003).

The two main tools applied by governments to settle economic activity are fiscal policies and public policies. Both of them are more effective when they are simultaneously applied. Fiscal policy can be automatic or discretionary by way of the output fluctuations response. The lag absence that exists in the formulation and implementation of policies is, for example, human capital reduction in the process of policy elaboration. (Garayeva & Tahirova, 2016).

After applying the VECM model to establish the relation of causality that exists between Government Expenditure and Government Revenue in India between 1970-2008, it reveals that there is a long-run bidirectional causality. In short-run, causality is unidirectional. (Yashobanta & Behera, 2002).

Participatory budgeting programs and policy councils are determinants factors of a variety of tax measures. These measures are obtained after consider the local economic conditions and proxies to facilitate tax regulations and tax collection. (Touchton et al., 2019)

The relation that exists between revenues and expenditures can be applied in achieving two objectives regarding public policy, for example, market failure correction and equity challenges solutions. These being said, it is essential to make a distinction between fields when expenditure policy and revenue policy are acting differently to obtain policy outcomes and fields where revenues and expenditures are acting together. (Welham et al., 2015)

More factors can affect the performance of revenues in developing countries, such as GDP per capita, the share of GDP in agriculture, trade openness. (Gupta, 2007). Revenues from taxation are necessary for governments to ensure the necessary funds needed to invest in the country's development. These funds are necessary to develop the physical infrastructure and the social one to improve the growth in the long term. Consolidation of resources mobilization helps in projecting the revenue system that encourages good governance, promotes inclusiveness and also the responsibility of governments to their citizens is improved. (OECD, 2014)

3. DATA AND METHODOLOGY

To obtain the correlations between public policies and fiscal policies we applied the Worldwide Governance Indicators (WGIs) to describe public policies, such as Governance Effectiveness (GE), Regulatory Quality (RQ) and Control of Corruption (CC). The specific indicators in describing fiscal policies are Government Revenues (GREV) and Government Expenditure (GEXP) that reflect the general government and both of them have been collected from the Eurostat database.

The study is based on a strongly balanced panel data of the 28 European Union countries between 2002-2017 and data includes both old and new EU countries, separated by the year of integration in the European Union.

A detailed listing of the old EU countries includes the following countries: Austria, Belgium, Germany, Finland, Denmark, France, Spain, Ireland, Italy, Greece, Luxembourg, Portugal, Netherlands, United Kingdom, Sweden, because they entered in European Union until 2004. The new countries, a term considered to contrast parts of Europe with each other in a rhetorical way, are the countries who join the European Union after 2004: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Malta, Poland, Romania, Slovakia, Slovenia, and Croatia.

Government Expenditures expressed the acts and operations of distribution and use of the state funds for social, cultural and economic actions, for the maintenance of the state organs, health, education, and national defense. Government Revenues reflects the total amount of taxes collected from the citizen of a state.

The Worldwide Governance Indicators (WGIs) is formed from the following indicators: Government Effectiveness, Regulatory Quality, Control of Corruption, Voice and Accountability, Rule of Law, Absence of Violence, Political Stability and defines the quality of governance by covering over 200 countries. (Kaufman et al., 2010).

Regarding some studies, the indicators that reflect the quality of public policies are Government Effectiveness and Regulatory Quality. Political Stability, Rule of Law and Absence of Violence reflect the quality of institutions. Control of Corruption is a phenomenon that induces political instability and slow development. (Dima et al., 2013).

The Worldwide Governance indicators have values between [-2.5 to 2,5]. Government Expenditures and Government Revenues are measured as a percentage of Gross Domestic Product.

We applied two different methodologies to asses some clear patterns of fiscal behavior among EU members that influence policy design. The first one is the Pearson coefficient to establish the correlation between public policy an d fiscal policy. The correlation coefficient was determined by the following relation (Pearson, 1908):

$$r_{yx} = \frac{n\sum xy - \sum x \cdot \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2] \cdot \sqrt{n\sum y^2 - (\sum y)^2}}} \quad (1)$$

To test if the data are stationary, we applied Unit Root tests. The difference between stationary and nonstationary is that if the data is stationary means that the shock is temporary, and the effects will be eliminated in time.

To evaluate the hypothesis that every time series contains a unit root against the hypothesis that every time series is stationary, Levin Lin Chu develops a procedure that uses pooled t-statistics. (Levin et al., 2002). The model has the following form:

$$\Delta Y_{i,t} = a_i + pY_{i,t} + \sum_{k=1}^{n} \phi_k \ \Delta Y_{i,t-k} + \delta_i t + \theta_t + u_{i,t} \qquad (2)$$

We applied two different methods of estimations, such as Fixed Effects and Random Effects. The characteristic of Fixed Effects is that the constant is treated as a group meaning that the model allows different constant for each group. The Random Effects handles the constant for each section as random parameters, not as fixed. (Asteriou & Hall, 2011).

To decide which panel model, we should choose between Fixed and Random Effects, Hausman suggests a test that is based on the difference between Fixed and Random Effects. (Hausman, 1978). If the value of t statistic is large, we will choose the model with Fixed Effects, and if the value of t statistic is small, the appropriate model will be the one with Random Effects.

By considering governance indicators and applying the Pearson correlation between subnational expenditures and quality of governance is revealed a high correlation and suggests that citizens are playing a lead role in decision- making. (Huther & Shah, 1998). Another study that presents the effectiveness of fiscal policy reveals the positive impact of Government Effectiveness, Regulatory Quality and Control of Corruption increase Government Expenditure after using the panel model with Random and Fixed Effects. (Canh, 2018)

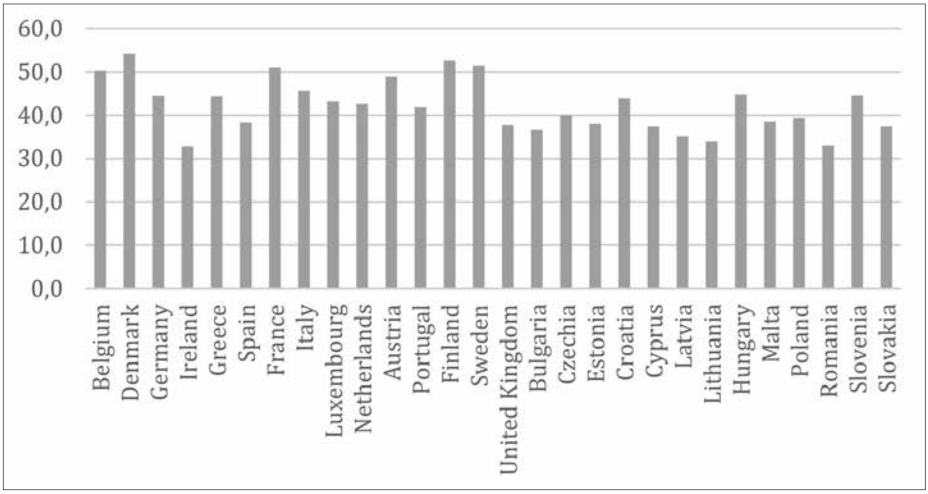
4. RESULTS AND DISCUSSIONS

After presenting the data and methodologies applied in the present study, we are going to present the related discussions. The levels of Government Revenue and Government Expenditure as a percentage of GDP for both old and new European Union countries between 2002-2017 are represented in the following figures. For constructing the figures, we made an average of every indicator in every country to see the values per country and to discover what measures have been taken to obtain these values.

After making the average, it can be observed in Figure 1 that the highest value of Government Revenue in every country of the 28 European Union countries between 2002-2017 has been registered in Denmark (54.2%) and Finland (52.6%), while lowest values have been recorded in Ireland (32.8%) and Romania (33.3%). The highest value in Denmark is determined by reforms measures such as an increase of marginal taxes due to the dissolution of PSO starting from 2017 to 2022, expansion deductibility of expenditures from salaries, wages, and fees. Some of the measures applied in Finland were increasing deduction of income from pensions, increase of credit for domestic aid, taxes regarding fuel were also increased.

Increasing the tax credit was one measure applied in Ireland that determined these values. In Romania, the government decided to decrease pension allowance, VAT decreased from 20% to 19%, the personal income tax was reduced from 16% to 10%, and the contributions of employees were transferred to the employer.

Figure 1. The levels of Government Revenue as a percentage of GDP in the 28 EU countries between 2002-2017



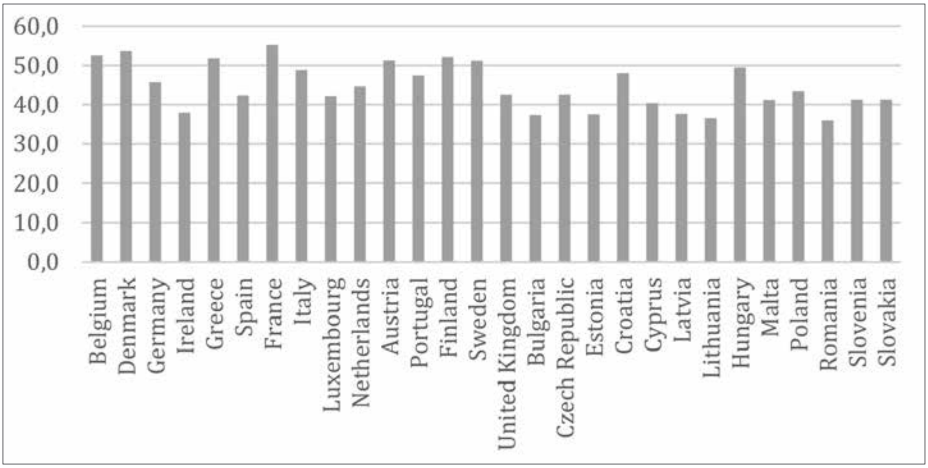
Source: Eurostat

It can be observed that the levels of Government Expenditure as a percentage in every country of the 28 European Union countries represented in Figure 2 have recorded higher values in France (55.2%) and Denmark (53.6%). The lowest values have been recorded in the following countries: Romania (36,1%) and Lithuania (36.5%)

The measured applied in Denmark regarding revenues had a positive impact on expenditures. The government spent money from taxes and fees to improve the lives of citizens. The infrastructure in these countries was improved due to the proper allocation of funds for government spending.

In Romania and Lithuania, the situation is different because the level of revenues was not so high. This suggests that these countries spend more than the level of revenues collected. For example, in Romania, some areas should be improved, such as standard of living, education level, infrastructure, and health, but unfortunately in these areas are allocated a small amount of money.

Figure 2. The levels of Government Expenditure as a percentage of GDP in the 28 EU countries between 2002-2017



Source: Eurostat

Figure 3 indicates the level of public policy indicators in every country of the 28 European Union countries between 2002-2017. After studying the figure, we can state that Government Effectiveness has the highest value recorded in Finland (2.1) and the lowest value in Romania (-0.22).

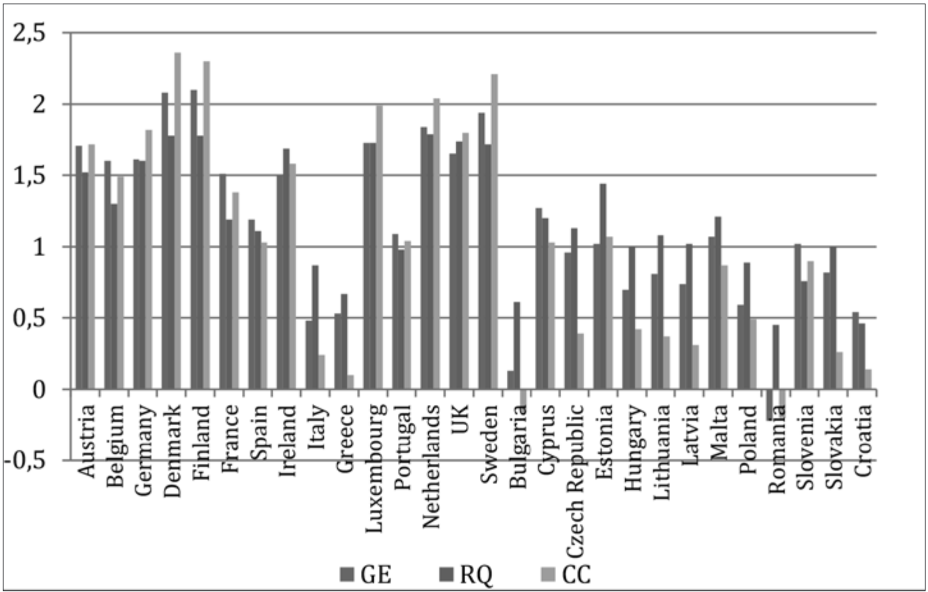
Regulatory Quality recorded the highest value in Netherland (1.79) and the lowest value in Romania (0.45). Higher values of control of Corruption are registered in Denmark (2.36) while the lowest value of this indicator was recorded in Romania (-0.2).

From the 28 EU countries, Romania and Bulgaria are the only ones that registered negative values of Government Effectiveness and Control of Corruption. So, in Bulgaria, only the Control of Corruption indicator recorded negative values, while in Romania, both Government Effectiveness and Control of Corruption recorded negative values.

The highest level of the quality of policies in Denmark, Sweden, and Finland is because the levels of social capital have the highest values. The Scandinavian countries are the most developed in implementing public policies by assessment of public services and implementation of eGovernment.

It can be observed that the old EU countries are more developed than the new ones and indicators have higher values. To obtain transparency and to apply the specifics values that define good governance, it must be implemented a suitable institutional environment, the participation of citizens on governance should be improved, and developing an efficient system of external and internal control. (Ladi & Rus-Dragoumis, 2007)

Figure 3. The levels of public policy indicators in the 28 EU countries between 2002-2017



Source: World Bank

The study aims to measure the nexus between public policy and fiscal policy with the data of the 28 European Union countries. The purpose is to offer improvement suggestions for the countries found to have a quality of governance relatively low.

Table 1. Descriptive statistics

Variables	Obs.	Mean	Standard Deviation	Min	Max
Government Effectiveness (GE)	448	1.143	0.603	-0.36	2.35
Regulatory Quality (RQ)	448	0.449	0.432	-0.04	2.05
Control of Corruption (CC)	448	1.143	0.790	-0.44	2.47
Government Revenues (GREV)	448	0.421	0.063	0.26	0.56
Government Expenditures (GEXP)	448	0.449	0.064	0.226	0.65

Source: Author's calculation

So, descriptive statistics are brief descriptive coefficients that summarize the number of observations, the mean, the standard deviation, minimum and maximum for the following variables: Government Effectiveness, Regulatory Quality, Control of Corruption, Government Revenue as a percentage of GDP and Government Expenditure as a percentage of GDP in the 28 European Union countries between 2002-2017.

Table 2. Results of Unit Root test

Unit Root tests	Variables	Statistics	p-value
Levin Lin Chu	Government Revenues (GREV)	-4.573	0.000
Levin Lin Chu	Government Expenditure (GEXP)	-4.555	0.000
Levin Lin Chu	Government Effectiveness (GE)	-5.065	0.000
Levin Lin Chu	Regulatory Quality (RQ)	-2.818	0.002
Hadri Lm	Control of Corruption (CC)	29.642	0.000

Source: Author's calculation

We can conclude by the results presents in Table 2 that the data are stationary when we apply the Levin Lin Chu test and Hadri LM. The unit root hypothesis is rejected at 1% significance levels for all the variables taken into consideration.

The importance of testing the unit-roots is that if the variables are not stationary can cause spurious regression. (Baltagi, 2005). The results of the unit-root suggest that we can compute the panel data regression.

Table 3. Results of Pearson correlation analysis

Variables	GREV	GEXP	GE	RQ	CC
Government Revenue (GREV)	1.000				
Government Expenditure (GEXP)	0.830	1.000			
Government Effectiveness (GE)	0.537	0.381	1.000		
Regulatory Quality (RQ)	0.302	0.143	0.874	1.000	
Control of Corruption (CC)	0.532	0.363	0.941	0.893	1.000

Source: Author's calculation

The correlation results for the 28 European Union countries between public policy and fiscal policy after applying the Pearson coefficient are highlighted in Table 3. So, it can be observed that between Government Effectiveness and Regulatory Quality, there is a positive and large correlation with a coefficient of r=0.874. Also, between Government Effectiveness and Control of Corruption, the value of r=0.941 implies that there is a large correlation that exists between these variables. Finally, between the Control of Corruption and Regulatory Quality exists a large and positive correlation because the value of r=0.893 is close to 1.

There is a medium correlation between Government Revenue on Government Effectiveness and Control of Corruption, having the value of r=0.537, respectively, the value of r=0.532. There is a small correlation between Government Revenue and Regulatory Quality with the value of r=0.302.

The correlation coefficients between Government Expenditures on Government Effectiveness, Regulatory Quality, and Control of Corruption are relatively low, having the value of r=0.381, r=0.143 and r=-0.363. It can be observed that the correlations between the indicators of public policies are positive and high in the 28 European Union countries.

The quality of regulations and policy-makers will help governments to formulate and implement policies that may promote the private and public sector. A control regarding corruption must be kept achieving appropriate regulations. Control of Corruption is a worldwide phenomenon and is very hard to eradicate. There are some factors responsible for the positive correlations in the 28 EU countries, such as geographic location, being in the EU all countries have similar government characteristics and some rules to follow.

The positive and high correlation that exists between Government Revenue and Government Expenditure is because as long as more taxes and fees are collected, more areas can be financed when the expenditure budget is realized. Studies point out that is a correlation between citizens' desire to paying taxes and an efficient government, by taking into consideration a set of data that includes 55 developing countries over 2002-2012. (Hossain, 2014). The efficiency system of public management will increase the rate of payment of taxes and fees by citizens. (Ajaz & Ahmad, 2010).

Table 4. Results of panel analysis with Fixed Effects and Random Effects (Dependent variable: Government Revenue)

Variables	Fixed Effects		Random Effects	
	Coefficient	T stat	Coefficient	T stat
Government Effectiveness (GE)	-0.004	-0.60	0.005	0.82
Regulatory Quality (RQ)	-0.045	-5.47***	-0.050	-5.84***
Control of Corruption (CC)	-0.011	-1.49	0.009	1.23
Constant	0.493	51.94	0.466	38.28
Number of observations	448			
R^2	0.912		0.080	
Adjusted R^2	0.905		0.074	
Hausman probability	0.000			

*** Statistically significant at 1%level
Source: Author's calculation

Table 4 highlights the results after applying the panel model with Random Effects and Fixed Effects by taking into consideration as dependent variable Government Revenue in the 28 European Union Countries between 2002-2017. The results point out that in both panel models, Regulatory Quality is the only indicator that is significant by having the p=0.000, which is less than the level of significance of 0.01.

Regulatory Quality exerts a negative influence on Government Revenues. For improving this indicator, we should consider that trust in government, the legal system, democratic rights has a positive and significant effect on tax morale. (Benno, 2003)

A correct taxation system that is reflected in the quality of regulations is needed to collect more taxes while political instability will reduce tax collection. (Philips & Sandall, 2008).

The Hausman test was applied to decide which model we should choose between Random and Fixed Effects.

We conclude that the suitable model is the one with the Fixed Effect because of the level of $p<0.05$.

Table 5. Results of panel analysis with Fixed Effects and Random Effects (Dependent variable: Government Expenditure)

Variables	Fixed Effects		Random Effects	
	Coefficient	T stat	Coefficient	T stat
Government Effectiveness (GE)	-0.028	-2.51**	-0.008	-0.74
Regulatory Quality (RQ)	-0.017	-1.29	-0.033	-2.49***
Control of Corruption (CC)	-0.008	-0.71	0.024	2.25**
Constant	0.512	33.05	0.474	31.81
Number of observations	448			
R^2	0.77		0.018	
Adjusted R^2	0.76		0.011	
Hausman probability	0.000			

****,** statistically significant at 1% and 5% level*

Source: Author's calculation

Table 5 presents the results after applying the panel model with Random Effects and Fixed Effects by taking into consideration as dependent variable Government Revenue in the 28 European Union Countries between 2002-2017. When applying Fixed Effects, the Government Effectiveness is the only indicator that has an impact on Government Revenues even if it is a negative one, by the value of probability been more than 0.1 we can say that the level of significance is 5%. The other two variables, Regulatory Quality and Control of Corruption does not influence Government Revenues.

The situation is changing when we apply Random Effects. As the table points out, in this case, Regulatory Quality exerts a negative impact at 1% significant level, while Control of Corruption exerts a positive effect at 5% significant level. Government Effectiveness does not influence because the probability is greater than a 10% significant level.

We applied the Hausman test to decide which model is suitable and the value of $p<0.05$, meaning that we should choose the model with Fixed Effects. The negative value demonstrates that the implementation of laws and regulations regarding public expenditures and how the way they are spent is not the best. The governments should make efforts, efforts such as the effectiveness of administration, quality of laws and their implementation as well as the quality of policy formulation to improve this indicator.

3. CONCLUSION

The paper investigates the correlations between public policy and fiscal policy in the 28 European Union countries between 2002-2017. The levels of Government Revenues as a percentage of GDP in the 28 European Union countries reveals that higher values were recorded in the latter integrated countries than in the new ones. The same situation is in the case of Government Expenditure as a percentage of GDP. This implies that the values of income and taxes are more significant in the old EU countries.

The Pearson coefficients reveal that between public policy and fiscal policy, there is a small and medium correlation. Significant correlations are obtained between public policy indicators and separately between fiscal policy indicators.

Kaufman test reveals that after applying the panel model with Random and Fixed Effects, we should choose the Fixed Effects. So, in the first case where the dependent variable is Government Revenue the indicator that exerts on impact is Regulatory Quality meaning that the negative value of this indicator is a sign that the laws and how they are applied should be revised. In the second case, where the dependent variable is Government Expenditure, the indicator that exerts an impact is Government Effectiveness while all the other variable does not affect.

The policy-makers should define better the laws and their implementation. For a good collection of taxes and a good share of expenditures to develop and improve the education system, health, infrastructure, and others, legislative stability is needed along with a good quality of regulation and a lower value of corruption.

Our suggestion for further research is to enlarge the dimension of data by describing in detail the components of Government Revenues and Government Expenditure to reveal which component is more powerful. Also, this research may be useful for public policy-makers.

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Law & economics

GLAMPING AS A TOURIST TREND – WITH REVIEW OF LEGAL ASPECTS

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Abstract

The Republic of Croatia can raise competitiveness in the field of camping by raising the quality of the offer which is also recognized in the Croatian Tourism Development Strategy until 2020. The Strategy does not introduce the concept of glamping (glamorous and luxury camping), but by the description of the quality-oriented offers, which seeks for the introduction of the wellness center, swimming pools, contents for the children and raising the category to 4, recognizes its importance. Glamping is a combination of glamor and camping aimed at tourists who are not ready to give up luxury but want to stay in nature and in a place other than their permanent residence. As particularly important, the Tourism Development Strategy highlights the removal of business and developmental constraints, especially the harmonization of legislation. The relevant legislation will be presented in this paper, with special emphasize to the Tourism and Other Construction Land Act (Official Gazette 92/10), the Tourist Tax Act (Official Gazette No. 52/19), the Maritime Domain and Seaports Act (Official Gazette 158/03, 100/04, 141/06, 38/09, 123/11, 56/16) as well as on the legal problems encountered by the camps. Apart from the legal aspects, in this paper, the authors will analyze the existing types of accommodation units in glamping and SWOT analysis of the development of glamping in the Republic of Croatia.*

Keywords: *glamping, glamping in the Republic of Croatia, legislative framework, SWOT analysis*

JEL Classification: Z32, Z39

1. INTRODUCTION

The Republic of Croatia has an exceptional advantage for the development of all forms of tourism, due to the diversity of the country itself and the numerous natural beauties, locations, and climate. The Homeland War for Independence from the early 1990s has put a stop to this development, but during the last 20 years, tourism has again regained its level. In accordance to the available data, it can be seen that the state receives almost 20% of GDP from tourism, although it is still mostly based on the "sea and sun" model, i.e. on accommodation in apartments and campsites along the coast during summer (Orsini, Ostojić, 2018). For this very reason, tourism during the whole year and not exclusively during the summer months has been a major driver of an innovative approach to camping. In this paper, it will be outlined the basic features of the new trend of camping, labeled glamping, as well as the importance of developing such a luxury way of rest. For each innovative approach, it's necessary to elaborate legislation that accompanies it and therefore it will be shown regulations that are not fully compliant with the campsite requirements and, indirectly, to glamping.

2. THE MEANING OF GLAMPING

Modern consumers, as well as consumers in tourism, have ever-increasing demands: they are informed; they want to stay in nature and experience something new and different from the environment in which they reside. The meaning of "glamping" comes from a blend of two words, *glamorous* and *camping* and it is a new way of camping that combines luxury and nature, comfort and respect for the environment and provides a unique accommodation model. Often is glamping called 5 * *camping* (Cvelić-Bonifačić et al., 2017).

The term itself indicates of what trend is about: a combination of camping with a touch of glamour and luxury as opposed to "ordinary" camping, in which there are also less comfortable aspects (sleeping in bags, shared toilets, shared kitchens, lack of internet and TV, etc.). There are many reasons why camping is not attractive to everyone as an idea of spending the holidays: bugs, animals, rain leaking tents and canned food, but there is a way for tourists to return back to nature; it's called glamping (Mutić, 2010). Glamping is defined as a type of camping that is more comfortable and more luxurious than traditional camping (Cambridge Dictionary, 2017). "Where nature meets luxury" is one of the glamping slogans that could open a new chapter in global tourism development (Kate, 2011).

Glamping is a luxury camping that is usually set in a natural environment. It is characterized by comfort and a high level of service, which includes the opportunity to try different types of adventure activities, to taste delicious food and drinks, and to denote escape and relaxation in an eco-friendly manner (Leci Sakačova, 2013). Glamping is an unusual combination of extravagance set in the 5-star accommodation quality environment and the tranquillity of the wilderness (The Guardian, 2010).

Glamping is not only a luxury version of the camp; it also represents a concept of rest in close touch with nature alongside keeping privacy. Glamping resorts are usually fenced in, while investment profitability increases in proportion to the duration of the tourist season (Business Diary, 2018).

Today, in these luxurious accommodation units that are located near waterfalls, the sea, on lakes, in the savannas, there are great accommodation facilities that give its guests great comfort and a high level of accommodation.

The first glamping tents have appeared in France, and today there are currently around 1000 models of tents that represent luxury accommodations facilities in the word (Business Diary, 2018). In the African deserts, Canadian mountains, in the Irish rural areas and parts of Thailand during recent year's new accommodation facilities are opening up such as the ethnic-huts or luxuriously furnished tents. Some units have heated carpets, spa treatment huts, and most of them provide high tech lifestyles to their guests (Večernji list, 2018). Types of accommodation in glamping units can be tree houses (huts), nomadic tents, safari tents, campers, Indian tents, domes, eco-barracks, caves, barracks, huts, igloos, train wagons, small cottages, luxury tents, floating homes, huts and tents (Glamping Hub, 2018).

3. THE DEVELOPMENT OF GLAMPING

In the EU countries, in 2017 there were registered 397 124 481 of overnight stays in camps (Eurostat, 2017) and for some European countries, including the Republic of Croatia, it is certainly one of the most important forms of tourism.

According to data retrieved from the Google Trends, glamping as the subject was first searched for in 2007 with the highest attentiveness in Ireland and the United Kingdom. If we compare the aforementioned data during the last 12 years, there is visible a large increase in interest for glamping and appropriately searching for such terms. In the Republic of Croatia, according to Google Trends, the first search for the term glamping was recorded in 2011, and also, as it is the case in the world glamping is on the continuous rise. It's visible that the greatest interest in the concept of glamping has been shown in Lika-Senj County and the Istria County (Google trend, 2019).

Although from these figures is evident that the concept of glamping was introduced relatively late, the ideas about luxury camping can be found from the period of the Ottoman Empire, Mongolian tribes, and finally to the members of English society during the last hundred years: the history of glamping probably goes back to the travels of kings and noblemen when they had all the luxury in their tents of accommodation approximately equal to that of a castle.

The term glamping was not used at that time, but Turkish Ottomans already knew the luxury what tents were about for they were setting up for the Sultan when he traveled around the cities. Such tents would be equipped with silk, expensive carpets, and furniture. At the beginning of the twentieth century, a safari became popular around Africa for wealthy Americans and Britons who wanted to keep the notion of luxury on such adventures. Such tents contained Persian blankets, luxurious linens and the obligatory cook who prepared all the dishes (Vrtodušić Hrgović et al., 2018).

4. GLAMPING IN THE REPUBLIC OF CROATIA

In the Strategy of Tourism Development of the Republic of Croatia until 2020 (Official Gazette 55/13) are listed the improvements of the accommodation offered as one of the priorities of tourism development. With regard to the camping offer, the emphasis is put on building a new camping offer, raising the quality, and the special emphasis is on promoting productive profiling (e.g. products such as family, wellness, luxury or adrenaline camping) and high-quality offer (such as improvement of accommodation, recreation, entertainment).

Therefore, glamping has formal preconditions for further development on the tourist market of the Republic of Croatia. In Table 1 are shown the number of tourists and overnight stays in the camps in 2016 and 2017.

Table 1. Number of tourists and overnight stays in camps in Croatia

Campsites	2016.	2017.
Number of tourists	2 601 373	2 822 227
The number of overnight stays	17 483 616	19 081 574

Source: Ministry of Tourism, 2018.

According to data of the Ministry of Tourism, in 2016, there were 17 483 616 overnight stays in the Republic of Croatia and 2 601 373 tourist campers across the country, while in 2017, there were 19 081 574 overnights stays and 2 822 227 tourist campers in the Republic of Croatia, what represents 16,2% of the total number of tourists in 2017 and 22,2% of the total number of overnights stays in 2017 (Ministry of Tourism of the Republic of Croatia, 2018). According to the Central Bureau of Statistics, for the tourist arrivals and overnight stays in 2017, the highest number of overnight stays on campsites were realized by tourists from Germany (35%), Slovenia (15%), the Netherlands (10%), Austria (10%), Italy (7%) and the Czech Republic (4%). In 2018, there were almost two hundred thousand more or 19 275 307 of overnight stays (Eurostat, 2018), which is an increase of 3,5% over the previous year. Due to such popularity of camping, the offer of accommodation and other activities in the camps has advanced, in order to attract tourists of some higher purchasing power. From the above data is visible the fact that the number of tourists and overnight stays in camps has increased. The assumption is that the Croatian tourism market has the prospect of developing glamping tourism because of its existing capacities, which could be converted into glamping accommodation facilities, because of the mild climate, proximity to emissive tourist markets, natural beauties and resources and unpolluted environment. In the Republic of Croatia, according to media statements from the managers of the hotel chains and tourism professionals, there is a growing demand for glamping accommodation units.

According to a survey that was proceeded by Cvelić Bonifačić, Milohnić and Cerović in 2017, glamping-tourists in the Republic of Croatia are:

- Young and highly educated tourists of high-income
- Decisions regarding glamping depend on nationality and age; Germans and Danes four to twelve months in advance know where and how they want to travel

- Single-family travel is by far the most common form of travel, regardless of nationality, income, and age
- Most of the younger respondents have visited Croatia more than once, while the elderly are the most loyal tourists
- Most of the tourists want to explore a destination they have already visited
- Respondents of younger age have the highest percentage of visits to camps for the first time.

According to the data retrieved from the Glampinghub.com Web portal, in the Republic of Croatia, it's possible to spend holidays in 22 glamping sites (Glamping Hub, uploaded on October 11, 2018). Accommodation price rates range from 60 to 400 Euros per night, depending on the season. On the market of the Republic of Croatia different glamping accommodation units are offered; from luxuriously furnished tents, treehouses, Indian tents, nomadic yurt tents, etc. Research results pertained to Vrtodušić Hrgović, Cvelić Bonifačić and Licul indicate that glamping accommodation in the Republic of Croatia mainly refers to the treehouses, some unusual accommodation formations and to fully equipped tents (Vrtodušić Hrgović et al., 2018).

5. LEGISLATIVE FRAMEWORK

There is no single legislative framework that applies only to glamping resorts and therefore all regulations relating to campsites and camping should be additionally applied to glamping. The only definitions and mention of glamping as a term can be found in the Ordinance on the Classification and Categorization of Catering Establishments from the Campsite Group (Official Gazette 54/16, 68/19, 120/19 - hereinafter: the Ordinance). The said Ordinance defines glamping hut and glamping equipment. In accordance to Article 14, Paragraph 8 of the Ordinance, "the glamping hut (house) is mobile camping equipment made of a solid material, it's not firmly attached to the ground (i.e. it's removable), of unusual shape or spatially positioned in an unusual way (e.g. underground, on columns, wood, water, rock, etc.), with or without a bathroom ", and in Article 14 Paragraph 9, defines glamping equipment as " mobile camping equipment, made only partially or whole from solid material that provides a higher level of service than usual (such is a tent with a bathroom) and/or which is spatially arranged in an unusual way (e.g. it's positioned on columns, wood, water, rock)".

It is very interesting that the definition of the term glamping as luxury camping does not have any amendments of the Ordinance (only its derivatives), and it is certainly necessary to include such definition of the aforementioned term in some of the regulations in the future. The 2019 Ordinance Amendments made a new division of the campsite facilities into camps, glamping and camp as a holiday place. By this change was also defined as the types of services that can be provided in glamping objects, and the most significant change has been related to object categories. The camp may have four categories such as two, three, four and five stars, but glamping has two categories: four and five stars.

In recent years, camps have been making great efforts to improve their offerings, all with the aim of increasing their competitiveness in the market. It is precisely this improvement that tourists themselves are demanding, as it is evident that the quality of life is also increasing - from the advancement of technology to high lifestyle, and all this has led to camping, which may no longer necessarily be a cheap holiday.

The Tourism Development Strategy of the Republic of Croatia until 2020 described in Official Gazette 55/13 (hereinafter: the Strategy), has recognized the importance of improving the camps and set itself the goals of „enriching the observed offer in the camps, increasing the quality of the accommodation offer in the camps - enriching the offer, raising categories, the introduction of additional standards of quality of service, the introduction of wellness offers in selected camps".

In addition to standard camps, the Strategy has also identified in the section of the campsite offers some other forms of tourism where the camps are important, especially in the context of year-round business:

- Themed small camps - boutique campsites, family camps and camps on agricultural farms
- Eco camps
- Camps on the continent - next to attractions and on or along major transport routes and in the cities
- Camps located adjacent to or in special protection areas - such as national parks, nature parks, islands, etc.
- Camps with specific services - camp settlements and camps as rest (holiday) areas.

One of the goals of the Strategy is to remove business and development constraints that are related to the harmonization of legislation, i.e. to the exclusion of problems related to tourist land, concessions and maritime domain. As an important item, it also emphasizes the removal of business and development restrictions when constructing camping sites.

5.1. Legal regulations for camps

Legal regulations that are particularly relevant to the campsites are the Act of Hospitality and Catering Industry (Official Gazettes 85/15, 121/16, 99/18, 25/19), Ordinance on the Classification and Categorization of Catering Establishments from the Camps Group (Official Gazettes 54/16, 68/19, 120/19) and, in addition, several regulations requiring major interventions for future amendments.

5.2. High priority legal regulations for campsites that require modifications

As particularly important legal regulations, which also carry with them certain problems that camps face, are primarily the Act on Tourist and other Construction Land that has not been evaluated in the process of conversion and privatization (Official Gazette 92/10) and the Tourist Tax Act (Official Gazette 52/19). In addition to the above mentioned, certain amendments are also necessary for the Law on Maritime Domain and Seaports (Official Gazettes 158/03, 100/04, 141/06, 38/09, 123/11, 56/16).

5.2.1. Act on Tourist and other Construction Land that has not been evaluated during the process of conversion and privatization

With the strategy it was set the task of making changes to the Act on Tourist and other Construction Land in the part that will define the actual areas of the camping and urban areas, and that it will resolve the status of land and other real estate's that are owned by other persons, and to resolve the ownership relations of the Republic of Croatia and trading companies as prescribed by law for tourist resorts and hotels. But no changes to the Act have been made. This Act was adopted in 2010 with the aim of resolving the issues of tourists and another construction land, which remained invaluable and not included in the share capital of the trading company during the process of conversion and privatization (Jug, 2014, 381). However, there remained unresolved issues raised by the law regarding the regulation of property relations relating to the dissolution of the established co-ownership (because no co-ownership ratios could be determined), the award of concessions and the determination of the shape and size of the parcels of land that were subject to conversion and for this reason, the solutions offered by the law did not produce practical effects and to no camps have been established co-ownership ratios or given concessions.

5.2.2. Tourist Tax Act

Pursuant to the Tourist Tax Act, Article 9, Paragraph 1, persons who use the overnight service in the accommodation facility where the catering activity is carried out, pay the tourist tax per overnight stay. This group also encompasses camps or persons who spend nights in camps. The aforementioned law, which has been in force since May 30, 2019, stipulates that the decision on the number of tourist fees will be made by the County Assembly of the City of Zagreb, with the opinion of the Zagreb Tourist Board for the region of City of Zagreb (Article 15, Paragraph 1). Likewise, by Article 15, Paragraph 7 stipulates that the minimum and the highest amount of the tourist tax that shall be prescribed by the competent minister by means of an ordinance. This is a novelty with regard to the Income Tax Act (Official Gazette 152/08, 59/09, 97/13, 158/13, 30/14), which was repealed with the entry into force of the Tourist Tax Act. In accordance with the aforementioned Act, the Government of the Republic of Croatia adopted a Decree on determining the amount of the residence (accommodation) tax for each year. The government brought the last one for 2019 (Official Gazette 71/18). The decision with regards to the amount of the tourist tax in accordance with the old law for camps was a burden, due to the highest implemented VAT rate on accommodation in the Mediterranean and because of the higher price of the tourist tax than in the competing camps abroad (Rihelj, 2017). A new regulation on the amount of the tourist tax is currently under public debate and remains to be seen what possible solutions it will offer. The current text of the camp rules provides for the 8 HRK as minimum amount and the 15 HRK maximum amounts per night during the period from 1st April to 30th September, while for the rest of the period it will exceed the minimum of 5 HRK and a maximum of 10 HRK of the tourist tax. The current lowest proposed amounts are precisely those that were prescribed for the year 2019 by the Ordinance, so no major changes should be expected except perhaps an increase in the current fees, which will be decided by the County Assemblies or the City Assembly of City of Zagreb.

5.2.3. Law on Maritime Domain and Seaports

The Law on Maritime Domain and Seaports is extremely important for camps, which was recognized by the strategy itself when it was set out to make certain changes to it. The changes that it had in mind that concerned camps were to improve the process of granting concessions, especially in the maritime domain (shortening the duration of procedures when establishing the maritime domain boundaries, prescribe the possibility of granting concessions to subjects that proceeds with the catering-tourist activities on the basis of a request, but not on the basis of the public tender). The most important proposal in the Camping Strategy is the requirement to amend the law in the form of establishing closed maritime concessions and recognizing the investment in beaches. What is visible from the current text of the law is that in the meanwhile no major changes have been made and that, in accordance with Article 17 of the concession for the economic use of the maritime domain, they continue to be made on the basis of public tender. Therefore, the procedure for determining the boundaries of the maritime domain has remained the same, and the concept of closed concessions has not been further elaborated, which can be probably further regulated by the decision on concessions and the concession contract.

6. TYPES OF ACCOMMODATION UNITS IN GLAMPING

When we talk about Glamping, Ordinance on the Classification and Categorization of Catering Establishments from the Camps Group in Article 34 stipulates that the objects from the Camps Group shall be classified as Camps, Glamping and Camping holiday sites. Glamping is considered to be an object in function as a service facility offering:

- Accommodation on basic accommodation units - camping
- Accommodation in buildings; bungalow, pavilion, and others
- Food, drink, and beverages

- Rental of mobile camping equipment; such as tables, chairs, glamping tents, glamping huts and the like
- Practicing sports and/or other forms of recreation at or near the campsite
- Other services for the purpose of tourist consumption (Article 36a of the Ordinance).

The glamping facility must have common facilities (reception desk, access roads, sanitary facilities, catering facilities, sports, and recreational facilities, landscaped environment and other facilities and functions for the purpose of tourist consumption) and also basic accommodation units. The Ordinance also stipulates that all basic accommodation units must be equipped with glamping equipment or glamping tents and/or glamping huts, all equipped with private bathrooms.

Considering that this new amendment to the Ordinance entered into force in 2019, and by that time numerous glamping sites had already been made in the Republic of Croatia, it is not surprising to the varied offer of accommodation units within glamping. In glamping, a tent is just one of the types of accommodation, as glamping requires luxury and an innovative approach to attract even those who are scared of the vacation in the wilderness but would still like to experience a part of it. Today's glamping tents feature a comfortable bed with linens, they are often air-conditioned and have electricity and private bathrooms. However, over time, the tent as a unit was not sufficient and the term glamping was extended to other types of accommodation units, which in most cases are ecological with minimal environmental impact and they are mounting.

The most common types of accommodation are still tents, but they are not offered in the traditional form but as *yurts* - around larger tent-like structure used in the past by Asian nomads, *tipis* - raised triangular styled tent, tents which appearance resemble domes, but also glamping has extended to wooden houses on the trees, huts, old wagons that were converted into luxury accommodations facilities, etc. (Accomodations, 2019).

7. SWOT ANALYSIS OF THE DEVELOPMENT OF GLAMPING IN THE REPUBLIC OF CROATIA

Table 2. SWOT analysis of the development of glamping in the Republic of Croatia

STRENGTHS	WEAKNESSES
- The beauty of nature - Rich cultural heritage - The rich traditional gastronomic offer - Natural environments without noise and congestion, e.g. on islands and in rural areas - High demand for camping - An offer of other services: wellness, extreme sports - Camping as one of the goals of tourism development in the Croatian Tourism Development Strategy	- Insufficient promotion of this form of tourism - Insufficient glamping accommodation capacities - Insufficient differentiation of a glamping accommodation - There is no single legislative framework for glamping alone - The burden of the amount of the accommodation tax - Absence of other types of glamping accommodation facilities in the Ordinance on the Classification and Categorization of Catering Establishments other than glamping hut
OPPORTUNITIES	**THREATS**
- Increasing the quality of life of tourists - Existing campsites accommodations - Development of the entrepreneurship - Development of rural tourism - Available means from the EU funds - Development of ecological gastronomic offer - Trends in eco-tourism - Improvement of the process of granting concessions to the maritime domain	- Other tourism markets - The high cost of an overnight stay accommodation - Bad weather - Seasonality of tourism in the Republic of Croatia

Source: author's work

The strengths and weaknesses in the SWOT analysis of glamping development represent the inherent character of this form of tourism, with opportunities and threats that come from the environment. Under the strengths are listed the benefits of glamping in the Republic of Croatia (such as the beauty of nature, rich cultural heritage, natural environments without noise and crowds, for instance, such as on islands and in rural areas, together with the high demand for camping, etc.), and under the weaknesses are presented the facts that have a negative impact on the development of glamping and those should be improved. Opportunities in SWOT analysis are external factors that can be exploited if they were identified and appropriate resources were found (such as enhancing the quality of life of tourists, development of entrepreneurship, development of rural tourism, EU funds, improving the process of concessions for the maritime domain, etc.). Threats constitute external factors present as aggravating circumstances for the development of glamping (the other tourism markets, the high price of the overnight stay, unstable weather conditions, the seasonality of tourism in the Republic of Croatia). The aim of the SWOT analysis is to minimize weaknesses while increasing the strengths for the development of glamping in the Republic of Croatia at the same time with the concurrent use of opportunities while reducing the opportunities stemming from the environment.

Since strengths outweigh weaknesses and also for the opportunities outweigh threats, the development of glamping in the Republic of Croatia has the growth strategy potential.

8. CONCLUSION

Camping as a term in recent times has changed its original meaning and does not necessarily mean a full contact with nature, but also retains the luxury that many cannot give up in their desire for an adventure. Further development of glamping is expected, and the Republic of Croatia, with its natural beauty and high demand, should definitely focus on camping but it should also aim its tourist development in this direction. However, we should as soon as possible get rid of the legal problems that all camps and investors are facing with their new ideas. Consideration should also be given to the official definition of glamping in the Republic of Croatia in a form of legislation that will still give one dose of seriousness. All the up to date definitions so far derive from the Ordinance of Classification and Categorization of Catering Establishments from the Camps Groups which is much easier to amend than any of the laws. Ultimately, this also leads to legal uncertainty, as an investor who today invests in glamping does not know if he will tomorrow oblige to the rules alongside with changes to the Ordinance. With the financial help from the EU funds and harmonization of legal regulations, the development of entrepreneurship in glamping tourism in the Republic of Croatia has the necessary prerequisites for its development.

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INFORMATION MODEL FOR WORLD FISHERY MANAGEMENT ACCORDING TO THE EU PARLIAMENT RESOLUTION JOIN (2016)0049 FROM 2016 TO 2022

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Abstract

This paper investigates the result of the implementation of the EU Parliament Resolution JOIN (2016) 0049 through fishery management in oceans and seas worldwide at the end of 2019. This Resolution was adopted on 10th November 2016 and it gave a plan for the future of oceans and seas through sustainable development agenda until 2030. This paper investigates major variables of the information model as follows: legal framework, sustainable development, fishing fleet, environmental impact, and sociological impact, all by the end of 2022, and all in relation to the EU Parliament Resolution JOIN (2016) 0049. An appropriate combination of the following scientific methods was used: inductive and deductive method, comparative method, analysis and synthesis method, modeling method, etc. In the future, the implementation of the EU Resolution (2016) 0049 through world fisheries management will be investigated through indirect world fisheries management information *model growth rates. Practical and other implications of this paper are mirrored through the implementation of the mentioned Resolution on fisheries in oceans and seas worldwide by the end of 2022.*

Keywords: *legal framework, sustainable management, fishing fleet, environmental impact, sociological impact*

JEL Classification: K20, K23

1. INTRODUCTION

The European Parliament adopted the Resolution JOIN 0049 on 10th November 2016. The Resolution legally regulates fisheries management in oceans and seas worldwide. The objective of the Resolution is to have all world countries implement relevant fisheries legal instruments such as UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks, Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing ('FAO Port State Measures Agreement'), FAO Compliance Agreement. The JOIN (2016) 0049 Resolution also stimulates world countries to fully implement the provisions of the mentioned instruments as well as other international action plans, related to fisheries management in oceans and seas worldwide.

The basic scientific hypothesis of this research is: 'It is possible to use scientific insight on sustainable fisheries management in oceans and seas worldwide to propose a new information model for world fisheries management in line with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022.'

The combination of the following scientific methods has been used in conducting this research: inductive and deductive method, comparative method, analysis and synthesis method, modeling method, etc.

In order to create the model, model variables needed to be determined beforehand: legal framework, sustainable management, fishing fleet, environmental impact, and sociological impact. The model gives values of direct variable rates, changes in the intensity of their values as well as their structural relations. Finally, the authors provide a scientifically based confirmation of the scientific hypothesis proposed in this research.

2. SUSTAINABLE FISHERIES MANAGEMENT IN OCEANS AND SEAS WORLDWIDE IN ACCORDANCE WITH THE EU PARLIAMENT RESOLUTION JOIN (2016) 0049

The objective of the EU Parliament Resolution (2016) 0049 is, among other things, preservation and sustainable use of marine resources. The Resolution highlights the importance of firm partnerships, international cooperation, and multilateral dialogue. A number of authors have investigated this issue, but none of them managed to develop a systematic approach to this topic as a preparation to quantify values of variables mentioned and to create an information model of world fisheries management in line with the significant and comprehensive EU parliament Resolution JOIN (2016) 0049.

2.1. Theoretical Aspect of Sustainable Fisheries Management in Oceans and Seas Worldwide

As mentioned before, many authors investigated this topic. Additionally, numerous conventions, protocols, resolutions, etc. have been analyzed through a hermeneutical approach, all related to world fisheries management.

Planning in preserving and sustaining marine and coastal biodiversity (Pickaver et al, 2004, p. 449 – 462) in fisheries represents a good example of research and implementation (Garcia & Charles, 2008, p. 505 – 527). The understanding is that the solution of fisheries issues is only possible on a world level and countries also outside the EU should be included and mutual cooperation should be achieved (Jacques, 2015, p. 165-170). Burdened fisheries management arises from a plentiful of conflicting interests (Rosenberg et al, 1993, p. 828-829).

Sustainable fisheries are what everyone should strive for. Sustainable fisheries are the one that preserves a healthy ecosystem for future generations (Gascuel et al, 2011, p. 1-6). In order to achieve sustainable fisheries, all stakeholders need to be included in the decision-making process (Treer et al, 1995). It will be easier if commonly conflicting interests are met (Fulton et al, 2014).

Illegal fishing accounts for between 11 and 26 million tonnes and is worth 72.5 billion dollars a year (Sander et al, 2014, p. 112 – 122.)

Fishing fleet overcapacity and the frequency of fishing activities may lead to overfishing. Consequently, the total amount of biomass is reduced as well as the size of specimen i.e. it may lead to a situation where the fish catch is reduced although fishing equipment is increased or improved (Froese, 2004).

Global warming needs to also be taken into consideration. Due to global warming, organism migrations will become regional (OECD, 2013). The countries in whose seas the migrations happen might benefit from it (Froese, 2004).

The EU strives to reduce the total fishing fleet capacities. With regard to tonnage and engine power in the past 19 years, the capacity of the EU fishing fleet has been declining at a continuous annual rate of slightly below 2 % (European Commission, 2013). However, the EU failed to achieve the set sociological, economic and environmental objectives (Khalilian et al, 2010, p. 1178-82). The industry suffers from low profitability, and 88% of the determined fishing stocks are overfished (European Commission, 2009). The reason lies in the fact that the objectives of the fishing policy are too broad and without priorities (Da Rocha, 2012, p. 1309-1314). Thus, it is important to immediately set up a new fisheries management system in Europe. Fishing fleets need to be additionally reduced. Also, marine resources need to be preserved through the fishermen's responsibility (Hentrich & Salomon, 2006, p. 712-720). USA, Canada, and Norway, among other things, insist on a division of responsibilities between governmental bodies and fishing communities (Pomeroy & Berkes, 1997, p. 465-480). That is a good example of sustainable fisheries. For those countries, the priority is environmental sustainability and adhering to scientific advice. Economic and sociological objectives are less important, which is not the case in the EU (Österblom, 2011, p. 568- 574).

With regard to the Mediterranean Sea, the 20th century saw growing differences between south and north coasts. General Fisheries Commission for the Mediterranean (GFCM) agreed on the classification of fishing fleets across the Mediterranean, started to intensively work on the analysis of sociological and economic aspects of Mediterranean fishing activities and also developed management principles for joint living marine resources (European Commission, 2009).

Aquaculture ensures stable annual catch amounts (Sander, 2014, p. 112 – 122). Fish farming is conducted in small shallow bays with canals towards the open sea blocked (Treer, 1995). With regard to Bluefin tuna, a great part of the catch is reserved (17-37 %). Farming is mostly conducted in the Mediterranean region, Mexico, Australia and Japan (Metian, 2014, p. 184 – 192).

Fishing funds are additionally diminished by fishing with bottom trawl since it understands unselective catch (Bakran – Petricioli, 2010).

2.2. Legal Framework for Fisheries

The EU is at the forefront of the fight against illegal fishing. The Resolution particularly highlights the fight that the EU has been having against illegal, unreported and unregulated fishing (IUU). The EU promotes the fight against IUU fishing in all world organizations for fisheries management. In 2008 the EU adopted the IUU Regulation and started dialogues on those issues with more than 500 world countries. As a result, 14 countries have reformed their control and management systems. Sustainable fisheries partnership agreements (SFPA) are being successfully implemented. Since November 2018 ten of such agreements has been concluded. Their value is 135 million Euros annually. With the support of the EU, the Plan for Fisheries in the Mediterranean Sea and the Black Sea was adopted and more rigid procedures on including vessels plying the Southern Indian Ocean on the lists. The EU demands all countries implement relevant fisheries legal instruments particularly the UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks, Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the FAO Compliance Agreement. The Resolution encourages the banning of the distribution of marine products caught using illegal tools. Additionally, the EU proposed to the World Trade Organisation in October 2016 to ban subsidies for fisheries that contribute to overfishing. The Resolution invites the legal approval of innovative and selective fishing techniques. EU shall support and implement all measures for eradicating illegal, unreported and unregulated fishing. The EU suggests a more efficient verification of catch documentation in order to provide evidence for legal fishing (JOIN, 2016).

2.3. Sustainable Management

The European Union holds a comprehensive set of legal tools aiming at various elements of ocean and sea management. The Resolution invites the Commission to multicultural cooperation or bilateral dialogue for the purpose of protection, preservation, and restoration of marine ecosystems and biodiversity, at the same time making conditions for sustainable blue economies. The Resolution encourages better cooperation between regional organizations for fisheries management. The EU encourages the implementation of recommendations from the Second Conference on the continuation of the audit of the EU Straddling Fish Stocks and Highly Migratory Fish Stocks Agreement. The EU supports innovation in the fishing industry, as well as investments in the development and implementation of selective fishing techniques. The EU encourages the fight against illegal fishing. The Resolution reminds us that fishing is one of the major traditional human activities. The Resolution calls for harmonization of monitoring surveillance, penalty and sanction measures. Common Fisheries Policy (CFP) needs to ensure the maintenance of fishing mortality rates at levels that ensure recovery of fish stocks. The EU insists that a decentralized and regionalized approach needs to be adopted for international ocean management, the same as in fisheries management plans. Coordinated actions both of the EU and regional countries need to address the prevention of unregulated fishing in the central Arctic Ocean (JOIN, 2016).

2.4. Fishing Fleet

The Resolution particularly highlights the importance of equal conditions for fishing fleets in the EU and in other world countries. The EU adopted new regulations in order to ensure that EU fishing fleets perform sustainable fishing in and outside EU waters. Fishing vessels of all world countries need to satisfy high ecological standards in case they want to fish in the waters under EU country jurisdiction. In that way, the EU fishing fleet would not be put in an unfavorable position. The Commission needs to strengthen cooperation with non-EU members through the construction of fishing capacities and particularly through sustainable fisheries partnership agreements. The EU asks for public disclosure of vessels under the EU flag that is engaged in illegal, unregulated and unregistered fishing, as stated in the IUU Regulation. The Regulation enhances the importance of the decision that all EU vessels whose total length exceeds 24 meters or whose gross tonnage exceeds 100 tonnes, and which fish in EU waters, as well as all EU vessels whose total length exceeds 15 meters and which fish outside European waters, need to be registered with the International Maritime Organisation. This procedure facilitates the identification of vessels engaged in fishing activities. The Resolution encourages the EU to label non-EU vessels (whose length exceeds 15 meters) (JOIN, 2016).

2.5. Environmental Impact of Fisheries

The Resolution demands the EU to encourage countries to empower mutual cooperation by acting co-ordinately and by exchanging information. Ecologically and biologically healthy parts of oceans and seas need to be preserved for future generations. The EU demands the impacts of aquaculture on the environment and wild fish stocks to be reduced to a minimum. That will enable sustainable fish quantities needed for food resources of the population. Caught wild fish stocks used for animal food production shall not have priority over food for the population. It also stresses that it is important to start dealing with the problem of invasive species, having in mind their harmful impact on fisheries. That is particularly problematic for small and closed seas. Invasive species dramatically unbalance natural ecosystems. In 2017 the EU started a strategy on plastics in line with the Sustainable Development Programme until 2030 because plastic and microplastics account for around 80 % of marine waste harmful for fisheries. The implementation of the G7 Action Plan for fighting marine water will be helpful in this regard. Through Marine Strategy Framework Directives until 2020 the EU demands to eradicate subsidies that encourage unsustainable fisheries (JOIN, 2016).

2.6. Sociological Impact of Fisheries

EU Parliament Resolution JOIN (2016) 0049 stipulates that blue economies, through social impact, significantly affect the dignified life of coastal areas. The EU claims that fisheries need to have a positive socio-economic impact such as employment, revenue and gross added value. The Commission promotes equal conditions on the labor market in the maritime industry. The fair relationship is demanded, and efficient implementation of applicable international conventions, such as the Convention on Work in Fishing. A harmonized sociological framework for maritime activities is also needed. The EU calls for the adoption of a new international agreement on labor conditions in the fishing industry. The Resolution demands termination of all forms of slavery on fishing vessels. It is highlighted that poor working conditions may have a significantly harmful impact on the marine environment. The EU demands social impact to be taken into consideration in the distribution of fishing resources. The Resolution says that sustainable fisheries provide coastal communities security of food supply and also decrease poverty. The process of informing and participation of all interested parties in the sustainable use of ocean and marine resources is immensely important. The Resolution needs to have a strong impact on the EU social standard, but also on coastal communities worldwide as well (JOIN, 2016).

3. RESULTS OF THE IMPLEMENTATION OF THE EU PARLIAMENT RESOLUTION JOIN (2016) 0049 AT THE END OF 2019

EU Parliament Resolution JOIN (2016) 0049 has been successfully implemented. Certain measures of the Resolution have already been implemented, and some are going to be implemented in the period from 2019 to 2030. The EU has initiated international cooperation on all continents. The EU has secured 590 million Euros for the Resolution, for the purpose of promoting better ocean management among third countries, and over 500 million Euros is invested in Horizon 2020, the ocean and sea research program.

The EU was active within the UNCLOS (Convention on the Law of the Sea). The EU was at the forefront in achieving progress towards a legally binding instrument for the protection of biological diversity on the open sea. Through the EU Convention on Biological Diversity (CBD) the EU insists on establishing ecologically or biologically significant marine areas (EBSA) in order to protect them. The EU financially supports the implementation of the Convention on International Trade in Endangered Species. Additionally, the EU has, in the past three years, contributed to preservation and fisheries management through regional fisheries management organizations (RFMO) and regional maritime conventions. For those purposes, the EU secured 17 million Euros in the period from 2017 – 2018 for better management (including tuna RFMOs). The result is positive because, at the end of 2017, 16 out of 18 typical tuna stocks in the world stood at sustainable levels. The EU secured 35 million Euros for Pacific countries, 87 million Euros for cooperation with Cambodia within the new CAPFISH Programme of ecological fishing products labeling, 28 million Euros for Indian ocean region within the ECOFISH Programme, 15 million Euros for west Africa within the PESCAO Programme, etc. The EU is the forefront of the fight against illegal and unsustainable fisheries. The EU has started dialogues on those issues with more than 50 countries in major fishing regions. Owing to those dialogues 14 countries have successfully reformed their sustainable fisheries partnership agreements (SFPA) (Illegal fishing overview of existing procedures third countries). By November 2018 ten such agreements were concluded, with a total budget of 135 million Euros annually. With EU support a plan on the prevention of illegal and unsustainable fisheries in the Mediterranean Sea and the Black Sea was adopted. The EU has introduced new rules that stipulate that EU fleets engage in sustainable fisheries outside EU waters. The EU conducts a pilot-project for strengthening measures for a distraction from illegal and unsustainable fisheries worldwide. The EU and nine other signatories have made an agreement (October 2018) that, for a period of 16 years, commercial fishing will be banned in a part of the Arctic Ocean, an area the size of the Adriatic Sea. In such a way sensitive marine ecosystems will be preserved for future generations. The EU signed a Joint Statement with South Korea on mutual activities on the prevention of illegal and unsustainable fisheries. Also, the EU signed a partnership for oceans with China in 2018, and with Canada in 2019. In Burgas, Bulgaria in 2018 the EU initiated the development of a joint marine program for the Black Sea. The EU proposed to the World Trade Organisation to ban subsidies for fisheries that contribute to overcapacity, overfishing and engaging in illegal and unsustainable fisheries. The Commission has proposed assigned funds from the European Fishing Fund for the period from 2021 to 2027 (018/0243 (COD).

4. DESIGN OF THE INFORMATION MODEL OF WORLD FISHERIES MANAGEMENT IN ACCORDANCE WITH THE EU PARLIAMENT RESOLUTION JOIN (2016) 0049 FROM 2016 TO 2022

Quantification of the information model for world fisheries management in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022 arises from quantitative research, where qualitative materials of selected model variables will be transformed into a numerical form.

Evaluation of model variables takes into account the synergic impact of the following scientific aspects: scientific theoretical aspects of certain model variables, values, and significance of model variables in the period analyzed in the research, i.e. from 2016 to 2019 and expected values of variables in 2022.

The design of the information model of world fisheries management in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022 is based on the previously determined model variables: legal framework, sustainable management, fishing fleet, environmental impact, and sociological impact.

The starting point is that each variable is evaluated on an index scale from zero to 100, where zero is the value of variables in the poorest world countries and value 100 in line with the EU Parliament Resolution JOIN (2016) 0049. The model quantifies average values on the world level. Based on mental and verbal insights on the mentioned issue in the world from 2016 to 2019 and based on scientific and theoretical aspects of model variables previously mentioned in the paper, their levels are quantified in 2016, in 2019 as well as in 2022, as shown in Table 1.

Table 1. Quantification of variables of the information model for worldwide fisheries management in accordance with the EU Parliament Resolution JOIN (2016)0049 from 2016 to 2022.

Variables of the information model of world fisheries management in line with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022		Inputs y			Differences (growth/decline)
		2016	2019	2022	2016/22
1.	legal framework	22	28	35	13
2.	sustainable management	16	27	39	23
3.	fishing fleet	34	46	59	25
4.	environmental impact	28	39	54	26
5.	sociological impact	72	77	83	11

Source: Authors

Below is the growth matrix of the information model for fisheries management worldwide in accordance with the EU Parliament Resolution U JOIN (2016) 0049 from 2016 to 2022.

Model growth vector: $\Delta Y_{2022}\begin{bmatrix}13\\23\\25\\26\\11\end{bmatrix};$

Model reciprocal vector: $\frac{1}{Y_{2022}} = \left(\frac{1}{35}, \frac{1}{39}, \frac{1}{59}, \frac{1}{54}, \frac{1}{83}\right)$;

Matrix calculus:

$$R_{2028} \begin{bmatrix} \frac{13}{35} & \frac{13}{39} & \frac{13}{59} & \frac{13}{54} & \frac{13}{83} \\ \frac{23}{35} & \frac{23}{39} & \frac{23}{59} & \frac{23}{54} & \frac{23}{83} \\ \frac{25}{35} & \frac{25}{39} & \frac{25}{59} & \frac{25}{54} & \frac{25}{83} \\ \frac{26}{35} & \frac{26}{39} & \frac{26}{59} & \frac{26}{54} & \frac{26}{83} \\ \frac{11}{35} & \frac{11}{39} & \frac{11}{59} & \frac{11}{54} & \frac{11}{27} \end{bmatrix}; R_{2028} \begin{bmatrix} 0{,}371 & 0{,}333 & 0{,}220 & 0{,}241 & 0{,}157 \\ 0{,}657 & 0{,}590 & 0{,}390 & 0{,}426 & 0{,}277 \\ 0{,}714 & 0{,}641 & 0{,}424 & 0{,}463 & 0{,}301 \\ 0{,}743 & 0{,}667 & 0{,}441 & 0{,}481 & 0{,}313 \\ 0{,}314 & 0{,}282 & 0{,}186 & 0{,}204 & 0{,}407 \end{bmatrix}$$

Table 2 arises from the matrix calculus.

Table 2. Points for direct growth rates of the information model for worldwide fisheries management according to the EU Resolution JOIN (2016) 0049 from 2016 to 2022, on index scale from zero to 100.

Model variables	1.	2.	3.	4.	5.
1.	**37.1**	33.3	22.0	24.1	15.7
2.	65.7	**59.0**	39.0	42.6	27.7
3.	71.4	64.1	**42.4**	46.3	30.1
4.	74.3	66.7	44.1	**48.1**	31.3
5.	31.4	28.2	18.6	20.4	**40.7**

Source: Authors

Table 2 clearly shows that point values of selected variables, direct growth rates of the information model for fisheries management worldwide in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022 (diagonally) amount from 37.1 to 59.0. The difference in values between the last column (differences) in Table 1 and values of direct rates of the information model for fisheries management worldwide in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022 shown diagonally in Table 2 are obvious. The differences arose due to the mutual impact of information model variables for the selected period. Calculation of the direct growth rate of the information model for fisheries management worldwide in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022 is realistic with respect to the explanation given in the previous chapter. Indirect growth rate point values of the information model for fisheries management worldwide in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022 will not be commented in this paper, due to lack of space. This issue may be discussed in a separate paper.

5. CONCLUSION

The information model for fisheries management worldwide in accordance with the EU Parliament Resolution JOIN (2016)0049 from 2016 to 2022 is designed for the first time in this paper. The Resolution is aimed at encouraging synergic actions of world countries to deal with problems in the area of ocean and sea management in the fisheries sector.

The basic scientific hypothesis of this research is: 'It is possible to use scientific insight on sustainable fisheries management in oceans and seas worldwide to propose a new information model for world fisheries management in accordance with the EU Parliament Resolution JOIN (2016) 0049 from 2016 to 2022. This hypothesis is demonstrated through a matrix calculus using direct growth rates, as follows: legal framework => 37.1; sustainable management => 59.0; fishing fleet => 42.4; ecological impact => 48.1 and sociological impact => 40.7.

Numerous achievements have been reached since the adaptation of the EU Parliament Resolution JOIN (2016) 0049 in 2016. However, overfishing continues to be the greatest problem in the future, when it comes to sustainable marine life. Individual countries are unable to tackle that issue alone, without international cooperation through an international legal framework.

In the past three years, the EU has contributed to preservation and fisheries management through regional fisheries management organizations (RFMO) and regional maritime conventions, with the aim to improve the holistic and scientifically based management. This process needs to continue in the long term through the UN Convention on the Law of the Sea (UNCLOS). The EU needs to guarantee that provisions related to fisheries have an important role in the legally-binding UN instruments for all world countries.

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BETWEEN TWO UNIONS: A LEGAL APPRAISAL OF THE SCOTLAND'S RIGHT TO SECESSION FROM THE UK

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Abstract

Scotland's contemporary demands for secession from the United Kingdom (UK) are both complex and intriguing, as well as fundamentally different from other similar demands in highly developed democratic societies. Initially, British authorities took a pragmatic stance and instead of ignoring and resisting, under reasoned legal and political moves in the 2014 referendum, they temporarily succeeded in persuading Scottish voters to remain in the UK. However, as early as in 2016, the UK European Union membership referendum results showed that, contrary to the will of the rest of the country, Scotland voted in favor of the UK staying in the EU. This fact has become crucial to the reawakened Scottish pro-secession forces who are now seeking a new Scottish independence referendum based on substantially changed circumstances.

The legal debate over whether the complex and controversial right of a people to self-determination also includes the right to secession has been going on continuously for decades. Self-determination was primarily concerned with oppressed and disenfranchised peoples so that the situation when such a claim arises in developed democratic states is a kind of anomaly. In this context, the paper provides a legal analysis of the debate as to how crucial the argument is that based on Brexit-related substantially changed circumstances, Scotland has a legal basis to seek an exit from the UK, and whether Scotland is entitled to a *new secession referendum, and whether such a referendum, as well as secession in general, can be legal and legitimate in terms of international and UK law.*

Keywords: *secession, self-determination, Scotland, United Kingdom, European Union*

JEL Classification: K33

1. INTRODUCTION

Self-determination is one of the most attractive, but also controversial, rights in international law, and the question as to whether the right to self-determination also includes the right to secession is one of the most complex and difficult issues in the contemporary international community, not only in legal but also in political, economic and ethical terms. The answers to the questions in which groups of people are entitled to the right to self-determination, how they can exercise that right, what the right to self-determination includes, and especially whether it also includes the right to secession, have not been given to date. Almost all issues referring to the right to self-determination in the second half of the 20th century were traditionally related to oppressed and disenfranchised peoples, whether they were in colonial rule, occupation, dictatorship or some other form of undemocratic rule. When the right to self-determination was gradually spread to peoples living in democratic and economically wealthy states and societies, an already complicated situation about beneficiaries, the scope of application and the process of self-determination has become even more dramatic. Self-determination has thus gradually begun to emerge as a requirement in modern and functional democracies, i.e., the United Kingdom (UK), Spain, and Canada. These are only a few serious examples, while the number of those with less developed secessionist movements in economically weaker and less democratic countries is much greater.

Strong secessionist movements in Europe have become especially controversial and demanding. The European continent has such a large concentration of states in a small area as no other continent. And even in such a highly parcelled area, despite a strong promotion of European unity and integration, there are clear and strong secessionist movements such as Catalonia in Spain, as well as Basque but with slightly lower intensity, Scotland in the UK, then there is the uncertainty of Flanders in Belgium, etc. Coppieters states that there are about 20 "significant" separatist movements in Europe (Coppieters, 2010, p. 237 and p. 247). European countries are afraid of the possibility that even one of approximately 250 regions or provinces, of which Catalonia and Scotland have gone furthest in this matter, would succeed in its secessionist demands. Demands to redraw international borders and irredentist threats are the result of the deep and long-lasting resentment of several European nations and minorities after World War I and World War II. The impact that all of this has is political instability which could trigger an economic crisis on European soil. To date, no territory has successfully seceded from an EU Member State, declared independence and applied for EU membership. Thus, the fear of terrorist attacks, the refugee crisis, and secessionist movements in Europe are certainly some of the most dramatic and major problems in the EU. The question arises as to how to reconcile two conflicting demands, i.e., one for the unification of Europe and the other, a nationalist demand, aimed at separating peoples and drawing new international borders along lines of ethnicity.

Unlike non-democratic states, where it is not a problem to legitimize the right to self-determination, it is much more difficult to justify the situation with the demands for self-determination of peoples in highly democratic states. On the other hand, it is difficult to represent oneself as a modern democratic state ruled by law, limiting at the same time the collective rights of its citizens in fear of losing territory by secession.

The first part of the paper will give a historical overview of the recent period of Scottish secessionist claims from the late 1990s to the present. Following this, a review and legal analysis will be given of the consequences of the 2014 Scottish Independence Referendum results and the 2016 EU Brexit Referendum. Finally, a legal analysis will be given of the question as to whether the Scottish people are entitled to the right to secession in the context of Brexit and the withdrawal of the UK from the EU as a new and important circumstance. The EU referendum results clearly show the picture of Scots as Europhiles, as they predominantly voted to remain in the EU, unlike the rest of the UK. While the EU was opposed to the idea of regions seceding from the EU Member States (e.g. Catalonia and Scotland), it would be interesting to see what would happen if a Member State "seceded" from the EU and some part of that territory wanted to return to the EU. This is precisely what happens with the UK leaving the EU and the desire to bring Scotland back into the EU with a request to be admitted as a new Member State. Interestingly, in the 2014 referendum on the secession of Scotland from the UK, a key argument against secession were warnings and threats to Scottish voters by the British authorities as to how much they would lose if they left the EU. In the meantime, however, an unexpected turn has occurred with Brexit.

2. THE SCOTTISH DEVOLUTION REFERENDUMS OF 1979 AND 1997

In the Middle Ages, Scotland was an independent kingdom, and Scots are especially proud of the long history of parliamentarism in Scotland, which dates back to the 13th century when the first official meetings of the king with the then elite at Kirkliston took place. Scotland was thus independent until the beginning of the 18th century when the Scottish Parliament concluded the Treaty of Union between Scotland and England on 16 January 1707, creating the United Kingdom of Great Britain with a single parliament at Westminster. As early as April 1707, the Scottish Parliament ceased to operate and power was transferred to London. It was "the last day of Scotland as Scotland" (Connolly, 2013, p. 60).

Scottish culture and identity strengthened in the UK, but the Scottish nationalist movement emerged as a political force in the 1960s, with the Scottish National Party (SNP) winning parliamentary elections, and it was strengthened by the discovery of oil in the North Sea in the 1970s (Connolly, 2013, p. 60). In 1978, the Scotland Act was adopted, which aimed to call a referendum on whether the Scots would like the Scottish Parliament to be established. The question was whether the electorate wanted the Scotland Act 1978 to be put into effect. The requirement was that at least 40% of the registered electorate had to participate in a vote. The results were not positive for Scottish nationalists: 51.6% supported the proposal, but only 32.9% of the registered electorate voted, which was too small a number for such a change in the legal and political life of Scotland. The referendum therefore failed. But the claims to establish the Scottish Parliament did not wither, even more so. In the mid-1990s, the political climate was such that supporters of Scotland's autonomy managed to lobby a new referendum on the establishment of the Scottish Parliament.

The second Scottish devolution referendum was organized in 1997. Voters were asked two questions. The first question asked if the Scottish Parliament should be established and the second if that Parliament should have tax varying powers. Both questions received an affirmative vote by the majority of voters. The turnout in that referendum was significantly higher, i.e., 60.45% of voters. A majority voted in favor of both proposals, i.e., 74.29% and 63.48% of voters voted in favor of setting up the Scottish Parliament and tax-varying powers, respectively. Based on that referendum, the UK Parliament passed the Scotland Act in 1998 and established the Scottish Parliament and the Executive (Government) in 1999.[1] The Scottish Parliament was given the power to deal with the following issues: agriculture, health, education, transport, local government, law, social work, housing, tourism and economic development, sport, and arts. The first elections took place in May 1999, and the first session was opened by the Queen in July 1999. Ordinary elections for the Scottish Parliament have been held for years, and the most important moment occurred in 2014 when the Scottish and UK representatives agreed to hold a referendum on Scottish independence.

3. THE 2014 SCOTTISH INDEPENDENCE REFERENDUM AND THE 2016 UK REFERENDUM ON EU MEMBERSHIP

The pro-secessionist SNP convincing victory in the 2011 Scottish Parliament election led to negotiations between the Scottish and UK authorities to hold a referendum on Scottish independence. Consent of the UK government to the Scottish independence referendum showed a level of acquiescence which is unprecedented in the EU (Thierney, 2013, p. 360). The conditions for holding a referendum on Scottish independence from the UK were agreed in a famous historical document known as the Edinburgh Agreement between the Scottish Government and the UK Government, signed on 15 October 2012. The UK Government granted the Scottish Parliament the authority to hold a referendum, and the two governments agreed to the ground rules for the referendum process (Connolly, 2013, p. 62). Both governments pledged that this referendum had to be fair, regular, and meet the highest standards of democracy and transparency and that the referendum date, the referendum question, all campaign issues and the election itself would be carefully agreed. The Scottish independence proposal required "a simple majority" to pass. Only those nation-

[1] See the official website of the Scottish Parliament at: https://www.parliament.scot/.

als residing in Scotland, who were 16 and older, could vote. Voter turnout was extremely high.

A clear, simple and unambiguous question was asked: "Should Scotland be an independent country?" The results were as follows: 44% of voters said yes, and 55.3% said no. There was a record turnout of 85% in the referendum. It was clear that Scottish independence advocates lost the referendum because two million voters were against independence, while 1.6 million voters were in favor of secession. Ironically, in the 2014 Scottish Independence Referendum campaign, the counter-secessionists made it clear to voters that their decision on Scottish independence and the exit from the UK would also be a decision to relinquish Scotland of all rights they had about UK membership in the EU. It was precisely this pressure and fear of leaving the security of the EU zone that were crucial for Scottish voters not to cast their vote in favor of secession. The message "It'll cost you!" was enough to distract a lot of Scottish voters from the idea of independence because "every nation has its price."[2] Scottish voters were threatened that after seceding from the UK and thus from the EU, high tariffs would be imposed, they would not be able to use the pound as their currency, probably the euro as well, they would leave the Schengen area and no longer have access to the EU cohesion funds, and they would automatically lose the right to move freely, work and study in other EU countries, etc. (Bourne, 2014, p. 107). Pursuant to Article 20(1) of the Treaty on the Functioning of the European Union, Scottish people would also lose EU citizenship they would have had by then, as emphasized by Unionists (Patrick, 2016, p. 220; see also Boyle & Crawford, 2013, para. 168). Now all UK citizens will lose their EU citizenship. This will mean, *inter alia*, that there is no freedom of movement within the EU, and, conversely, EU citizenship will no longer generate any rights in the UK (Vidmar, 2017, p. 435).

No matter the outcome, the Scottish independence referendum indicates an important precedent. Scotland had the right to decide the historical question of its independence by a) obtaining the consent from the parent state (the UK) to initiate a referendum, b) asking a direct and unambiguous independence-related question in a referendum, and c) deciding by a simple majority (Levites, 2015, pp. 376-377).

[2] "Scottish Independence – It'll Cost You", 14 April 2012, The Economist, at: https://www.economist.com/leaders/2012/04/14/itll-cost-you/.

Since ordinary elections to the Scottish Parliament always reflect the will of the people to secede, the first important political and legal moment was the Scottish Parliament election held in May 2016. In this last Scottish Parliament election, pro-independence parties won 69 out of 129 seats. As the largest political party, the SNP won a third victory in the parliamentary elections with 63 MPs, i.e., six less than in the previous election. The second-largest party, the center-right Scottish Conservatives, who advocate unionism with Britain, won 31 seats, i.e., 16 seats more than in the 2011 election when they won only 15 seats.[3] A total of 4.09 million votes (55.6%) were cast in this election. Other political parties represent a combination of those that advocate unionism (e.g., the Scottish Labour Party, which suffered a major defeat in the 2016 election because the party won a third of its seats, dropping from 37 to 24), federalism (e.g., Scottish Liberal Democrats won the same number of seats (5) in the 2011 and 2016 elections), or secessionism/independence (e.g., Scottish Green Party, which had 2 seats in 2011 and 6 seats in 2016).[4] The parties also differ as to whether they are in favor of or against the EU. Namely, in Scotland, as well as in Catalonia, there are no significant Eurosceptic parties and support for EU membership is among the highest in the EU (Keating, 2001, p. 77).

A turning point in the UK and, consequently, the EU political scene occurred in another referendum that was held shortly after Scottish Parliament elections, and it was the UK European Union membership referendum. Specifically, the results of that June 2016 referendum showed that UK voters voted to leave the EU: 52% of voters backed *Leave the EU* and 48% *Remain in the EU*.[5] As expected, *Remain in the EU* won an overwhelming majority of votes in Scotland. According to the election results in favor of leaving the EU, 53.4% and 52.5% of voters in England and Wales, respectively, were in favor of leaving the EU. On the other hand, 62% and 55.8% of voters in Scotland and Northern Ireland were in favor of staying in the EU (Vidmar, 2017, pp. 427-428).

As Scottish secessionists led by Prime Minister of Scotland and SNP leader Nicola Sturgeon take the position that Scotland has been taken out of the EU

3 Results on the official webpages of the Scottish Parliament: http://www.parliament.scot/visitandlearn/Education/30313.aspx and https://www.parliament.scot/msps/98255.aspx/.

4 See official pages of the Scottish Parliament: https://www.parliament.scot/ResearchBriefingsAndFactsheets/S4/SB_11-29.pdf and https://www.parliament.scot/ResearchBriefingsAndFactsheets/S5/SB_16-34_Election_2016.pdf.

5 EU Referendum Results, *BBC News*, at https://www.bbc.com/news/politics/eu_referendum/results/.

against their will, this has now become a key argument and an excuse for a demand for a new, second referendum on Scottish independence, implying that circumstances have changed significantly.[6] As early as March 2017, Sturgeon formally demanded a new referendum on Scottish independence after the Scottish Parliament voted by 69 to 59 in favor of seeking permission for another referendum.[7] But UK Prime Minister at that time, Theresa May, declined, arguing that "now is not the time" and that the country should be "working together, not pulling apart."[8] The current Prime Minister Boris Johnson said in November 2019 that he would not approve another vote, claiming that the issue had been settled in the "once-in-a-generation" vote in 2014.[9] The UK formally left the EU after a heated debate and demanding negotiations on 31 January 2020, and negotiations continue until the end of the year. This transition period in 2020 will give both the EU and the UK time to negotiate their mutual economic and legal relations.

The Brexit referendum in which the UK voted to leave the EU and Scotland voted to remain in the EU led to another serious political and legal crisis in the UK. Some Scottish politicians are trying to find potential constitutional options that can allow Scotland to remain in the EU after the UK leaves the EU (Kolçak, 2017, p. 53). There are proposals for Scotland to enter into a free association with the UK, a kind of confederation, where the Member States retain their sovereignty without jeopardizing their status in international law, such as e.g. the cases of Lichtenstein and Switzerland, Monaco and France, or San Marino and Italy (Kolçak, 2017, pp. 47-48, Noutcheva et al., pp. 1-5). In doing so, this will make it possible for Scotland to remain connected to the UK, but also to join the EU. Or else Brexit would form the basis of a new Scottish independence referendum and full independence of Scotland, which would break legal and political ties with Great Britain, and in the case of a successful secession, allow Scotland to apply for EU membership as a new, i.e. the youngest, European country. The next Scottish Parliament election is due to be held

6 See Nicola *Sturgeon's statement to the Scottish Parliament in 2019: "We are set to be dragged out of the EU against our will." The official website of the SNP available at: https://www.snp.org/nicola-sturgeons-statement-to-the-scottish-parliament/.*

7 "Scottish Parliament backs referendum call", 28 March 2017, *BBC News*, at: https://www.bbc.com/news/uk-scotland-39422747/.

8 "Scottish independence: Referendum demand 'will be rejected'", 16 March 2017, *BBC News*, at: https://www.bbc.com/news/uk-scotland-39293513.

9 "Boris Johnson rules out independence referendum deal", 3 November 2019, *BBC News*, at: https://www.bbc.com/news/uk-scotland-scotland-politics-50280817/.

in 2021 and it will be interesting to see what Scottish voters think about the future of Scotland after Brexit.

Although Scotland is a small country in terms of area and population, Scottish secessionists see their future in Scotland as a new state in the international community and a new EU Member State. They believe that smaller countries of the EU can have a greater impact, better access to financial support because the size of the country (or the size of the national market) does not play a significant role in the EU (*Yakoviyk et al., 2018, p. 136*). Within the EU, small countries are also capable of being equally economically successful, because when a country becomes an EU Member State, through many economic benefits, the importance of the size of the national market disappears, which encourages regional parties (*Yakoviyk et al., 2018, p. 136*). The "Yes Scotland" campaign produced posters listing nine small countries more prosperous than, and ten small states ranked as more safe and secure than the UK. The countries included in both lists were Iceland, Sweden, Finland, Ireland, Norway, Denmark, Luxembourg, Switzerland and Austria (Bourne, 2014, pp. 111-112). Although, on the other hand, the fact is that unlike Catalonia and Flanders, Scotland is a poorer part of the UK compared to other British regions and it is more dependent on financial support from London than Catalonia is from Madrid and Flanders from Brussels.

4. HOW TO LEGITIMISE SCOTLAND'S SECESSION FROM THE UK IN THE POST-BREXIT PERIOD AND ON WHICH LEGAL GROUND?

Despite a common phrase that "all peoples have the right to self-determination", it is clear that this is not the case in practice. In international law, self-determination is very "selective and limited in many respects" (Cassese, 1998, p. 317). Although the right to self-determination is recognised in the UN Charter (Article 1), the International Covenant on Civil and Political Rights (Article 1) and the International Covenant on Economic, Social and Cultural Rights (Article 1), and is considered the fundamental right in international law, it has not been completely clear to the present day who can exercise this right and how it can be exercised. Secessionists, of course, are in favor of a broad interpretation of the right to self-determination, which includes secession, forgetting that international law is, first and foremost, a set of rules made by states and intended for states, and, as expected, they hardly agree to enact rights that could cause their secession (Hannum, 1996, p. 46, and Connolly, 2013, p. 70). In doing so, states often refer to the protection of the territorial integrity of states, which is also one of the fundamental principles of international law (Article 2(4) of the UN Charter). On the other hand, the protection of territorial integrity exists in the context of protecting states against *external aggression*. In any case, self-determination has become a dangerous right, threatening a large number of multi-ethnic states, as it may cause loss of territory or the entire state to break up. Self-determination often involves conflicts and violence, it can provoke civil wars as well as international armed conflicts, resulting in great human casualties and material damage.

International law is frequently described as taking a neutral stance towards secession. Positive international law is in principle treating secessionist conflicts as matters of domestic jurisdiction (Crawford, 1998, p. 85; see also Thio, 2006, p. 299, and Musgrave, 2000, pp. 192-193). Crawford's position is that in international law secession is neither legal nor illegal, but a legally neutral act the consequences of which are regulated internationally (Crawford, 2007, p. 390). Borgen has a similar opinion, according to which "one also cannot say that international law makes secession illegal" (Borgen, 2009, p. 8). Velasco believes that secession within self-determination is a "legal anomaly" and that self-determination has never been regulated to lead to secession (Velasco, 2014, p. 77). The act of secession is inherently political rather than legal, and, accordingly, theorists who advocate this view call secession a legally neutral act (Musgrave, 2000, p. 210). What is certain is that secession is an "uncertain path" for the people in the context of their self-determination and political future (Perry & Rehman, 2015, p. 89).

There are various secession theories today: e.g., a just-cause theory or a theory of oppression, a theory of the internal questions, a primary rights theory (a choice theory), and two theories that developed from the latter, i.e., the so-called ascriptive (predominantly nationalist theory) and the so-called plebiscitary right or majority theory (for more detail, see: Lulić, 2005, pp. 338-350). All theories have been criticized, and some theories have emerged as a combination of the above. Some authors thus deny the right of self-determination to nations that are not oppressed. Hence Connolly states that "Quebec, Flanders, Scotland, and Catalonia are neither saltwater colonies possessing a right to external self-determination nor victims of repression such that a right to remedial secession would apply." According to him, "Flanders, Scotland, and Catalonia are only entitled to - and already possess - internal self-determination" (Connolly, 2013, p. 76). According to Buchanan's remedial right theory, self-determination has been tolerated only in the case of a humanitarian catastrophe and systematic and grave violations of human rights, as was the case in Kosovo. In that case, secession will be allowed as a last resort when groups in a given territory within an existing state are denied fundamental human rights and freedoms and its survival (Lulić, 2005, p. 337 et seq.) The adoption of such theories greatly limits room for maneuver concerning the success of secessionist movements in developed democratic states. The only path for secessionist movements in such states would be a possible constitutional provision that provides for some future secession or an agreement with central government authorities by internal regulations. However, even the most democratic multinational states generally lack secessionist clauses in their national regulations and it is unlikely that states will "*tempt fate*" in the future by opening a national debate on "*fair conditions for secession*", and once a secessionist movement is organized, it is difficult to come to a secessionist agreement that would legitimize a clause based on anything but choice theories or nationalist theories (Philpott, 1998, p. 55). In this context, it is also interesting to point out Mancini's reflection on the readiness of a state to have an open dialogue with secessionist movements. As Mancini has argued, "demonizing secession, turning it into a constitutional taboo, often adds fuel to secessionist claims, but if secession is constructed as one among the many rights and options offered to a state's subnational groups, chances are that it will lose much of its appeal" (Mancini, 2012, p. 482).

In this context, we must also cite the Advisory Opinion of the International Court of Justice on the legality of Kosovo's unilateral declaration of independence (Accordance with International Law of the Unilateral Declaration of Independence in Respect of Kosovo, Advisory Opinion, *I.C.J. Reports* 2010). The International Court ruled that the unilateral declaration of independence of Kosovo was not illegal, nor did it constitute a "violation of the principle of territorial integrity" committed by national actors within the country. This was explained by the assertion that the obligation to respect territorial integrity only exists between state actors (*I.C.J. Reports* 2010, p. 403; see also Borgen, 2010, p. 1019). But the Court failed to make any general statement regarding the legality of unilateral secession in international law. It also missed the opportunity to interpret several contentious issues generally related to self-determination (Blanke and Abdelrehim, 2014, p. 559). The International Court of Justice thus did not answer the question either of the scopes of the right to self-determination or the existence of "remedial secession" (Blanke and Abdelrehim, 2014, p. 559). Spain and states with similar attitudes have been frustrated with this Advisory Opinion because it: a) denies extension of respect for territorial integrity to sub-state actors; b) refrains from closing the door to remedial secession; and c) maintains that there is no general prohibition in international law against declarations of independence (Borgen, 2010, pp. 1019-1020). Since the theory of remedial secession is not applicable in democratically highly developed multiethnic states and most constitutions remain silent on this issue, an agreement with central government authorities is, in fact, the only way to eventual secession. If central government authorities are inclined to dialogue, organizing a referendum on secession will be crucial.

Applying all of the above to Scotland, it is necessary to take the position of whether the Scots are a "people" entitled to the right to self-determination under international law. There are requirements that the Scots (and Catalans) meet and by which they can be regarded as a people in the context of self-determination. Those are compact settlements in a clearly defined territory, a separate cultural identity, a separate language, a common history and economy, and a feeling of solidarity and belonging among members of the group (Lulić, 2019, pp. 95-6, and 104-5). The area of Scotland covers 78,400 km^2, as opposed to 165,000 km^2 of UK territory (about 50% of the total area). Approximately 5.2 million people live in Scotland compared to 57.8 million living in the rest of the UK (approximately 10% of the total UK population lives in Scotland) (Edward, 2013, p. 1155). According to official figures for 2011, 83% of Scotland's population state that they have some form of "Scottish national identity", 62% consider themselves "Scots", 18% have a dual identity - Scottish and British, while British identity only is chosen by 8% of the population (Scotland's Census, The National Records of Scotland, Crown Copyright, 2014). The Scottish secessionist movement has made its demands peacefully and it has a long history of demands for a high degree of autonomy and, in recent decades, independence. Scotland has its parliament, government, and prime minister, even though the UK is not a federal state (Lulić, 2019, pp. 95-96). It can be said that the Scots also have a "historical right" to independence, as well as that they have been victims of a series of historical injustices that have followed them throughout the centuries of their existence and the fact that they were surrounded by a strong and dominant neighboring nation that has failed to assimilate them through the centuries. Highly developed autonomy, political power, a clearly defined territory and the will of the voters put the wind in their sails to become independent in the international community. There is no doubt that the answer to the question of whether the Scots are a people is positive.

Turning to the question of the legal basis of Scottish secession, we agree with most authors that this could only be some form of agreement, that is, consent of the UK Government. Writing a legal opinion at the request of the UK before the 2014 referendum, Crawford concluded that the only legal basis for Scotland's secession would be the consent of the UK: "if Scotland were to become independent after the referendum planned for late 2014, it would be with the UK's agreement rather than by unilateral secession. In practice, its status in international law and that of the remainder of the UK (rUK) would depend on what arrangements the two governments made between themselves before and after the referendum, and on whether other states accepted their positions on such matters as continuity and succession" (Boyle & Crawford, 2013, para. 1). Had the 2014 referendum on Scottish independence received the necessary majority to secede Scotland from the UK, secession would have been recognized as constitutionally constituted and as such eligible for international recognition by other states (Edward, 2013, p. 1154). It now remains to be seen how the dynamics of relations between the Scottish authorities and UK central authorities in the context of Brexit will develop further, as well as the dynamics of political relations between the two and the EU. We are of the view that the withdrawal of the UK from the EU, given that the majority of Scots in the referendum were in favor of staying in the EU, is a very significant change in circumstances that justifies the holding of a new secession referendum. The UK government "once-in-a-generation-vote" argument might have its strength in normal political circumstances, but given all that took place in the very short period following the 2014 secession referendum in the context of Brexit, it seems neither particularly convincing nor fair to the Scots.

The view taken by the authors of this paper is that no people should be denied the right to self-determination, including those peoples in modern democratic states. The existence of discrimination and oppression by central authorities or other people is not necessary for the people to have a reason for secession. Central government authorities should engage in good faith in dialogue with representatives of such (dissatisfied) people since as a concept, self-determination is a continuing right. It is unnatural to try to keep one in the community contrary to one's will. In doing so, we believe that a simple majority within the region inhabited by such people is sufficient to decide to secede. Namely, it is difficult to call yourself a democratic state which as such respects the will and wishes of its citizens, while ignoring or even suppressing the demands for political changes of a significant group of its citizens that numerically dominates a certain part of its territory, is politically, economically and culturally defined, and whose demands for independence have been ongoing for decades. Demands for self-determination in developed democratic countries will hardly lead to violence. But, in the case of democratic states, an agreement with the central state authorities, that is, their consent, is still inevitable in securing secession.

5. CONCLUSION

Secessionist movements have threatened several states. Some are more convincing, stronger, and long-lasting, whereas some just smolder. The United Nations and the European Union have taken a uniform position that they are against secession so that they systematically discourage secessionist movements from these demands. The reasons for opposing secession are clear. Secession undermines two pillars of the Westphalian nation-state system: sovereignty and territorial integrity (Connolly, 2013, p. 67). Thus, on the one hand, countries suffer from globalization, and on the other, they suffer from decentralization (Ehrlich, 2000, p. 464). There is a high level of political and legal instability that secessionist movements bring to the country, the region and the international community, and additional parcellation of the existing region and the international community of more than 190 countries further complicates and aggravates international relations and communication. However, the practice and experiences of successful secessionist movements are so modest that most countries where secessionist movements are active do not have to be afraid of their future. An analysis of secessionist movements today shows that success is rare and it is extremely difficult to achieve secession.

The answer to questions as to how to deal with secessionist claims institutionally and procedurally, and whether secession is legal in democratic societies, cannot be found in international law, much less in EU law. Negotiating independence with the "parent state" is a good path to achieving the goal, just like what Scotland did when they negotiated the 2014 independence referendum with the UK. In this regard, the Edinburgh Agreement is a historical agreement important on multiple levels and can serve as a good example of resolving conflicting claims to self-determination in the territory of a state. The referendum was carefully negotiated, voting was democratic and fair, and the results were legitimate. But a dramatic turnaround was produced when the UK voted to leave the EU and it is known that Scotland was in favor of *Remain in the EU*. The Scottish authorities see this dramatic political and legal change as sufficient to organize a new Scottish independence referendum to be held as early as 2020, which is difficult to achieve.

It is to be assumed that central London authorities will be much more cautious this time about allowing a (new) Scottish independence referendum as arguments about the importance of Scotland remaining in the UK and thus in the EU were crucial to the unionists' victory in the first referendum held in 2014. In 2014, no one seriously considered the possibility of the UK leaving the EU. In the second referendum, now that they have left the EU, the results might be surprising, and secessionists can win due to the argument that they want to return to the EU. There follows the most challenging and complicated political period for the UK so far, neither will it be easy to secede from the UK or begin its breakup, nor to qualify for EU membership as a new Member State. Although the issue of Scotland's secession is no longer of interest to the EU after Brexit, there is no doubt that the EU and other European states and leaders will be against (encouraging) secession from the territories of the EU Member States. Spain will surely be the first to veto the entry of some future independent Scotland into the EU in fear of encouraging Catalan secessionists. In any case, there is a long and uncertain path for Scottish secessionists and it will cause tremendous political, legal, economic, social and other social changes.

The right to self-determination has entered the political scene of democratic states, questioning and challenging their foundations, and it adds an even higher dose of dramatic self-determination and legal-political challenges to existing international relations. The authors believe that self-determination should be a continuing right of all peoples. Although it is clear that not all peoples have realized their right to self-determination, it is doubtful how in a democratic society you forbid and deny a clearly formed and ethnically diverse group, living in a certain part of the territory, inhabiting the said territory compactly and predominantly, considering itself a victim of historical injustices, having highly developed political and other autonomy, feeling dissatisfied in the existing state and considering the majority people competitors or even feeling intolerant of them, to decide their future. One can assume that the first, unofficial, independence referendum in Scotland will be the Scottish Parliament elections, which are to be held regularly in 2021. The composition of the Parliament and the victory of the pro-secessionist parties will be the first clear signal where the citizens of Scotland see their future. Before that, it is unrealistic to expect any referendum like the one held in 2014 without central UK Government approval.

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STRICTER POLICY OF PUNISHMENT IN THE CRIMINAL CODE AMENDMENT ACT OF 2019

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Abstract

Stricter penal policy for certain offenses is one of the main features of the Criminal Code Amendment Act, which entered into force on 1 January 2020. As a reason for the amendments, his proposer emphasizes strengthening the criminal law protection against domestic violence, and in this connection suggests tightening the penal policy for certain offenses committed at the expense of the close person. Harsher penalties are prescribed for the following offenses: domestic violence, female genital mutilation, bodily harm, serious bodily harm, particularly serious bodily harm, violation of the rights of the child, fornication and sexual harassment. Despite the lack of a more detailed explanation for the stricter legislative penal policy, it can be assumed that it is conditioned by the slight judicial penal policy. The purpose of this paper is to evaluate whether and to what extent the stricter legislative penal policy will influence the judicial penal policy and the realization of prevention as a punishment purpose. This paper present analyzes and discusses statistics on the frequency of criminal offenses for which the prescribed penalties are increased, data on the penalties applied to the perpetrators of these offenses and their recidivism, as well as the results of previous scientific studies on the compliance of legislative and judicial penal policy. Particular attention is paid to theories on the purpose of punishment, the possibilities of its fulfillment in the context of recent amendments to the Criminal Code and the main pillars of deterrence (severity, certainty, and *celerity). In this regard, suggestions are also made for the legislator's future activities in the field of punishment policy.*

Keywords: *stricter penal policy, the purpose of the punishment, deterrence*

JEL Classification: K14

1. INTRODUCTION

By the Criminal Code Amendment Act of 13 December 2019 (further in the text: CCAA), which entered into force on 1 January 2020, the Croatian legislature amended the legal definition of the crime of domestic violence referred to in Article 179a of the Criminal Code (further in the text: CC) and strengthened the legislative policy of punishment for certain offenses committed at the expense of the close person. In the explanation of the Proposal of the CCAC of October 2019 (further in the text: Proposal, 2019), the proposer (Government of the Republic of Croatia) cites «strengthening of criminal protection against domestic violence» as the reason for these changes and that the proposed amendments provide for «stronger criminal law protection for victims of certain crimes», especially victims of domestic violence (Proposal, 2019, 1,4). The reasons for such strengthening are not stated. The provision on domestic violence crime now reads: «Whoever severely violates the domestic violence protection regulations and thereby causes fear for the security of his or her family member or close person, or security of close persons to his or her close person, or put the family member or close person in a humiliating position or state of long-term suffering, and no more severe crime has been committed, he or she shall be punished by imprisonment for a term between one and three years». Bringing to a state of long-term suffering supplements the previous description of the crime of domestic violence. The strengthening of the legislative punishment policy consists of raising the special minimum of prescribed punishment to one year, while the special maximum of three years remains the same. Without changing the maximum of three years imprisonment, the legislature increased the special minimums to one year for the criminal offense of bodily harm referred to in Article 117 (2) of the CC and the criminal offense of violation of the rights of the child referred to in Article 177 (1) of the CC. For the offense of serious bodily harm referred to in Article 118 (2) of the CC and the offense of particularly serious bodily harm referred to in Article 119 (2), the special minimums have been increased from one to three years imprisonment, while the special maximums of eight and ten years of imprisonment remained unchanged. Concerning the criminal offense of fornication referred to in Article 155 (1) and sexual harassment under Article 156 (1) of the CC, special maximums of the prescribed punishment have been raised from one to two years of imprisonment. Only in the latter case did the proposer state that the increase of special maximums for the mentioned offenses is necessary «because of their dangerousness and frequency (Proposal, 2019, 3), although statistics on the frequency of these offenses are not worrisome (of concern). So, for example, in 2018, 25 adult persons were convicted of fornication, and only 4 were convicted of sexual harassment (Statistical reports, 2019, 116). Finally, the minimums and maximums of the punishments prescribed were also modified for the crime of female genital mutilation. For the basic offense of female genital mutilation referred to in Article 161 (1) of the CC, the prescribed punishment is imprisonment of one to eight years (instead of imprisonment of six months to five years), while for the more serious form of that offense referred to in Article 161 (3) of the CC a prison sentence of three to ten years is prescribed (instead of one to eight years in prison). The prescribed criminal frameworks for this crime, which has not yet appeared in the case law, are in line with the prescribed penalties for crimes of serious and particularly serious bodily harm. Prescribing harsher penalties for all of these crimes is probably the result of the legislature's criminal policy prediction that such penalties will more than the former intimidate potential perpetrators from committing crimes and that their application in case law will strengthen citizens' confidence in the functioning of the criminal justice system.

Although the amendments to the CC are not explained in greater detail, the intensification of legislatively prescribed repression has been welcomed in the first reactions in the scientific literature. The strengthening of the legislative punishment policy is presumed to be based on two reasons: the understanding that the prescribed penalties are inadequate, and the intention that prescribing more severe penalties will influence the courts to impose more severe punishments in individual cases. Increasing the prescribed penalties is supported, but with the warning that it will not fulfill its purpose unless the State Attorney's Office insists on harsher punishment, especially at the appeal stage, and that the increase of prescribed minimums of imprisonment loses all meaning, including the purpose of general prevention if the judicial policy of punishment does not become stricter (Maršavelski & Juras, 2019, 553, 557). It is also argued that prescribing long-term suffering as a new feature of the crime of domestic violence will contribute to a clearer demarcation from the misdemeanors (Maršavelski & Juras, 2019, 553, note 86). Contrary to this view, in this paper, we start from the hypothesis that the strengthening of the legislative punishment policy was not necessary, as well as to supplement the legal definition of the crime of domestic violence. The basis for such a claim is found in the justifiable scientific critique of the ways of criminalizing domestic violence in Croatian criminal legislation, statistics, results of past research into the compliance of legislative and judicial punishment policies, theoretical views and studies on general prevention and its effects, and the disadvantages of access to combating domestic violence, where criminal law plays a major role. The paper first summarizes the history of criminalization of domestic violence in the Croatian criminal legislation and points out the main shortcomings in the way it is regulated, which are already extensively explained in the literature. Subsequently, statistics are presented and analyzed on the number of convicted adults for the crime of domestic violence, the number of convicts for domestic violence previously convicted, the number of non-suspended imprisonment pronounced, and the amount of non-suspended imprisonment for 2007-2018. After that, the problem of the relation between legislative and judicial punishment policy is highlighted and the results of studies conducted so far have been presented. Furthermore, the paper specifically discusses general prevention as a purpose of punishment in criminal law and emphasizes the importance of deterrence in the economic analysis of criminal law. The section dealing with the deterrence of domestic violence by a stricter legislative punishment policy assesses the expected effects of a strengthening of the legislative policy of punishment on domestic violence, which has been reflected in the recent amendments to the CC. Finally, the conclusion outlines the key points and remarks regarding how the criminal offense of domestic violence has been criminalized so far, that the legislature should take in shaping its punishment policy in the future.

2. CRIMINALIZATION HISTORY OF DOMESTIC VIOLENCE IN CROATIAN CRIMINAL LAW

The criminal offense of domestic violence was first introduced into Croatian criminal legislation by the CCAA of 2000 as an independent (separate) criminal offense within the framework of criminal offenses against marriage, family, and youth. Article 125a of the former CC of 1997 read as follows:: «A family member who, by violence, abuse or particularly insolent conduct, puts another family member in a humiliating position shall be punished by imprisonment for a term between three months and three years». The legal definition of domestic violence contained several ambiguities and raised doubts in interpretation. The modalities of the perpetration were too broad and not sufficiently clear. Therefore, the realization of the principle of legality (its aspect of *nullum crimen sine lege certa*) and thus of legal certainty of citizens has been seriously questioned. Particularly controversial was the legal nature and conceptual determination of the humiliating position as a characteristic of the act (Grozdanić, Škorić & Vinja, 2010, 678-680). The question was also raised as to why bringing into the humiliating position, which is the essence of crimes against honor and reputation, suddenly became crucial for the existence of domestic violence (Novoselec, 2014, 458). In applying the provision of Article 125a of the CC of 1997, the most difficult part was the delimitation with the misdemeanors from the Domestic Violence Protection Act (further in the text: DVPA), and the vagueness of the legal description of domestic violence was considered a typical example of the so-called «rubber» (stretchable) paragraph (Novoselec, 2014, 463). Even in the scientific work that preceded the passing of the new 2011 Criminal Code, the crime of domestic violence under Article 215a of the CC of 1997 was rated as the most controversial among criminal offenses against marriage, family, and youth due to its rather broad and vague definition, which does not satisfy requirements of certainty (*lex certa*), and overlapping with many other offenses, as well as misdemeanors of the DVPA (Turković & Maršavelski, 2010, 529). In the meantime, the CCAA of 2006 strengthened the punishment framework so that the perpetrator of domestic violence could be sentenced from six months to five years of imprisonment.

Due to the aforementioned shortcomings of the provision of Article 215a of the CC of 1997, in the CC of 2011, which entered into force on 1 January 2013, domestic violence was erased as an independent crime. This did not mean that such violence was removed from the criminal code, because under certain circumstances, which were described more precisely, it remained a criminal offense, though no longer under that name. These were, first of all, criminal offenses where the circumstance that they were committed against a close person made these offenses more severe and caused a more severe punishment (Novoselec, 2014, 464). With the abolition of domestic violence as an independent crime, in practice, there were problems with public prosecutors, which in some cases gave up from prosecution by mistakenly considering that domestic violence was decriminalized. It was a problem of legal continuity between conduct, which until the entry into force of the new CC was covered by Article 125a of the CC of 1997, but which could still be brought under the provisions of CC of 2011 in which the commission of a criminal offense against a close person represented a qualifying circumstance. The criminal offense of domestic violence was not abolished because the actions described therein were intended to be decriminalized, but because of its vague description, which, moreover, overlapped with the descriptions of other crimes. This means that these other crimes have taken the place of domestic violence (Novoselec, 2013, 276-277). The CC of 2011, therefore, did not decriminalize domestic violence but drew a clear line of demarcation between domestic violence as a criminal offense and as a misdemeanor (Škoric & Rittossa, 2015, 489). Wrong interpretations are always possible and they do not exclude that in practice some cases of domestic violence have unjustifiably gone unpunished, but because of misinterpretation in a particular case, the law should not be blamed (Novoselec, 2014, 464).

Since the new legislation of 2011 and its implementation in practice have provoked several overwhelmingly negative reactions in the public, the legislator has already re-prescribed domestic violence as an independent act in the CCAA of 2015 (Škorić & Rittossa, 2015, 483-484). Such a change was preceded by an attempt to regulate only the psychological violence in the family as a crime (as Article 179a of the CC). This form of domestic violence is formulated in the Draft of CCAA as follows: «Whoever, by long-term grievous insulting or intimidation of a close person, seriously impairs his or her mental integrity, shall be punished by imprisonment for a term between six months and five years». The proposer considered that such a provision would fully comply with the explicit obligation under Article 33 of the Council of Europe Convention on the Prevention and Combat of Violence against Women and Domestic Violence (Istanbul Convention), which requires States to punish psychological violence in the family. In this connection, the question arose whether this requirement was already satisfied in the existing CC since the impairment of the psychic integrity of a close person is also a violation of health, which is a characteristic of the criminal offense of bodily harm referred to in Article 117 (1) of the CC. However, the proposer has taken the position that violation of psychic integrity is a broader term than health violation, so that bodily harm would not cover all forms of such injury. Concerning such a proposal, it has been pointed out in the literature that most cases where bodily harm did not occur with domestic violence could be covered by psychological violence in the family, and if this were not possible (eg because mental violence was not lasting), there remains the possibility of punishment for the misdemeanor which should not be underestimated given some characteristics of the procedure for misdemeanors, especially its speed (Novoselec, 2014, 465). After a parliamentary debate on such a proposal and a series of discussions with representatives of women's rights organizations, in which criminalization of domestic violence as an independent crime was primarily imposed as a political issue, the introduction of (only) psychological violence in the family was nevertheless abandoned and the concept of regulation domestic violence as an independent crime prevailed (Škorić & Rittossa, 2015, 490). The new provision of Article 179a of the CC was worded as follows: «Whoever seriously violates the regulations on protection against domestic violence and thus causes a family member or close person to fear for his or her safety or the safety of his or her close persons or to bring him or her into humiliating position, thereby not committing a more severe crime, shall be punished by imprisonment for a term not exceeding three years».

The provision of the CC on domestic violence is aimed at protecting the family, its members and close persons. Family members and close persons are also protected by other criminal offenses in which the commission of an offense against a close person is a qualifying circumstance, that is, a circumstance that makes these offenses more serious (Cvitanović et al., 2018, 245-246). Domestic violence is a blanket crime because the act of perpetration is so described that it indicates the application of domestic violence protection regulations. This is the DVPA of 2017, as amended in 2019, which regulates domestic violence in misdemeanor law. Domestic violence is defined in Article 10, which distinguishes six of its manifestations: 1. the use of physical force that did not result in bodily harm, 2. the corporal punishment or other degrading treatment of children; 3. the psychological violence that caused the victim a violation of dignity or harassment; 4. sexual harassment; 5. economic violence as a prohibition or restriction on the use of shared or personal property, disposing of personal income or property acquired through personal work or inheritance, disabling employment, deprivation of funds for the maintenance of a shared household and child care, and 6. neglect of the needs of the disabled person or the elderly, which causes his or her anxiety or offends his or her dignity and thereby causes him or her physical or mental suffering. The formulation of the act of committing the crime of domestic violence (a serious violation of the regulations on protection against domestic violence) is a violation of the principle of *lex certa* (Škorić & Rittossa, 2015, 491). This raises the question of whether a serious breach of the regulation relates to the gravity of the offense, which should then be assessed as a criminal offense or to the frequency of the violation that could be assessed as a misdemeanor (Cvitanović et al., 2018, 246). The literature states that the key criteria contributing to a clearer demarcation of domestic violence as a criminal offense and misdemeanor are its intensity (which refers to the amount and severity of the violence used and which includes two additional criteria - the means used and the injuries incurred) and continuity (duration, frequency). Complementary criteria may include earlier convictions of perpetrators, intoxication, and concurrence (Martinjak & Filipović, 2019, 638-639, 651). When it comes to the incidence of domestic violence as a demarcation criterion, it should be taken into account that repetition of domestic violence constitutes a qualifying circumstance for a misdemeanor (section 22 (2), (4) and (6) of the DVPA), that the courts will have a relatively difficult task to determine at which point, for example, the repetition of a grave insult to a family member, which is a typical manifestation of psychological violence, ceases to be a misdemeanor and becomes a criminal offense. The grammatical interpretation could lead to the conclusion that the word «seriously» refers to the intensity of the action, but the legislator did not prescribe the criteria based on which the intensity of the action necessary for classification into the crime would be determined. Therefore, the focus of the distinction between crime and a misdemeanor on domestic violence could be in the criterion of bringing in a degrading (humiliating) position, which, as already pointed out, is controversial from the point of view of *lex certa* and did not produce satisfactory results in practice (Škorić & Rittossa, 2015, 498). According to one of the points of view in the Croatian literature, when it comes to bringing a humiliating position, it is a humiliation that results in a loss of self-esteem and self-confidence (Turković, in Novoselec et al., 2007, 212-213). A similar view is advocated by the Supreme Court of the Republic of Croatia (further in the text: SCRC) in one of its decisions regarding domestic violence: «A humiliating position implies a loss of self-esteem and self-confidence of the victim, and such a mental state is not short-lived in nature. Of course, that such a condition of the victim was caused, it is necessary that the act of which it provokes (...) be a certain intensity, mostly to be repeated at regular intervals (which may not be too long) where its *modus operandi* can vary» (SCRC, Judgment No. III Cr 149 / 08-3 of 22 July 2009, 2-3).

A new feature of the crime of domestic violence is to provoke fears for the safety of the victim and his or her close persons, which, as a rule, will come to light in cases where the perpetrator threatens the victim, but such behavior will not be legally assessed as domestic violence but as a threat referred to in Article 139 (3) of the CC because it is a more severe criminal offense than domestic violence. This type of threat is punishable by imprisonment of six months to five years because the act was committed against a close person. Domestic violence is *delictum proprium*: it can only be committed by a family member or close person. The special character of the perpetrator is not explicitly emphasized in the legal text, but it stems from the legal text because the victim of domestic violence can be only a family member or a person close to the perpetrator (Škorić & Rittossa, 2015, 494). Family members and close persons are defined in Article 87 (8) and (9) of the CC. Domestic violence is a subsidiary to more severe crimes since Article 179a of the CC clearly stipulates that the perpetrator will be punished for domestic violence only if he did not commit a more severe crime by a serious violation of the regulations on protection against domestic violence. By the subsidiarity clause, the legislator resolved the issue of concurrence in the case when the perpetrator simultaneously realized the features of the crime of domestic violence and some more severe crime. In such a case, the concurrence is excluded and the perpetrator can only be held responsible for the more severe crime (Cvitanović et al. 2018, 250). This will be the case, for example, in the situation of the realization of the features of domestic violence and the already mentioned severe form of the criminal offense of threat referred to in Article 139 (3) of the CC. The possibility of concurrence between domestic violence and other crimes exists only if the law provides for equal or lesser imprisonment for these crimes (Škorić & Rittossa, 2015, 495-497). Concurrence, for example, would be possible with the criminal offense of bodily harm referred to in Article 117 (2) of the CC, for which, as well as for domestic violence, imprisonment of one to three years is prescribed, as well as with sexual harassment referred to in Article 156. paragraph 1 of the CC, for which imprisonment of up to two years is prescribed. In the latter case, it would not be the case of an apparent concurrence in which a more severe criminal offense includes a less severe one, because sexual harassment is an attack on sexual freedom, and attack on such a legal good is not covered by the protection of Article 179a of the CC. Taking into account the typical situations in which, in addition to the characteristics of domestic violence, the features of some other crimes are realized, it can be argued that, by introducing a subsidiarity clause in the legal definition of domestic violence, the possibility of applying concurrence is still significantly limited.

As noted above, with the latest amendments to the CC of 2019, the wording of the legal description of domestic violence was supplemented by bringing the victim into a state of long-term suffering as a new feature, and the previously prescribed punishment has been strengthening by raising the special minimum from three months to one year of imprisonment, while the special maximum of three years of imprisonment remained unchanged. Bringing a family member or close person into a state of long-term suffering is unlikely to raise greater doubts in case law since this is long-term suffering or endurance of domestic violence that is different from a simple misdemeanor or its one-time repetition. However, such a supplement to the legal definition of domestic violence cannot eliminate or mitigate its serious shortcomings. Therefore, the views of authors who do not approve of prescribing domestic violence as an independent crime, and who consider the method of regulating domestic violence in the CC of 2011 as a more appropriate solution, should be upheld (Škorić & Rittossa, 2015, 518-519; Dragičević Prtenjača, 2017, 173).

3. STATISTICS ON DOMESTIC VIOLENCE AS A CRIMINAL OFFENSE

This section first presents and analyzes data on the number of convicted adults for the crime of domestic violence in the period 2007-2018 (Table 1). The view does not include data for 2013 and 2014, as domestic violence was not legally regulated as an independent crime at the time. The figures for 2015 and 2016, in which very few convicts appear, should be taken with caution as they relate to the period when domestic violence was re-regulated as an independent crime, and in the case-law, the cases of domestic violence were mostly prosecuted according to the indictments for other crimes. In particular, data on the number of adults convicted of the criminal offense of domestic violence to non-suspended imprisonment are presented and analyzed, also over ten years (Table 2), and their share in the total number of convicts for domestic violence (Table 3). This is followed by an overview of the recidivism data of convicted adults for domestic violence over ten years (Table 4) and the proportion of recidivists in the total number of convicts for domestic violence (Table 5). Subsequently, data on the amount of non-suspended imprisonment for the crime of domestic violence over ten years are presented and analyzed (Table 6). It is important to note that the statistics presented also cover the years in which the stricter sentence of six months to five years in prison was applied for domestic violence (from 1 October 2006 to 1 January 2013). The paper also presents statistics on the total number of adult convicted persons and the number of non-suspended imprisonment imposed in the period 2009-2018 for all crimes committed (Table 7), which enable some conclusions to be drawn about the crime rate and the severity of criminal repression applied in the Republic of Croatia. Finally, the results of the analysis in this paper are compared with the results of one analysis of statistics on the crime of domestic violence for the period 2005-2009.

Table 1. Convicted adult persons of domestic violence, 2007-2018

2007	2008	2009	2010	2011	2012	2015	2016	2017	2018
625	676	673	498	428	354	6	36	65	71

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations, and Convictions, 2008-2019

The data presented in Table 1 clearly show a downward trend in the number of convicted adult persons for domestic violence from 2007 to 2012. Following the re-regulation of domestic violence as an independent crime in 2015, an increase in the number of convicted persons can be observed, but compared to the period up to 2013, a significantly smaller number of convicted persons are striking. Comparing the data for 2008 and 2018, this is almost a 10-fold reduction.

The reasons for such a significant drop in the number of convicted persons can be sought in a variety of circumstances, from the successful functioning of the criminal justice system and the improvement of the deterrent effect of prescribed and pronounced punishments, to a reduced rate of detection of domestic violence, which may have been influenced, *inter alia*, by the sharp rise in the dark number crime rate (criminal offenses that occurred but were not reported). However, regardless of the dark number problem that is typical of domestic violence, which typically occurs between four walls, in analyzing and interpreting any statistics relating to domestic violence, particular attention should be given to the fact that its features are also evident in many other offenses that are not statistically reported as domestic violence (as a rule, threats, and offenses for which recent amendments to the CC strengthened the legislative policy of punishment). A plausible explanation for the phenomenon described certainly requires serious empirical research.

Table 2. Convicted adult persons of domestic violence by pronounced non-suspended imprisonment, 2007-2018

2007	2008	2009	2010	2011	2012	2015	2016	2017	2018
107	98	109	94	91	69	3	7	14	14

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations, and Convictions, 2008-2019

Table 3. Share (as a percentage) of non-suspended imprisonment pronounced in the total number of convicted adult persons of domestic violence, 2007-2018

2007	2008	2009	2010	2011	2012	2015	2016	2017	2018
17,1	14,5	16,2	18,9	21,3	19,5	50	19,4	21,5	19,7

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations and Convictions, 2008-2019

The statistics presented on non-suspended imprisonment in Tables 2 and 3 show that the percentage of such sanction imposed on perpetrators of domestic violence rarely exceeds 20% of the total number of convicted persons for that crime. According to the data presented, 3432 adult persons were convicted of domestic violence over ten years, and non-suspended imprisonment was pronounced against 606 or 17.7% of convicts. The non-suspended imprisonment is applied as the *ultima ratio* and the percentage of such punishment, as will be seen later, is in line with the percentage of probation (suspended sentence) pronounced in the Republic of Croatia.

Table 4. Convicted adult persons of domestic violence by previous convictions, 2007-2018

2007	2008	2009	2010	2011	2012	2015	2016	2017	2018
191	172	211	153	127	104	1	11	20	13

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations and Convictions, 2008-2019

Table 5. Share of previously convicted in the total number of convicted adult persons of domestic violence, 2007-2018

2007	2008	2009	2010	2011	2012	2015	2016	2017	2018
30,6	25,4	31,3	30,7	29,7	29,4	16,7	30,6	30,8	18,3

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations and Convictions, 2008-2019

According to the data presented above, a total of 3432 persons were convicted of the crime of domestic violence from 2007 to 2018, of which 1003 were recidivists. As a rule, the share of previously convicted in the total number of convicts for domestic violence is about 30%. It can also be noted that there is a significant drop in the percentage of convicted recidivists for domestic violence in 2018. Considering the data on the number of pronounced non-suspended imprisonment, it can be concluded, at least at the level of published statistics, that the fact of previous conviction does not necessarily entail non-suspended punishment.

Table 6. Convicted adult persons of domestic violence by the amount of pronounced non-suspended imprisonment, 2007 to 2018.

	3-5 years	2-3 years	1-2 years	6-12 months	3-6 months	2-3 months	30 days	Total
2007	2	2	18	41	40	4	-	107
2008	1	6	19	46	24	-	2	98
2009	4	7	23	51	24	-	-	109
2010	3	6	20	41	22	2	-	94
2011	1	7	18	52	12	1	-	91
2012	-	3	19	29	18	-	-	69
2015	-	-	-	3	-	-	-	3
2016	-	1	2	2	2	-	-	7
2017	-	1	5	6	2	-	-	14
2018	-	2	3	8	-	1	-	14
Total	11	35	127	279	144	8	2	606

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations and Convictions, 2008-2019

It is clear from the data presented in Table 6 that out of the total number of adults who have been sentenced to non-suspended imprisonment, such imprisonment of 6 to 12 months has been pronounced against 46% of perpetrators of the crime of domestic violence. Punishment of non-suspended imprisonment of 3 to 6 months was imposed on 24% of those convicted. This means that 70% of adults who have been punished by non-suspended imprisonment have been sentenced to a level close to the minimum prescribed for domestic violence.

Table 7. Total number of convicted adult persons, the number of non-suspended imprisonment imposed, and share of persons (as a percentage) sentenced to non-suspended imprisonment in the total number of convicted adult persons, 2009-2018

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total number of convicted adult persons	25638	24430	23389	20548	16617	14888	12552	13412	12091	11866
Non-suspended imprisonment	4831	4810	4585	4012	3594	3719	2345	2375	2352	2008
share of non-suspended imprisonment	19	19,7	19,6	19,5	21,6	25	18,7	17,7	19,4	16,9

Source: Croatian Bureau of Statistics, Statistical Reports on Adult Perpetrators of Criminal Offenses, Reports, Accusations and Convictions, 2008-2019

The statistics from Table 7 show that the number of convicted adult persons in the Republic of Croatia who has been punished by non-suspended imprisonment rarely exceeds 20% of the total number of convicted persons and that such a percentage is not just the specificity of domestic violence punishment. The most frequent sanction in the Republic of Croatia is probation (suspended sentence). In 2018, suspended imprisonment was applied to 80% of convicted adults.

So far, statistics on domestic violence for the period from 2005 to 2009 have been analyzed in the literature. Here, for comparison with the analysis of recent data, they should be presented only in basic terms. The number of adult convicts increased slightly (490 at the beginning and 673 at the end of the observed period), while recidivism among offenders ranged from 20 to 31%. Courts have most often imposed a suspended sentence of imprisonment on perpetrators of domestic violence, which was applied in 84% of cases. Non-suspended imprisonment is represented by 15% of the total sanctions imposed. In most such cases, the courts have pronounced imprisonment to a degree close to the statutory prescribed minimum. The proportion of prison sentences ranging from six months to one year in the total number of non-suspended imprisonment imposed was 42%. The trend of imprisonment pronounced at this level continued after the 2006 amendments raised the legal minimum of imprisonment from three to six months. The second most frequent sentence was the imprisonment of three months to six months (Grozdanić, Škorić & Vinja, 2010, 681-683). Data on convictions, recidivism, and punishment of perpetrators of domestic violence, presented and analyzed in this paper, show that there are no significant differences compared to the data for 2005-2009, except that the number of convicted adults for domestic violence is no longer in (slight) increase. Already based on such statistics, it can be concluded that in the Republic of Croatia there is the stable judicial policy of domestic violence punishment and that no significant changes should be expected from the latest strengthening of the legislative policy of punishment.

4. THE PROBLEM OF THE RELATION BETWEEN LEGISLATIVE AND JUDICIAL POLICY OF PUNISHMENT

The problem of the relation between legally prescribed repression towards criminal offenders and that which is applied through court judgments (legislative and judicial punishment policy), or their compliance, is very often the subject of assessments not only by lay (non-expert) but also by the professional and scientific public, which are generally reduced to criticism of the court's slight treatment of criminal offenders. Thus, in recent literature related to domestic violence and the crimes within which it comes to light, it is emphasized that the imposition of mild sanctions is questionable from achieving the purpose of punishment (Dragičević Prtenjača, 2017, 173) and that it is clear from the statistics on court decisions that the judicial policy of punishment does not closely follow the penal policy of the legislator, that is, courts, even when it comes to qualified forms of criminal offenses against life and body, most often pronounce minimum of prescribed imprisonment, or in most cases apply a suspended sentence (Maršavelski & Juras, 2019, 534). Such assessments are, as a rule, based solely on the analysis of sentencing statistics for particular offenses, without a more detailed analysis of the case law. The last major survey of sentencing was conducted in 2004 for 25 years, on a sample of 1,506 convictions for 10 criminal offenses (Horvatić, 2004, 417). In this paper, it is important to point out the key assumptions about the relation between legislative and judicial punishment policy stemming from the results of the research conducted. The legislative penal policy in Croatian criminal law, since the CC of 1997, is based on the principle of reduction of criminal repression, which follows the worldwide trend of a continuous tendency to mitigate criminal repression and criminal sanctions. Under the principle that criminal law is *ultima ratio societatis*, criminal repression is prescribed only when absolutely necessary, and the repression prescribed so applies only when and to the extent necessary to achieve the purpose of punishment. The prescribed and mitigated penalties are part of a uniform legal penal policy. If the mitigation of the punishment is legal, then it cannot be at odds with the punishment policy of the legislator. A decision on a sentence is unlawful only if it constitutes an infringement or misapplication of substantive law in so far as it relates to the choice of the type and measure of punishment. Non-suspended punishments and the application of probation (suspended sentence) are part of a uniform legal penal policy. Punishment is fair (just) when approximately equal punishments are pronounced for approximately the same manifestations of a particular crime.The court decision on the choice of type and measure of punishment must be not only lawful but also convincingly explained. The harmony of legislative penal policy and judicial choice of the type and measure of punishment exists whenever such a choice is lawful, ie when the relevant provisions of the general part of the criminal law on sentencing or type of criminal sanction are applied and related to the purpose of punishment. Lawful judicial choice of the punishment measure in most cases 'exploits' the lower half of the prescribed sentence range. Research into long-standing practice shows that, as a rule, courts impose penalties that are closer to a specific minimum than a specific maximum. Changes to the penalties prescribed by law have a very limited effect on sentencing case law. Research to date, based on general statistics and the analysis of specific judgments, has shown that for years and decades the types and measures of penalties imposed on perpetrators of a particular crime, the relation between non-suspended and suspended sentences and the number of punishment mitigations have been maintained more or less unchanged. Such practices are not affected by changes in the prescribed minimums and maximums of penalties. If, for example, the minimum measure is raised, the courts will come to the extent of the sentence imposed under the more lenient law by applying the institute of punishment mitigation. The problem of the relation repression prescribed by law and repression applied in court judgments «actually does not exist» because of the legislature and the courts in the system of the power-sharing act per their constitutional and legal competences (Horvatić, 2004, 381-382, 417-434). In the context of the latest strengthening of legislative penal policy (mainly by raising specific minimums of prescribed penalties), it should be noted that the dosage of repression by contemporary legislators is still based primarily on the intention that such repression has a deterrent effect and that legislators do so persistently, believing that such an effect of the prescribed penalties, «even after about 250 years ago, Cesare Beccaria reasonably believed that it was not the severity of the punishment that deterred a person from committing a crime, but the certainty of its application (Horvatić, 2004, 392-393). Although no one disputed the results of the conducted research and the conclusions drawn from it, the legislative repression has intensified already in 2006. It was manifested in changes in the prescribed penalties for a large number of criminal offenses in a specific part of the CC, including the strengthening of the punishment framework prescribed for domestic violence, as well as changes in the provisions of the general part which limit the possibilities of punishment mitigation and the application of probation. In the literature that preceded the intensification of repression and its application, it was believed that an increase in the minimum of prescribed punishment by serious crimes would directly affect the decrease in the number of suspended sentences and an increase in the amount of imprisonment imposed, while such changes by less severe offenses would change the structure of pronounced punishments (reducing the number of fines imposed and increasing the number of suspended sentences), but will not affect the change in the court's sentencing policy since the conditions for mitigation of punishment for these offenses remain unchanged (Novosel, 2005, 372). Changes in the general part of the CC regarding the limitation of the possibility of punishment mitigation, which is directly related to the increase of the minimum of prescribed penalties in a special part of the CC, were considered justified because they create the preconditions for more achievement of the purpose of punishment by the most serious crimes, in particular retribution and so-called positive general prevention (Bojanić, 2005, 342-343; Bojanić & Mrčela, 2006, 442, 447). The above-mentioned predictions and assumptions about the expected deterrent effects of a strengthening of the penal policy could not be empirically verified since after 2004 there was no longer a broad survey of sentencing practice in the Republic of Croatia. From recent research, which focused on a specific type of crime, one should point out an interesting view of the mildness of the court's criminal policy towards the perpetrators of the most serious sexual offenses committed at the expense of children. Namely, the view is that the established practice of sentencing in the lower half of the statutory prescribed punishment frameworks shows that in the Croatian jurisprudence «the principle of stability in judicial penal policy is accepted, which, at least for the time being, is a strong corrective of judicial subjectivism and guarantees the fulfillment of the principle of fairness in punishment». It is also pointed out that the application of a suspended sentence or non-suspended imprisonment that is close to the legally prescribed minimum for these offenses will certainly «not meet the expectations of the public» while approving the view that such sanctions are acceptable if they are lawful, and that this «removes any argument that a judicial decision on the choice of the type and sanction measure must follow the shifts in the legislative policy of punishment» (Rittossa, 2018, 442-443).

5. DETERRENCE AND STRICTER LEGISLATIVE POLICY OF PUNISHMENT

5.1. GENERAL PREVENTION (DETERRENCE) IN CRIMINAL LAW

The Croatian legislator has explicitly defined the purpose of punishment in Article 41 of the CC. This provision reads: «The purpose of punishment is to express public condemnation for a criminal offense committed, raise the confidence of citizens in the legal order based on the rule of law, to influence the perpetrator and all others so that they do not commit criminal offenses by raising awareness of the perils of committing a criminal offense and of the fairness of punishment, and allow the perpetrator's reintegration in society». This provision is shaped following contemporary mixed theories that seek to balance retribution and prevention (Novoselec & Bojanić, 2013, 376), and its features are primarily preventive (Horvatić et al., 2017, 222). Article 41 of the CC is dominated by a positive aspect of general prevention which comes to the fore in the section on strengthening the public confidence in the legal order based on the rule of law and the impact on all others not to commit criminal offenses by raising their awareness of the danger of criminal offenses and fairness of punishment. The acceptance of mixed theories about the purpose of punishment, which treats retribution, special and general prevention as equal punishment goals, deserves approval (Bojanić, 2019, 1877-1879). Retribution is acceptable in terms of expressing a socio-ethical censure for a perpetrated criminal offense and in the sense of deserved punishment which corresponds to the degree of perpetrator's guilt. Only a just punishment can strengthen the public confidence in the functioning of the legal order (positive general prevention) and the training of perpetrators for life without the commission of criminal offenses (special prevention) is not possible if he does not accept the punishment as just. The concept of retribution as shown here is also useful for achieving preventive goals (Bojanić & Mrčela, 2006, 439-440). The principle of proportionality of punishment must be strongly emphasized in the determination of punishment. The measure of punishment reflects the measure of condemnation so that the higher punishment express the stronger and the lower the weaker censure (Hörnle & von Hirsch, 1995, 270, 279). The punishment cannot be justified by the one-sided emphasis of preventive purposes or by the exclusive emphasis of socio-ethical disapproval of perpetrators' conduct, but merely on the combination of both elements (von Hirsch, 2011, 44). Such a combination tries to overcome the sharp contradiction between absolute (retributive) and relative (consequentialist) theories on the purpose of punishment. How the Croatian legislature defines the purpose of punishment is also consistent with the concept of guilt-limited prevention, based on the knowledge that neither guilt nor prevention, taken alone, can legitimize punishment (preventive mixed theory about the purpose of punishment). Namely, the punishment serves only the interests of (special and general) prevention but is limited by the measure of guilt. The amount of the punishment may also be below the level of guilt, if necessary for special preventive purposes and if such punishment does not conflict with the minimum requirements of general prevention, but must not exceed the level of guilt. Since punishment contains a personal (socio-ethical) censure to the perpetrator (otherwise it would not be a punishment but the security measure), the punishment should also be understood as deserved by the perpetrator. However, this is only possible when the punishment is just, ie when linked to the guilt of the perpetrator and is limited by the degree (measure) of the guilt. The demand for the preventative necessity of punishment, as well as its restriction by just a measure of guilt, characterize a democracy that respects human rights. Preventive mixed theory, which combines prevention and fairness in the described manner, therefore, not represents an eclectic fusion of heterogeneous approaches but offers a convincing justification for state power of punishment (Roxin, 2006, 95-96). Highlighting a deserved or just punishment and the principle of proportionality in punishment is a convenient way of limiting extreme law enforcement policies that, in imposing very strict penalties for any crime, find the most effective means of promoting deterrence. This approach also leads to the view that the offender is not required to suffer a punishment that serves to deter others (Staihar, 2017, 340, 353).

By strengthening criminal policy, the legislature always wants to achieve deterrence. Theories of general prevention are very influential in modern criminal law, particularly those which give the positive aspect of general prevention an advantage over its negative aspect. The negative aspect of general prevention is usually expressed by the notion of intimidation of others. There is, however, unity in contemporary literature that only a fraction of people who are prone to crime approach committing crimes with such deliberation that the threat of punishment can intimidate them, and that even with them, the amount of punishment is not the main factor that is deterrent, but the extent of the risk to be caught. Therefore, the general preventive effects will have an intensification of prosecution (for example through strengthening and better education of the police) rather than strengthening of punishment threats, as the public persistently demands. Some studies show that the amount of punishment imposed is not complete without a deterrent effect, but that the increase in the likelihood of conviction has a much stronger effect. Such research does not result in a requirement for more stringent penal frameworks but the imposition of stricter penalties in existing frameworks and, above all, an increase in the disclosure rate. The positive aspect of general prevention is usually seen in maintaining and strengthening public confidence in the power of law enforcement. Furthermore, the punishment has the task of proving the inviolability of the legal system in front of the legal community and thus strengthening citizens' loyalty to the law (Roxin, 2006, 80).

The theory of positive general prevention appears in various forms and can be considered almost prevalent in the German criminal law theory (Jescheck & Weigend, 1996, 68). It is interesting to note that positive general prevention is also discussed by Anglo-American scholars, which this aspect of general prevention, together with the theory of legal goods, consider as the most important achievement of German criminal law dogmatics (Dubber, 2005, 679-707).

Positive general prevention can also be described by three different goals and effects that are intertwined. The first is the socially-psychologically motivated learning effect, according to which criminal law and criminal justice action make it clear to each individual that fundamental social values must be respected, the second is the confidence effect that arises when everyone is convinced that the law is respected, and the third is the calming effect, which occurs when the general legal consciousness is appeased by a sanction imposed for the violation of the law and when the conflict with the perpetrator is considered resolved (Roxin, 2006, 80-81).

Compared to special prevention, general prevention has two advantages. The first is the view that even in cases where there is no risk of recidivism, punishment should not be completely waived because the crimes that go unpunished encourage imitation. Another advantage is that general prevention requires as strict a punishment provision as possible, because if citizens are to be motivated to distance themselves from certain behaviors, the subject matter of the prohibition must be precisely defined (Roxin, 2006, 81). The requirement for the precise determination of criminal offenses (nullum crimen sine lege certa), as an important value of the rule of law, is a requirement that the legislature must fulfill in the process of criminalizing certain conduct (Ashwort & Zedner, 2012, 559-560).

There are usually three major objections to general prevention as the purpose of punishment: one concerns empirical unverifiability (Hörnle & von Hirsch, 1995, 262), the other a lack of criteria for determining sentence duration (Roxin, 2006, 83), and the third that general prevention ignores the guilty of the perpetrator and questions his human dignity because the perpetrator is used as a means of deterrence for others (Novoselec, 2016, 364). The effects of (positive) general prevention are indeed difficult or almost impossible to empirically check because the general trust in the functioning of the legal order is influenced by many factors. But the possible objection that any crime proves the ineffectiveness of general prevention can always be countered by the claim that its effectiveness is manifested precisely in the fact that, despite criminality, most citizens behave following the law (Roxin, 2006, 81). As regards the complaint about the lack of criteria for determining the length of the sentence, it can be somewhat mitigated by the fact that the amount of the punishment, which would be imposed solely on the requirements of general prevention, is nevertheless limited by the degree of the perpetrator's guilt. The Croatian CC explicitly states this in Article 47, paragraph 2, which reads: «The amount of the sentence shall not exceed the level of guilt». The objection that general prevention ignores the role of the perpetrator's guilt is opposed by the view that the perpetrator within the scope of his responsibility must also bear the burden of suffering arising from the general prevention. In other words, he should accept that an example of his punishment will also influence the realization of positive deterrence effects. Responsibility for unlawful conduct is contained in the censure of the act committed. At the same time, it requires that the perpetrator faces his responsibility and that he must assume what is preventively necessary to re-establish legal peace (Roxin, 2015, 198). Lastly, it should be noted that positive general prevention, despite its advantages over mere intimidation by the threat of punishment, especially if its effects are linked to fair punishment, should not be overestimated. It seems acceptable to take the view that the threat of punishment and the imposition of punishment, which expresses censure for a committed criminal offense, can be expected to have a modest effect on citizens' convictions about the blameworthiness of conduct prohibited by criminal law (Hörnle & von Hirsch, 1995, 280-281).

5.2. DETERRENCE AND ECONOMIC ANALYSIS OF CRIMINAL LAW

The deterrent effects of punishment have been the focus of economic analysis of criminal law for decades (Posner, 1995, 1193). The first modern economic models of criminal behavior and the deterrent impact of the criminal justice system on crime reduction were introduced in the late 1960s and early 1970s. They take the approach that follows the usual economic analysis of choices and assume that a rational individual commits a crime if the expected utility for him exceeds the utility he could obtain using his time and other resources in other activities (Becker, 1968, 176), that is offenders, as a group, respond to opportunities or possibilities (costs and benefits) available to them in lawful and criminal activities in much the same way as those engaged in strictly legitimate activities (Ehrlich, 1972, 274-275). Since then, an extensive literature on theories of deterrence has been developed within the economic analysis of criminal law, inspired by the work of representatives of the utilitarian concept within the so-called classical school of the second half of the 18th century (Beccaria, 1764; Bentham, 1781), who advocated prevention as the sole purpose of criminal law. Given the assumption that several offenders act rationally, the question arises as to whether the crime rate can be reduced if more resources are devoted to increasing the possibility of arrest and conviction or increasing the severity of the sentence. The basic economic prediction is, in fact, very simple: by increasing the cost of committing a crime, the number of crimes committed will also decrease (Winter, 2020, 2). In research on deterrence, particular attention is paid to the relationship between severity, certainty, and celerity of punishment, which are considered the main pillars of punishment and determinants of deterrence effectiveness. There is a consensus today that the deterrent effects of certainty and celerity of punishment are much more important than the effect of severity, which corresponds to the ideas that were advocated about 250 years ago by Beccaria and Bentham (Tonry, 2017, 1-2, 4; Johnson, 2019, 7). Prevention, however, has its limits, as a rational analysis of the costs and benefits of the offender and deterrence of criminal offense is not likely to be expected when the offenses are committed in circumstances and under the influence of ignorance, urge, intoxication, emotions and extreme situations (Winter, 2020, 4; Tonry, 2017, 4). However, from the perspective of crime policymakers, a rational economic cost-benefit analysis makes sense even if no perpetrator is deterred by changes in the likelihood of detection or severity of punishment because there are other ways of shaping social policy outside the criminal justice system that can reduce crime rates. Calculating the cost of implementing a policy can be relatively straightforward while quantifying its deterrent effect is a much more difficult task (Winter, 2020, 4-5). However, while the contribution of criminal law to deterrence may be limited and the assessment of its deterrent effects complex, the cost-benefit analysis is considered an appropriate means of predicting the social costs and benefits of policies aimed at reducing crime (Brown, 2004, 326 344). Over the last thirty years, tremendous progress has been made in developing empirical cost of crime assessments that involve the application of increasingly sophisticated assessment methodologies (Chalfin, 2016, 12). Cost-benefit analysis is considered to allow a systematic and transparent approach and comparison of all available options to make better decisions (Cohen, 2016, 2).

Concerning the results of research into the deterrent effects of increasing the certainty and severity of punishment, some authors state that there is much empirical evidence that strengthening punishment deter the commission of crimes (Friehe & Miceli, 2017, 464), or that there are studies that confirm the decline in crime caused by rising incarceration (Levitt & Miles, 2006, 153-154). Some standpoints explicitly state that a low level of penalties prescribed is one reason for the failure of the deterrent effect of punishment (Sloan et al., 2013, 51, 76). However, there is also analysis that indicates that it is possible to have less crime without harsher punishment (Smith, 1999, 316), that stricter punishments do not deter violent crime more effectively than less severe punishment (Tonry, 2017, 1), and that there is much less evidence of the deterrent effect of strict criminal sanctions (Chalfin & McCrary, 2017, 5-6). It is also pointed out that the evidence in favor of the deterrent effect of various measures of improving punishment certainty is far more convincing and consistent than for the severity of punishment (Nagin, 2013, 199, 201). The certainty of the punishment comes primarily from the work of the police, more so in its guardian role than in the apprehension role. The justification of longer prison sentences lies more in preventing crimes through incapacitation and reasons for retribution, and less in deterrence (Nagin, 2013, 253). Instead of relying on severity-based policies, it is suggested to shift the focus to more efficient use of the police, to make the risks of crime more clear and their consequences faster and more certain. Such an approach opens the possibility of simultaneously reducing crime, prison costs and the number of sentences imposed (Durlauf & Nagin, 2011, 13-14). Despite the scientific evidence leading to the conclusion about the marginal deterrent effect of legal sanctions, it is warned that they should also be received with a large dose of caution and skepticism, since it is very difficult to accurately assess the strength of the deterrent effect of the criminal justice system, especially given the number of offenses not reported to the police (especially domestic violence and sexual assaults), but also due to other factors outside the criminal justice system that have a significant impact on deterrence compared to the threat of criminal sanctions (Tomlinson, 2016, 34, 37).

Particularly noteworthy are ideas that focus on optimizing deterrence through the formulation of criminal law rules, given the growing body of evidence suggesting that there is doubt about the deterrent effect of criminal law or skepticism about the ability to deter by manipulation of criminal rules and penalties. The formulation of criminal laws can have limited or even no effect beyond what constitutes a broad deterrent warning that stems from the very existence of the criminal justice system (Robinson, 2003, 951). There is a belief that optimizing deterrence is possible through doctrinal manipulation, but only under strict conditions. And expanding such conditions is possible, at a high cost of reform that would require greater financial costs, more government interference with the rights and freedoms of individuals, compromising basic notions of procedural fairness, and committing injustice or failing to act fairly. To deter potential perpetrators through criminal rules, three prerequisites must be met: the perpetrator must know the rule, he or she must understand that the cost of violating the rules exceeds the expected benefit, and must be able and willing to make rational decisions in his or her interest (Robinson & Darley, 2003, 953). The chances that a potential perpetrator (directly or indirectly) knows about a rule that is designed to influence his or her behavior may be increased, among other things, by the simplicity of the rule. When it comes to ensuring the perception of the cost of breaking the rules, empirical studies agree that increasing the likelihood of punishment provides a greater chance of strengthening deterrence than increasing the severity of punishment. Punishment uncertainty is compounded by sentencing discretion, as well as by the discretion of police officers and prosecutors, which allows perpetrators to avoid their punishment or receive less punishment than they could receive. The deterrent effect can be drastically reduced by the delay between the commission of the act and the punishment. Legislators often assume that they can direct prevention by the amount of the threat of punishment, but it is more likely to expect that the effectiveness of deterrence will be determined more by the broad powers of judges in sentencing rather than the penal policy of the legislator. As a solution to improve the credibility of the threat of punishment, reforms are suggested in the form of sentencing guidelines or reforms that require the offender to serve all or most of the sentence imposed. Finally, while many factors impede rational self-interest calculations (eg, alcohol use or personality types that tend to impulsivity and minimize consequences), it is thought that behavioral sciences may find appropriate treatment techniques that would make potential perpetrators more able to pursue self-interest in the situation of a perceived threat of punishment and thus increase their sensitivity to deterrence (Robinson & Darley, 2003, 991-994, 997-1000).

5.3. DETERRENCE OF DOMESTIC VIOLENCE BY STRICTER LEGISLATIVE POLICY OF PUNISHMENT

The choice of a magnitude of sanction is one of the major decisions of the state in undertaking law enforcement (Polinski & Shavell, 2007, 407). This decision was also made by the Croatian legislature when it increased the prescribed penalties for the criminal offense of domestic violence and crimes that are most closely related to domestic violence or are the result of domestic violence. In this connection, the question must be answered as to whether such stricter penalties can be expected to affect (influence) the judicial policy of punishment and deter potential perpetrators of domestic violence, that is the purpose of this paper.

Considering the statistics on sentencing for domestic violence, the results of previous research into the judicial policy of punishment, as well as theoretical views on the deterrent effects of strengthening of the legislative repression, it is hard to expect that recent changes in the CC will have any effect. They will not change the stable case-law of pronouncing punishments that are close to the statutory minimum, particularly when one takes into account the fact that the legislature did not limit the conditions for punishment mitigation and imposing a suspended sentence. The stricter penalties prescribed will not influence the strengthening of the deterrent effect as well, since such an effect in the case of domestic violence is certainly the least dependent on the severity of punishment. It should also be taken into account that domestic abusers fall into the category of perpetrators who, as a rule, do not act rationally and are not sensitive to the threat of punishment. The complexity of the causes of domestic violence is matched by a multidisciplinary approach to combating it, in which criminal law should not play a primary role. The protection of legal goods, including the family, its members and close persons, as well as relationships within the family, is not only achieved through criminal law, but the instruments of the entire legal order must contribute to it. This is demonstrated by the well-designed provisions of the DVPA (eg provisions suggesting a multidisciplinary approach, provisions that result in a wide range of measures that can be taken in the case of domestic violence and provisions that contribute to the speed and certainty of punishing domestic violence). Criminal law is only the last of the safeguards to come, ie it should only be used if other means of solving social problems fail or are insufficient. Punishment is therefore called the *ultima ratio* of social policy, and its task is defined as subsidiary protection of legal goods. (Roxin, 2006, 45). For a more complete picture of the possibilities of deterring domestic violence through the criminal justice system, the American experience should be emphasized. Recent literature points out that there is no evidence that the US criminal justice system deters domestic violence cases, despite a strong response to the problem of domestic violence in the last forty years. The costs of criminalizing domestic violence (especially over-incarceration) far outweigh its benefits (Goodmark, 2017, 111). Therefore, alternatives within the criminal justice system are being considered, which will reduce the incidence of imprisonment (probation or community service), as well as the implementation of new strategies, especially restorative justice practices that provide the opportunity for constructive dialogue involving the perpetrator, victim, and community members (Elias, 2015, 83-84; Sherman, 2000, 289). Strict punishment would be reserved only for recidivists and habitual offenders (Goodamark, 2017, 112). Some authors, most advocates of feminist theories, even call for the abandonment of binding policies (mandatory arrest and no-drop prosecution)that contribute to the certainty of punishment domestic abusers (Houston, 2014, 271-272; Coker, 2001, 805-806). The focus of combating domestic violence is shifting towards mitigating the criminogenic effects of imprisonment and addressing the structural causes of domestic violence and crime in general (racial, economic, social and gender justice). The point is in a gradual response to domestic violence (from restorative to retributive) that does unintentionally harm those it seeks to protect (Goodmark, 2017, 112-113).

6. CONCLUSION

Recent amendments to the CC, which strengthened the legislative policy of punishment for criminal offenses committed at the expense of a close person and supplemented the legal description of the crime of domestic violence, were not necessary, as were the amendments to the CC of 2015, which re-regulated domestic violence as an independent crime and suspended the application of a clear criminal law framework for combating domestic violence, which was established by the entry into force of the 2011 Criminal Code. Supplementing the legal description of the crime of domestic violence does not eliminate the problem of violating the principle of *nullum crimen sine lege certa*, nor does it more clearly delineate crime of domestic violence and misdemeanors relating to domestic violence, while the strengthening of legislative policy of punishment is not supported by statistical analysis, nor does it respect the research findings on harmonization of legislative and judicial punishment policy, as well as persuasive views from the scientific literature dealing with the deterrent effects of the criminal justice system. The Croatian legislature ignored the requirement of general prevention that legal descriptions of crimes should be as precise and clear as possible, and opted for an unjustified strengthening of repression, although there is no doubt that the certainty and celerity of punishment is a greater guarantee of deterring potential offenders than the severity of punishment. The legislature also failed to take into account that, because of the subsidiarity clause, the application of Article 179a of the CC will be very narrow and will generally be reduced to cases of heavy insult as a form of psychological violence. However, punishing grave insult through a domestic violence provision is not criminally justified, since only a fine is prescribed for the offense of insult (including more severe forms under Article 147 (2) of the CC). The aforementioned consequence of the application of the subsidiarity clause at the same time confirms the thesis that the current way of regulating domestic violence as an independent crime is unnecessary and that it was necessary to keep the solution from the CC of 2011, which made it possible to punish various forms of domestic violence according to their severity, by prescribing the perpetration of the act against a family member or close person as a qualifying circumstance for several criminal offenses. The published statistics on convicted adult perpetrators of domestic violence do not show the extent to which other crimes (especially threats and various manifestations of bodily injuries) appear as an integral part or consequence of domestic violence. As a result, the legislator could not have complete knowledge of the intensity and frequency of domestic violence in the Republic of Croatia. Also, given the lack of more recent research on judicial policy of punishment and its compliance with the legislatively prescribed repression, the legislature could not have any elementary knowledge as to whether Croatian courts acted lawfully in domestic violence cases, ie following the sentencing rules that oblige them to take into account the purpose of the punishment, the degree of the perpetrator's guilt, as well as any relevant mitigating and aggravating circumstances when choosing the type and measure of punishment. A more complete understanding of the intensity and frequency of domestic violence and the practice of sentencing perpetrators of domestic violence can only provide thorough research that should be the *condition sine qua non* of any decision to strengthen the legislative policy of punishment. Despite the sometimes unrealistic wishes of lawmakers, who often approach changes to criminal frameworks under public pressure, as well as suspicion of deterrent effects of the punishment threat, to deter potential offenders more chances has a punishment that is, regardless of the prescribed amount, certain and speedy, proportionate to the gravity of the offense and which does not exceed the level of the perpetrator's guilt (just punishment), although it may be lower for reasons of special prevention. Such punishment can strengthen citizens' confidence in the functioning of the criminal justice system, even when it is pronounced close to the minimum prescribed by the law. In conclusion, it should be emphasized once again that strengthening the penal policy will not change the stable case law of sentencing close to the legally prescribed minimum, particularly when taking into account the results of previous studies on the harmonization of legislative and judicial penal policy, as well as the fact that, in addition to raising the minimum of prescribed penalties, the legislature did not, at the same time, limit the possibilities of punishment mitigation and imposing a suspended sentence. The legislator may, therefore, be advised that in the future the problem of strengthening of legislative punishment policy, as well as the formulation of legal provisions on the punishment of domestic violence, need to be taken more seriously so that the costs of criminalization of that crime do not outweigh its benefits.

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Accounting

DISPOSAL OF NON-FINANCIAL ASSETS BY LOCAL UNITS

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Abstract

The subject matter of this paper is to investigate the movement of revenues realized from non-financial assets for years 2014, 2016 and 2018. Previously, an audit was performed on the efficiency of management and disposal of real estates by local and regional self-government, which provided the data on the value of non-financial assets from 2012 to 2014. It is assumed that the revenue from non-financial assets has increased in 2016 and 2018 compared to 2014 and that the increase emanated from better management of non-financial assists after the State Audit Office has performed the audit on the efficiency of management and disposal of real estates. The previously stated assumption is confirmed in this paper. The values of non-financial assets according to local units were researched and compared for 2014, with the movement of values of realized revenues from non-financial assets according to local units for 2014. A calculation of the relation between the value of non-financial assets and revenues realized from non-financial assets was performed and the assump-

tion that local units differ significantly was confirmed. The paper also presents revenues realized from the sale of non-financial assets since such revenues are realized from non-financial assets that local units dispose of. If local units are unable to put non-financial assets into function and dispose of with them efficiently, then they can sell such assets and the value of non-financial assets in the accounting ledgers is then reduced.

Keywords: *local units, non-financial assets, revenues, audit*

JEL classification: M41, M49

1. INTRODUCTION

Local and regional self-government units realize operating revenues, revenues from the sale of non-financial assets and receipts from non-financial assets and borrowing. Within operating revenues frame the following is realized: revenues from assets, revenue from taxes and contributions, revenues from administrative fees, fees from special regulations and compensations, revenues from the sale of products and goods and services provided, revenues from donations and other income. The research subject matter of this paper are revenues from assets, which can be realized from both financial and non-financial assets. In most cases, the law regulates purposes for which realized revenues can be utilized, i.e. their utilization is prescribed by law.

2. REALIZED REVENUES AND RECEIPTS

2.1. Realized revenues and receipts

The amount of realized revenues and receipts is different according to local units. Realized budget revenues and receipts can be inspected on state and local levels, i.e. we can analyze the structure of budgetary revenues and receipts according to the level of financing public needs. The paper analyses the realization of overall revenues and receipts and revenues from non-financial assets according to realization by counties, cities and municipalities. Finally, an overview of the values of non-financial assets of local units is provided.

2.1.1. Realized revenues and receipts according to the level of financing public needs

Realized revenues and receipts according to the realization at individual levels of government are provided in Table 1, in relative values. The share of revenues from non-financial assets in overall revenues and receipts of counties, cities and municipalities is shown, according to the data from the Ministry of Finance website. Apart from the calculation of shares, index calculation is performed in a way that realization for 2018 and 2016 is weighted against the base year 2014. Data in Table 1 show that the share of revenues from non-financial assets at individual levels of government varies from 5.20% at the level of counties in 2018 to 9.92% at the level of municipalities in 2014. From calculated relative numbers, indexes, compared to the base year 2014, the most significant is 135% index for municipalities in 2018, which means that revenues from non-financial assets at the level of municipalities have increased by 35% compared to 2014. Overall, at the level of all counties and the City of Zagreb, the share of revenues from non-financial assets is declining (7.28% in 2014, 7.26% in 2016 and 6.57% in 2018). Overall, at the level of counties, the share of revenues from non-financial assets is declining (6.12% in 2014, 5.32% in 2016 and 5.20% in 2018). At the level of counties, the index for 2018 is 94, which means that revenues from non-financial assets have decreased by 6% in 2018 compared to 2014. The share of revenues from non-financial assets is most important at the level of municipalities, and in 2014, the share was 9.92% and was decreasing, in 2018 it amounted to 8.08%. At the level of municipalities, in 2018 the index was 110, while in 2016 it was 106, which means that revenues from non-financial assets have increased by 10% in 2018 compared to 2014.

Table 1. Revenues from non-financial assets of all counties and the City of Zagreb, relative numbers

No	Revenues	% 2014	% 2016	% 2018	Index 2014 = 100	
					2016	2018
1	2	3	4	5	6	7
1.	Overall all counties and the City of Zagreb (20 counties + City of Zagreb)	100	100	100	99	115
1.1.	Revenues from non-financial assets (1.1./1.)	7.28	7.24	6.57	99	104
2.	Overall revenues and receipts – COUNTIES (20 counties)	100	100	100	100	111
2.1.	Revenues from non-financial assets (2.1./2.)	6.12	5.32	5.20	87	94
3.	Overall revenues and receipts - TOWNS AND MUNICIPALITIES (554 towns and municipalities)	100	100	100	99	116
3.1.	Revenues from non-financial assets (3.1./3.)	7.49	7.59	6.82	100	105
4.	Overall revenues and receipts – TOWNS (126 towns)	100	100	100	97	111
4.1.	Revenues from non-financial assets (4.1./4.)	6.96	7.07	6.48	99	103
5.	Overall revenues and receipts - MUNICIPALITIES (428 municipalities)	100	100	100	108	135
5.1.	Revenues from non-financial assets (5.1./5.)	9.92	9.73	8.08	106	110

Source: authors, according to the data provided by the Ministry of Finance

2.1.2. Realized revenues from non-financial assets and revenues from the sale of non-financial assets

Local units realize revenues from non-financial assets (Table 2) and from the sale of non-financial assets (Table 3).

Table 2. Revenues from non-financial assets

County	Revenues from non-financial assets			Index	
	2014	2016	2018	3/2	4/2
1	2	3	4	5	6
Zagreb	72,671,991	69,915,920	69,722,474	101	96
Krapina-Zagorje	13,386,827	10,697,408	10,278,866	80	77
Sisak-Moslavina	55,235,723	50,478,504	64,162,156	91	116
Karlovac	20,954,713	20,810,028	18,498,645	99	88
Varazdin	54,412,989	43,320,750	40,644,836	80	75
Koprivnica-Krizevci	87,955,084	62,579,401	60,952,879	71	69
Bjelovar-Bilogora	29,091,005	27,251,567	25,260,039	94	87
Primorje-Gorski Kotar	208,527,542	208,845,600	206,049,868	100	99
Lika-Senj	28,022,059	27,192,712	30,703,615	97	110
Virovitica-Podravina	38,211,629	32,653,671	29,696,818	85	78
Pozega-Slavonia	9,957,896	12,829,860	12,379,537	129	124
Brod-Posavina	30,057,744	30,542,754	29,388,388	102	98
Zadar	82,003,726	83,570,742	87,116,816	102	106
Osijek-Baranja	90,683,977	88,941,595	88,204,744	98	97
Sibenik-Knin	40,025,606	37,429,176	41,391,023	94	103
Vukovar-Srijem	45,412,541	50,778,114	61,906,604	112	136
Split-Dalmatia	165,747,766	184,333,960	202,113,213	111	122
Istria	140.112.042	149.770.318	142.182.383	107	101
Dubrovnik-Neretva	124,097,642	155,651,470	192,936,434	125	155
Medjimurje	25,435,249	23,824,500	30,067,710	94	118
City of Zagreb	423,927,289	388,807,042	408,127,289	92	96
Total	1,785,931,040	1,760,225,092	1,851,784,337	99	104

Source: authors, according to the data provided by the Ministry of Finance

The data in Table 2 show that in absolute values the revenues from non-financial assets are significantly different according to local units. In 2014, the lowest realization was achieved by Požega – Slavonia County, while the highest realization was achieved by the City of Zagreb and Primorje – Gorski Kotar County. In 2018, the lowest realization was achieved by Krapina – Zagorje County, while the highest realization was achieved by the City of Zagreb and Primorje – Gorski Kotar County. From calculated relative numbers, indexes, compared to the base year 2014, the most significant increase was 55.0% in Dubrovnik – Neretva County in 2018, and 29% increase in Požega – Slavonia

County in 2016. An increase of 4% of the overall revenues from non-financial assets for 2018 compared to 2014 is not significant.

Table 3. Revenues of local units from the sale of non-financial assets

County	Revenues from the sale of non-financial assets of local units			Index	
	2014	2016	2018	3/2	4/2
1	2	3	4	5	6
Zagreb	13,670,163	15,343,552	30,310,510	112	222
Krapina-Zagorje	13,952,097	1,699,767	5,623,867	12	40
Sisak-Moslavina	10,062,724	11,222,338	7,549,434	112	75
Karlovac	13,252,083	11,057,960	23,883,019	83	180
Varazdin	12,614,999	13,345,992	11,005,320	106	87
Koprivnica-Krizevci	18,205,711	9,488,803	8,958,994	52	49
Bjelovar-Bilogora	6,160,785	5,990,862	5,562,653	97	90
Primorje-Gorski Kotar	72,168,825	84,004,689	101,830,199	116	141
Lika-Senj	7,645,143	5,617,647	8,000,829	73	105
Virovitica-Podravina	18,365,774	13,341,504	6,725,541	73	37
Pozega-Slavonia	49,676,778	5,695,800	3,271,852	11	7
Brod-Posavina	11,125,358	7,743,386	12,054,491	70	108
Zadar	34,324,889	26,974,641	41,500,251	79	121
Osijek-Baranja	37,196,365	30,627,014	35,995,667	82	97
Sibenik-Knin	21,154,088	12,647,803	7,361,528	60	35
Vukovar-Srijem	44,097,223	30,635,293	23,763,578	69	54
Split-Dalmatia	93,676,002	104,921,337	36,950,328	112	39
Istria	130,161,501	110,412,062	164,910,343	85	127
Dubrovnik-Neretva	23,186,192	13,454,040	14,083,484	58	61
Medjimurje	9,826,765	8,177,303	13,243,778	83	135
City of Zagreb	42,826,517	50,854,117	57,189,416	119	134
Total	683,349,982	573,255,910	619,775,082	84	91

Source: authors, according to the data provided by the Ministry of Finance

The data in Table 3 show that in absolute values revenues from the sale of non-financial assets are significantly different according to local units. In 2014, the lowest realization was for Bjelovar – Bilogora County, while the highest was for Istria and Primorje – Gorski Kotar counties. In 2018, the lowest realization was for Bjelovar – Bilogora County, while the highest was for Istria and Primorje – Gorski Kotar counties. From calculated relative numbers, indexes, compared to the base year 2014, the most significant increase was a 122.0% increase for Zagreb County in 2018 and an 80.0% increase for Karlovac County in 2018. Overall revenues from the sale of non-financial assets in 2018 decreased by 9.0% compared to 2014.

2.1.3. Non-financial assets of local units

Local units dispose of assets, and assets they dispose of differ significantly according to their value. Data on the value of non-financial assets of local units is presented below. Assets are divided into non-financial (land, real estate, equipment etc.) and financial assets (cash, receivables for operating income, equity interests etc.). The term asset implies "resources controlled by the budget, i.e. budgetary users, as a result of previous events and resources which are expected to be used in the future for performing operations (Ordinance on Budgetary Accounting and Accounting Plan, Article 17). Table 4 provides the value of non-financial assets of local units for 2012, 2013 and 2014, according to the data from aggregate audit reports on the efficacy of real-estate management and disposition by local and regional self-government units (State Audit Office, 2016, page 6). From Table 4 we see that in absolute amounts, the largest value of non-financial assets was in Primorje – Gorski Kotar County, followed by the City of Zagreb that in 2014 combined had at their disposal non-financial assets valued at HRK 24,963,156,524.00, i.e. 28.8% of the overall value of non-financial assets of all local units. In most local units in 2014, compared to 2013 and 2012, an increase in the value of non-financial assets is observed.

Table 4. Value of non-financial assets of local units

County	Value of non-financial assets (in kunas)			Index	
	2012	2013	2014	4/2	4/3
1	2	3	4	5	6
Zagreb	2,895,905,156	4,850,994,161	4,681,858,099	162	97
Krapina-Zagorje	946,397,161	950,411,238	1,093,782,647	116	115
Sisak-Moslavina	2,402,916,511	2,427,603,413	2,374,876,134	99	98
Karlovac	2,369,690,065	2,570,745,668	2,273,187,400	96	88
Varazdin	1,358,068,299	1,866,742,127	2,055,836,984	151	110
Koprivnica-Krizevci	1,292,397,316	1,616,274,682	1,638,782,831	127	101
Bjelovar-Bilogora	900,696,856	1,620,872,962	1,660,923,960	184	102
Primorje-Gorski Kotar	13,175,085,196	13,216,272,077	13,992,555.482	106	106
Lika-Senj	1,996,186,365	2,020,142,262	1,880,377,898	94	93
Virovitica-Podravina	989,720,654	1,038,311,182	1,085,838,538	110	105
Pozega-Slavonia	941,039,187	1,027,688,434	989,134,844	105	96
Brod-Posavina	1,413,192,957	1,624,791,538	1,665,287,400	118	102
Zadar	3,103,086,314	3,254.624,402	3,337,726,434	108	103
Osijek-Baranja	3,651,304,115	3,979,709,109	4,206,093,837	115	106
Sibenik-Knin	2,055,793,755	2,209,819,321	2,205,877,262	107	100
Vukovar-Srijem	1,551,493,568	2,147,804,189	2,274,017,899	147	106
Split-Dalmatia	8,599,949,620	8,861,424,114	9,525,587,900	111	107
Istria	7,369,117,559	7,550,434,438	7,617,128,399	103	101
Dubrovnik-Neretva	8,426,096,234	8,580,784,432	9,078,682,386	108	106
Medji-murje	1,590,512,275	1,635,252,383	1,660,198,849	104	102
City of Zagreb	9,132,138,162	9,434,847,189	10,970,601,042	120	116
Total	76,160,787,325	82,485,549,321	86,268,356,225	113	105

Source: authors, according to the data from aggregate audit reports on the efficacy of real-estate management and disposition by local and regional self-government units

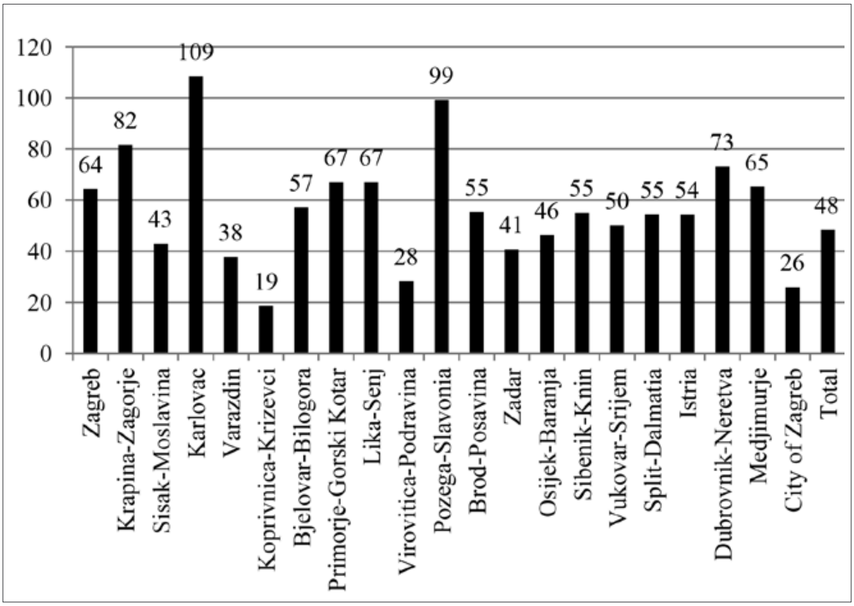
Disposition of assets of local units influences the realization of revenues from assets. Audit procedures aim at removing detected weaknesses and oversights pertaining to the state, purpose, and utilization of assets of local units in order to increase the efficiency of real-estate management and disposition. The contribution of state auditing is to strengthen good governance. "Supreme audit institutions, by definition, contribute to good governance by holding public sector organizations accountable for how they manage public funds and by making recommendations for improvements." (Akrap, 2019: 92).

The Perceptual Effectiveness Study of Utility Audit in Finland and Norway (Johnsen et al., 2001) explores how performance audit practices, including performance measurement, are used to assess and verify the value of money in local government to increase municipal accountability and the county. Despite some of the problems associated with the quality of the performance audit report, respondents perceived the performance audit to function as a useful and rational tool for public management.

Mahaček (2016: 25) points out the importance of inventory of assets, whose frame includes assets regardless of whether the property-legal relations have been set or not. That is important because revenues are realized, and within their frame, there are revenues from non-financial assets and revenues from the sale of non-financial assets, which are later presented according to local units. The importance of inventory of assets can also be linked to detection risks. *Detection risk is a risk that an auditor will not detect materially significant errors in clients' financial statements.* (Tušek, Žager, 2006: 203). The materially significant error can also occur in cases when assets are not properly listed in the inventory, i.e. not expressed in the overall value of assets, and the consequence is lower expressed value in financial reports. This is confirmed in irregularities determined by efficiency audit of local units, which relate to the fact that local units do not have information on the actual state of assets and that assets for which property-legal relations have been set are not listed in accounting ledgers. Assets audit is a complex and difficult process. In business events linked to assets procurement, various errors and irregularities may occur. Within audit aim relating to a property, Messier Jr. (1988: 5622) points towards the review of written agreements or documents pertaining to ownership with an aim of proving ownership. Ownership is one of the questions that need to be resolved, and that has proven to be significant during audits of local units. The question of the organization of the asset register is current and at the state level, and the goal is to establish an effective records and property management of the Republic of Croatian (Bajo and Ignjatović, 2018: 1) The same authors also emphasize the need to measure the performance of property management, reporting and public discussions about the success of executing plans and being responsible for not fulfilling them.

We compared values of non-financial assets according to local units and values of realized revenues from non-financial assets according to local units. We used data for 2014 (Table 4, column 4 and Table 2, column 2). This data is presented in Figure 1. All local units in 2014 disposed with non-financial assets with an overall value of HRK 86,268,356,225.00 and have realized revenues from non-financial assets in the amount of HRK 1,785,931,040.00. By interrelating the value of non-financial assets and values of revenues from non-financial assets, for all local units, it is determined that each HRK 1.00 of revenues required HRK 48.30 of the value of non-financial assets. Calculated values are the best in the City of Zagreb (HRK 25.90), while the highest value was observed in Karlovac County (HRK 108.50). The realization of revenues from assets is determined by legal regulations. Mahaček et al. (2009: 221) explain individual types of revenues from assets and legal obligations for realization and provide an overview of the realization of revenues from assets at the level of counties from 2003 to 2005.

Figure 1. Value of non-financial assets and revenues from non-financial assets



Source: authors according to data Table 4, column 4 and Table 2, column 2

Revenues from non-financial assets can be realized from leasing real estate, renting other properties, concession fees, monument annuities and other revenues from non-financial assets realized by local units because they have a right to a share of revenues based on legal provisions. According to the Audit Report (State Audit Office, 2019, page 7) revenues from assets of the City of Požega were realized in the amount of HRK 2,181,845.00, and more significant revenues relate to monument annuities amounting to HRK 493,073.00, leasing commercial premises amounting to HRK 436,815.00, concessions amounting to HRK 332,156.00 and fees for withholding illegally constructed buildings amounting to HRK 284,001.00. Revenues from assets participate in overall realized revenues of that city with a share of 2.4%, i.e. that share is not significant. In the collection of all revenues, audit needs to determine whether revenues were realized in accordance with concluded agreements and have all debtor reprimands and forced collection measures been performed. It is determined if the agreed fees were paid, and if not, what is the level of claims at the end of the year for which the audit is performed and collection measures are suggested.

According to the Audit Report (State Audit Office, 2019, page 11), overall assets of the City of Požega amount to HRK 843,356,321.00, of which HRK 751,612,497.00, i.e. 89.1%, is non-financial assets. The most significant non-financial assets are real estate whose value amounts to HRK 589,243,111.00, i.e. 78.4% of overall non-financial assets. The value of real estates is comprised of roads (HRK 345,375,294.00), commercial premises (offices, premises of scientific, cultural and educational institutions, resorts, sports halls, recreational facilities, garages etc.) (HRK 214, 788,648.00), other real estate (sport and recreation fields, monuments, public lighting and other) (HRK 22,698,346.00) and residential facilities (HRK 6,380,823.00). From the data, we can create a structure of assets and confirm the necessity of a complete and valid inventory of assets and establishing necessary records.

In audit on the efficiency of management and disposal of real estates owned by local government units (State Audit Office, 2016: 3), irregularities have been pointed out, some of which were:

- local units do not have the data on the actual state of the property,
- assets for which property-legal relations have been set are not listed in accounting ledgers, while no actions have been conducted for assets for which property-legal relations have not been set and such assets are also not listed in accounting ledgers,
- a registry of assets with the information prescribed for state assets registry has not been establishing nor is kept,
- business changes relating to real estates have not been recorded in accounting ledgers, certain assets are not recorded on prescribed accounts, an overall record of assets and obligations has not been created and the

data in analytical accounting records on assets have not been harmonized with the general ledger,

- the purposes of real estates managed and disposed of with has not been determined,
- no record on realized revenues and expenses from managing and disposing of real estate's according to each real estate unit has been established,
- real estate management and disposition strategy and annual management and disposition plan have not been drafted, and the manner of reporting on the realization of those strategies and plan has not been prescribed,
- when acquiring real estates, no analyses have been performed which would determine the economic viability of a selected form of acquisition and the possibility of using existing real estates owned by local units,
- commercial premises were leased without public tenders and without entering into a lease agreement,
- rent agreements have not been concluding with certain occupants and rent has not been calculated and charged,
- prior to construction, property-legal relations have not been set, the overall value of investments with sources of financing have not been published and necessary financial assets have not been provided,
- activities for finishing construction of buildings that have not been put into use, and for which agreed deadlines for completion have expired, have not been taken,
- the lack of proceedings on procedures and activities pertaining to real estate management and disposal.

The aforementioned irregularities have influenced the evaluation of the efficiency of real estate management and disposal and have resulted in grades "effective" as well as "partially effective".

A performance audit is a form of audit inherent in a state audit, which is not close to the private sector, that is, a commercial audit. *The objective of the performance audit is to assess whether the resources used represent the most economical use of public funds, whether the best services are being provided in a timely manner, that the best services are being provided, whether the strategic objectives are being met, and whether there is any impact on the implementation of those objectives. An important role of this type of audit is to identify existing weaknesses and, accordingly, make recommendations.*

The implementation of the recommendations given should lead to positive changes in the system as a whole, create new value and improve the functioning of the institution, which is reflected in the improvement of the economy, efficiency and effectiveness in the use of resources (Vuković, 2017: 13). After a certain time, it is checked that the recommendations have been implemented. "In addition to determining the responsibilities of those entrusted with public money, the need for ex-post questioning emerged as an expression of the desire for government officials to" make *them work more efficiently and spend more rationally, given the limited economic resources and the need to meet different social needs*. (Mamić Sačer, Vuković, and Pavić, 2016: 13).

3. CONCLUSION

This paper examined the movement of overall realized revenues and realized revenues from non-financial assets and revenues from the sale of non-financial assets. The value of non-financial assets at the disposal of local units was examined for the period from 2012 to 2014, for which the data from audits performed on the efficiency of management and disposal of real estates by local and regional self-government, performed by the State Audit Office. This paper presents realized revenues from non-financial assets and revenues from the sale of non-financial assets for 2014, 2016 and 2018. The assumption that revenues from non-financial assets have increased in 2018 compared to 2014 was confirmed. We assumed that this increase is the result of better management of non-financial assets since audit on the efficiency of management and disposal of real estates was previously performed. By comparing values of non-financial assets according to local units from 2014, and the value of revenues realized from non-financial assets according to local units for 2014, the assumption that local units differ significantly was confirmed. Significantly different value of non-financial assets, from HRK 25.90 to HRK 108.50, is required for realizing HRK 1.00 of revenues from the same asset. Local units sell non-financial assets and realize revenues from the sale of non-financial assets in that way, and this paper shows that realization. Non-financial assets need to be put into function in order to manage them efficiently, i.e. to achieve more revenues with existing values. Thus, it is necessary to execute orders and recommendations of the audit regarding the disposal of real estate since they make up a significant share of assets of local units. It is determined that there are various irregularities and omissions that need to be eliminated. The value of non-financial assets according to local government levels is significant for cities. Thus, future research on non-financial assets should be focused on cities. Audit recommendations should be executed in order to increase the efficiency of disposal of non-financial assets.

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THE INFLUENCE OF NATIONAL CULTURE ON THE DEVELOPMENT OF ACCOUNTING

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Abstract

The differences between the national accounting systems under the impact of popular culture have long been debated by accounting researchers worldwide. In the context of economic globalization, the general tendency is to standardize the accounting legislation to provide transparency and comparability. Under these premises, our study aims to test the impact of national culture on the development of accounting systems. Using the Accountancy Development Index (ADI) refined by Phelps (2011), as well as the cultural dimensions identified by Hofstede (1980), we ran a multiple linear regression model based on data for 18 states of the world and the results we have obtained reveal that national cultural specificity influences the development of accounting systems through the degree of individualism. However, we have found that the relationships between ADI and other cultural values (uncertainty avoidance, power distance, and masculinity) were not statistically significant. Further research can be developed to investigate how cultural differences may influence certain industries in terms of the disclosure of accounting information or the accounting policies and methods used in preparing and presenting the financial statements. We believe it is important to understand the potential cultural barriers that stand *in the way of the accounting standardization process, to be able to adopt specific strategies meant to overcome these obstacles.*

Keywords: *Accountancy Development, Cultural Dimensions, Hofstede*

JEL Classification: M41, M49

1. INTRODUCTION

Contemporary society is constantly changing and technological progress quickly influences all aspects of our life. The borders drawn by history become insignificant, and business begins to develop internationally. The big financial players operate on a world capital market, their needs dictate the directions of economic development.

In this age of globalization, there are still important differences between nations, which technology and its instruments cannot completely remove. Accounting principles, techniques, and standards are no exception, the divergences between them manifest from one country to another under the influence of political, social, cultural and ecological factors, which are subjects of intense scientific debates worldwide.

Choi & Mueler (1978, p. 23-28) have identified fifteen elements that differentiate international accounting practices:

- the type of national economy;
- the legal system;
- the political system;
- the forms of ownership;
- the size and complexity of the business;
- the social climate;
- the stability of the national currency;
- the complexity of the financial system;
- the role of the state in the economy;
- the existence of specific accounting regulations;
- speed of innovation in business;
- the level of economic development

- the national model of economic growth;
- the degree of professional and institutional education;
- the general level of education and development opportunities of the business environment.

National fiscal policies, the capital circuit, and the inflation rate also influence the way a country's accounting systems develop (Seidler, 1967, p. 775). Dynamically, the national accounting system may undergo major changes as a result of political and economic decisions or legislative reforms.

The diversity of financial reporting practices affects the users of accounting information, through the lack of comparability. The utility of the financial data consists in the possibility of evaluating the relevant indicators by reference to a comparison base without which an analysis process becomes practically impossible (Libby et al., 2009, p. 714).

Under these circumstances, the international regulatory bodies in the financial-accounting field have given special importance to this feature of comparability of financial information, defined today by the General Conceptual Framework of Financial Reporting issued by IASB as one of the essential characteristics of the financial reporting system (IASB, 2018). From the need to ensure this attribute arose the inclination towards the standardization of international accounting and the harmonization of accounting rules and practices.

Accounting systems incorporate specific procedures that underlie business management and reporting results, having a technical, mathematical side. But the activity of the economic entities and how the managerial decisions materialize and the governmental policies are established are not only a prerogative of the exact sciences but must also be viewed under the influence of the national and cultural specificity of each nation.

Previous studies have suggested that cultural disparities could be among the possible causes of international accounting differences (Chand et al., 2012, Kanagaretnam et al., 2014, Khlif et al., 2015, Mates et al., 2016, Salter et al., 2013). We consider that by examining and analyzing these differences the process of international accounting standardization and harmonization imposed by the needs of the global market may be improved.

Under these premises, our present research aims to test the causal relationships between cultural dimensions and the development of accounting systems in an international context.

Our paper is organized as follows. Section 2 defines Hofstede's cultural dimensions and reviews the relevant literature on the correspondence between the national culture and accounting practices. Section 3 reveals the research methodology and the hypotheses we have formulated. Section 4 presents our results and, finally, Section 5 concludes our paper, also providing suggestions for further research.

2. LITERATURE REVIEW

"Culture is public and is located in the minds and hearts of people" (Abdul-Rahman & Goddard, 1998, p. 184). Generally, scientific research on national culture has resulted in anthropological, social and psychological studies, aimed to analyze the influence of cultural characteristics on human behavior. However, the cultural dimension of a nation intermingles with the accounting principles and affects the evolution of the accounting systems (Gray, 1988, p. 5).

Hofstede et al. (2010, p. 6) have defined culture as "the collective programming of the mind that distinguishes the members of one group or category of people from others". In accounting research, the influence of culture is analyzed starting from the work of Hofstede (1980) that was based on a large questionnaire addressed to employees from IBM branches in the world and resulted in the identification of four cultural dimensions which embodies the differences and similarities between the states of the world:

i. Individualism vs collectivism: "Me, Us, Them"

How individuals relate to society as a whole determines differences between states; strongly individualistic cultures are oriented towards personal contributions, while collectivist societies generally have poorer economies.

ii. Power distance: "More equal than the others"

This criterion expresses the extent to which individuals accept the unequal distribution of power between organizations, institutions, and social categories. A high level of acceptance leads to the increase of social conformity and a lower need for peoples' independence.

iii. Masculinity vs femininity: "He, She"

In this respect, the societies considered to have a predominantly masculine character are those that value the concepts of performance and success, rather than the quality of life or the interpersonal relations, the latter being the appanages of states with a feminine specificity.

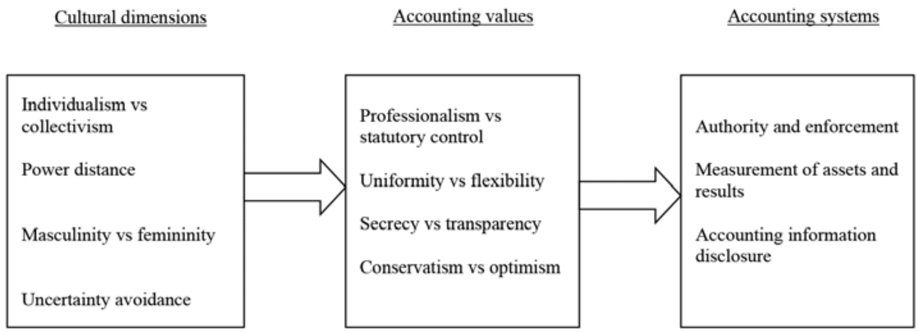
iv. Uncertainty avoidance: "Everything different is dangerous"

The need for individuals to avoid uncertain or ambiguous situations is a criterion for classifying states according to the degree of stress, anxiety and emotional expression of the individuals.

These cultural factors are quantifiable and influence the collective mind, the way the members of a society relate to the surrounding reality and therefore can have a significant impact on the national decisions and policies, including the field of accounting.

The social values of each nation determine various institutional processes and needs for information and, thus, can lead to the development of accounting systems that differ from one country to another. Gray (1988) has addressed the effects that national culture exerts on the evolution of countries' accounting systems and has identified four main characteristics of accounting that can be connected with the cultural dimensions developed by Hofstede: professionalism, flexibility, prudence, and transparency. Figure 1 reveals the connection between Hofstede's cultural dimensions and the accounting aspects identified by the author, considering their influence on the specific methods and practices.

Figure 1. The influence of cultural factors on accounting systems



Source: Gray (1988) adaptation

Essentially, the author identifies some correspondences between the national culture and the applied accounting practices, such as:

- in the states characterized by a high level of individualism, the organization of the accounting systems is rather the prerogative of the accounting professionals than the result of the statutory control, the professional judgment being defining for the accounting choices;
- a high degree of uncertainty avoidance in conjunction with a high level of power distance leads to the preference for accounting uniformity at the expense of the flexibility of regulations and methods used; at the same time, in this type of cultures, there is a tendency of secrecy in disclosing the financial information.

Geert Hofstede's classification is one of the most widespread cultural frameworks used in economic literature, although it has been almost four decades since its publication. His cultural dimensions were used in accounting analysis and research, both in terms of professional ethics (Cohen et al., 1996), as well as regarding the perception of the quality of accounting information (Geiger et al., 2006). A large number of studies have addressed the diversity of national accounting policies under the impact of culture (Jaggi & Low, 2000, Hope, 2003, García-Sánchez et al., 2013). Khlif (2016) has identified several main directions in which accounting research used Hofstede's cultural classification of states, including reporting policies, auditing, and the tax system.

The process by which cultural differences exert their influence on national accounting systems is not, however, obvious at first glance (Baydoun & Willet, 1995, p. 69). Nations are influenced by a wide range of factors that determine distinct behaviors. All of them are affecting the institutional mechanisms, which makes us believe that each culture develops its accounting system, to meet its particular needs.

3. RESEARCH HYPOTHESES AND METHODOLOGY

In formulating our research hypotheses, we have taken into account the most relevant studies regarding the relationship between Hofstede's cultural dimensions and how national accounting systems are organized.

In the individualistic countries, personal interests prevail and people tend to be more independent in judgment and thought, valences that also manifest in the accounting profession. The cultural dimension Individualism vs Collectivism influences how the institutional and organizational systems are built, but also the development of the accounting system. The index of national individualism is directly correlated with the role of professional accounting organizations and with the degree of independence in professional judgment (Gray, 1988, p. 8). Based on these considerations, we have formulated the first hypothesis for our research:

H_1: Individualistic states have a higher level of performance in the development of national accounting systems.

In terms of power distance, the countries with a high level of this indicator are characterized by a higher degree of centralization. Hierarchical systems are based on inequality. As for wage national policies, there are certain discrepancies between the top and bottom organizational structures, and the relationships between employees and their superiors are often influenced by emotions (Hofstede et al., 2010, p. 73).

In cultures with small power distance, state authority is built on practical considerations rather than traditions. Law and morality play an important role in establishing power relations.

A study by Chan et al. (2003) reveals that in the states with an increased index of power distance the accounting systems are more precarious and the professional competence is lower, which causes significant errors in the accounting activity. The hypothesis we have formulated regarding this cultural dimension is:

H_2: The states with a higher index of power distance register a lower level of performance in the development of national accounting systems.

The nations characterized by masculinity attach greater importance to personal performance and achievements, with an emphasis on competition and success, and embrace a system of values that influence the organizational and institutional behavior (Borker, 2012, p. 1005). The idea of excelling in a field is preferred in such environments, in contrast to the feminine orientation, which encourages quality of life, individual preferences, and cooperation between members of society. The accounting systems in the masculine states follow only the financial performance indicators and some authors associate this cultural indicator with an accounting behavior that does not respect the ethical norms (Cardona et al., 2014, p. 33) or with the tendency to manipulate the financial results and the lack of transparency in presenting the accounting information (Jia et al., 2014). In these respects, we have formulated the third research hypothesis:

H_3: The states with a higher degree of masculinity have a lower level of performance in the development of national accounting systems.

The inclination of individuals towards the avoidance of uncertainty is reflected in a conservative attitude and preference for familiar situations (Clements et al., 2010, p.118). In societies with a strong uncertainty avoidance culture, there is an emotional need for laws and norms, which determines purely ritualistic and inconsistent behaviors. However, the preference for formal structures does not necessarily mean legislative efficiency. Hofstede et al. (2010, p. 210) have noted a paradox here: although in countries with a lower level of uncertainty avoidance the law is less sacred, it is often much better respected. Moreover, in such cultures, when norms do not have good practical applicability, they are subject to change.

By contrast, the nations with a high degree of uncertainty avoidance are resistant to change, which can impede development and progress in the field of accounting, and from this context, our fourth research hypothesis has emerged:

H_4: The states with a higher uncertainty avoidance index have a lower level of performance in developing national accounting systems.

At the Global Accountancy Development Institute (GADI), Phelps (2011) conducted a pilot study that quantified the main relevant issues affecting national accounting systems for 32 states, based on a survey. The criteria that have been considered in this research were as follows:

- The legal and institutional framework regarding national accounting;
- Audit and financial-accounting control;
- Accounting education;
- Adoption and implementation of International Accounting Standards in the public sector;
- The accounting environment under the impact of International Financial Reporting Standards;
- Ethics and accounting discipline;

- Reporting principles on corporate governance;
- Institutional competences of professional accounting associations.

The information collected and processed by the author was the basis for the design of an Accountancy Development Index (ADI) which was assigned to each state and measures the level of performance and progress in the development of national accounting systems. The scores for each considered state are graphically represented in the research. We have proceeded to measure the graphs developed by the author to obtain the ADI index level for each state that we have included in our study.

As for the values for national cultural dimensions identified by Hofstede, they were obtained online (Hofstede Insights, 2019).

The sample we have used to analyze the influence of national culture on the development of accounting systems comprises 18 states, for which we have been able to identify both the values of Hofstede's cultural dimensions and the Accountancy Development Index (ADI), as we have revealed in Table 1.

Table 1. Accountancy Development Index and national cultural dimensions

State	Accountancy Development Index (ADI)*	Individualism / Collectivism (IC)**	Power distance (PD)**	Masculinity / Femininity (MF)**	Uncertainty avoidance (UA)**
Albania	4.15	20	90	80	70
Bulgaria	5.17	30	70	40	85
U.K.	8.10	89	35	66	35
Netherlands	8.91	80	38	14	53
Romania	5.38	30	90	42	90
Italy	7.50	76	50	70	75
Poland	7.32	60	68	64	93
Czech Republic	7.53	58	57	57	74
Ukraine	4.91	25	92	27	95
Serbia	5.00	25	86	43	92
South Africa	8.52	65	49	63	49
Turkey	5.92	37	66	45	85
Saudi Arabia	8.00	25	95	60	80
Hong Kong	7.74	25	68	57	29
Mexico	7.88	30	81	69	82

State	Accountancy Development Index (ADI)*	Individualism / Collectivism (IC)**	Power distance (PD)**	Masculinity / Femininity (MF)**	Uncertainty avoidance (UA)**
El Salvador	4.21	19	66	40	94
Brazil	7.92	38	69	49	76
USA	8.46	91	40	62	46

Source: processing after *Phelps (2011) and **Hofstede Insights (2019)

Based on the collected and processed data as well as on our previously formulated hypotheses, we have designed a regression analysis model to detect the impact of national culture on the level of development and progress of the national accounting systems. We ran a multiple linear regression model in the RStudio programming environment (RStudio Incorporated, 2019) and statistically analyzed the obtained results. The regression equation is the following:

(1) $ADIi = \alpha + \beta1 \times ICi + \beta2 \times PDi + \beta3 \times MFi + \beta4 \times UAi + \varepsilon$

where:

ADIi – is the Accountancy Development Index for state i;

ICi – is the cultural indicator that quantifies the level of individualism for state i;

PDi – is the cultural indicator that quantifies the power distance for state i;

MFi – is the cultural indicator of masculinity for state i;

UAi – is the cultural indicator that quantifies the level of uncertainty avoidance for state i;

β – is the estimated relationship between the dependent variable (ADI) and the explanatory independent variables (IC, PD, MF, and UA);

ε – is the cumulative effect of other factors that influence the dependent variable.

4. RESULTS AND DISCUSSIONS

Our hypotheses were statistically tested, using Hofstede's cultural dimension indicators as independent variables for the Accountancy Development Index (ADI). In Table 2 we have summarized our model results.

Table 2. The results of the regression model: the relationship between Hofstede's cultural dimensions and the Accountancy Development Index

Residuals:						
Min	**1Q**	**Median**	**3Q**	**Max**		
-2.1011	-0.6800	-0.1047	0.5196	1.7821		
Coefficients:	Estimate	Std. Error	t value	Pr(>I t I)		
(Intercept)	5.320692	3.203115	1.661	0.1206		
IC	0.047276	0.025488	1.855	0.0864	.	
PD	0.026856	0.036876	0.728	0.4794		
MF	-0.001323	0.019054	-0.069	0.9457		
UA	-0.033232	0.019075	-1.742	0.1051		
Signif. codes	0 '***'	0.001 '**'	0.01 '*'	0.05 ,.'	0.1 ' '	1
Residual standard error: 1.184 on 13 degrees of freedom						
Multiple R-squared: 0.5848, Adjusted R-squared: 0.457						
F-statistic: 4.577 on 4 and 13 DF, p-value: 0.01586						

Source: authors' projection

The obtained results support only partially our research hypotheses. Thus, as we have predicted, individualistic countries have a higher level of performance in the development of accounting systems and the IC variable is statistically significant in our model, with a threshold of 10%.

On the other hand, the model rejects our second hypothesis, according to which the level of power distance (PD) would be negatively correlated with the Accountancy Development Index; however, this indicator is not statistically significant.

The masculinity index and the uncertainty avoidance index have a negative correlation with the level of progress in the development of national accounting, as we have estimated in our hypotheses, but there is no statistical significance for these indicators in explaining the dependent variable (statistical probability Pr (> | t |) is above the relevance level of 0.1).

The Adjusted R Squared Coefficient of 0.457 illustrates a good explanatory power of our regression model.

Thus, we can state that national culture has an impact on the development of the accounting systems in terms of individualism/collectivism index. The nations characterized by a high level of individualism show increased performance in the development of accounting, being oriented towards the professional judgment and the important role of the professional accounting organizations. Independence and flexibility are prevalent in these states.

Regarding the other cultural dimensions, the statistical significance in our model is below the accepted threshold and does not lead to relevant conclusions. Further research may consider testing our hypotheses based on questionnaires applied in the accounting environment in different states.

5. CONCLUSIONS

The purpose of this study was to examine the effects of cultural factors on the development of accounting. We have designed a regression model to examine the association between the Accountancy Development Index and Hofstede's cultural dimensions.

The results of our research have confirmed the importance of national culture on the progress of the accounting field. In this respect, countries that tend to be more individualistic have a higher level of performance in the improvement of national accounting systems.

We believe that further research addressing accounting practices at the level of specific companies and industries may be considered to investigate how cultural dimensions influence the disclosure of accounting information.

On the other hand, Hofstede's cultural dimensions can be approached to investigate earnings management practices, as a national culture can influence reporting policy and corporate behavior. The adoption of IFRS and the policies regarding the valuation of assets at cost or fair value can also be a subject of analysis in terms of national cultural value.

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OPTIMIZATION MODEL FOR INSURANCE PORTFOLIO ACQUISITION COST MANAGEMENT[1]

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Abstract

Acquisition costs are variable costs that occur in the process of insurance sales. The value of acquisition costs varies depending on the types of insurance coverage. Insurance portfolio consists of agreed insurance coverage and the total costs of portfolio acquisition are the sum of all individual acquisition costs. The claims paid are monetary amounts based on the occurrence of the insured risk. The claims paid and acquisition costs considerably affect the profitability of the operations in the insurance business. For that reason, it is necessary to optimize the acquisition costs and to predict the claim expenses to achieve the planned level of performance.

Based on the above stated, the research was directed towards the creation of a model for acquisition cost optimization, taking into consideration the predicted claim expense values. Statistical regression methods and mathematical programming processes were used to construct the model. The goal of the research is the construction of a model for obtaining planned accounting information for the realization of the planned insurance portfolio with minimal acquisition costs.

By application of accounting information and statistical models, limitations are predicted by types of insurance coverage in the planned portfolio so that

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the model facilitates the creation of planned information, based on market-set limitations. The amount of planned claim expenses is defined in the upper limitation and relates to the planned gross premium in the manner that it does not surpass the limitations set. In that way, the optimization model enables the planning of the portfolio total annual gross premium by types of insurance coverage with optimization of acquisition costs, taking into consideration the limited amounts of insurance sales and acceptable values of expected claim expenses.

Keywords: *acquisition costs, insurance portfolio, annual gross premium, claim expenses, insurance sales, accounting information*

JEL Classification: M40

1. INTRODUCTION

Cost management affects company business performance. A successful company aims to optimize costs, which means to reduce costs to an acceptable level, without influencing the business continuity and income reduction. Expenses that occur in insurance companies in the underwriting process are called acquisition costs.

The amount of acquisition costs depends on the insurance company's business scope, i.e. on the scope of sales by insurance coverages. The administration costs encompass costs incurred outside the insurance sale processes and include salaries, amortization, and other administrative costs. The main function of insurance is customer claim compensation, as a consequence of the occurrence of the underwritten insured risk.

The performance of insurance company management, therefore, depends on the number of collected insurance premiums, cost management, and monetary investment, realized by claim payments from insurance. The number of premiums according to the types of insurance coverage and the number of insurance policies make up the insurance portfolio. Insurance portfolio enables monitoring of expenses and revenue and it is sought to optimize the portfolio with an acceptable level of risk and economic effects for the insurance company.

Based on the above stated, the research is focused on the insurance portfolio in the segments of gross premiums, acquisition costs, and claim expenses. The research starting point is to form a model for the insurance portfolio growth with optimization of acquisition costs and inclusion of the amounts of predicted claim expenses while respecting market limitations. In that way, costs that are dependent on the sales process are considered with the aim of planning the insurance portfolio and expected claim expenses. For that purpose, the statistical regression methods and mathematical programming procedures were combined. The model applicability is shown on the example of the insurance company, using information from seven years of annual reports.

2. LITERATURE REVIEW

Research and application of optimization in the insurance business is an area of special interest with researchers as it enables scientific in-depth exploration and practical application in the insurance company business operations. Drandel (1977) used the linear model of programming to determine the optimal insurance company property division for the maximisation of profits. Li and Huang (1996) developed a model which is applied for optimization of the composition of the insurance company portfolio and the portfolio of investment concerning the level of the insurer's threshold for risks, as well as for the generation of an efficient limit, by adjusting the insurer's risk threshold.

The areas of car insurance and mathematical programming were researched by Yeo et al. (2002) who, in their paper, give proofs of benefits of the approach which combines data mining and mathematical programming for determination of premium for payment per car insurance policy to obtain the optimal portfolio.

Peng et al. (2007) applied linear programming for the determination of fraud in healthcare insurance. Schleef (2007) directed his research towards the development of a model of linear programming for life insurance management to maximize current net values by combining life insurance and self-insurance. Hill et al. (2007) developed a model of mathematical programming and its computer implementation for asset management of a Finnish pension insurance company.

Rao, Duta, and Basu (2018) developed a support system for decision making based on the asset management model for an insurance company which applies a multistage stochastic linear programming. Krasheninnikova et al. (2019) used programming for optimization of the pricing strategy for the renewal of insurance portfolios. Research of new models for insurance company management based on mathematical programming facilitates improvement in the planning and realization of business goals.

3. THEORETICAL HYPOTHESES

Insurance companies contract various types of insurance which make up the insurance company portfolio intending to maximize the overall business performance (Andrijašević, Petranović, 1999). Business performance perceived through accounting categories represents the difference between realized revenue and expenditure. In that process, it is necessary to maximize revenue and minimize expenditure. From that aspect, insurance companies can improve their business performance in three ways. It is achieved by an increase in revenue with constant expenditure, reduction of expenditure with constant revenue and increase of revenue with a disproportionate increase in expenditure.

Revenue maximization, i.e. expenditure minimization for maximization of a portfolio in a specific type of insurance, while respecting limitations, is achieved by the linear programming technique (Andrijašević, Petranović, 1999). In the planning of the amount of portfolio revenue and expenditure, it is necessary to determine planned portfolio revenue and expenditure values and it is also necessary to determine the planned values per specific type of coverage. Planned values are determined by the application of historical accounting information and insurance market trends. The first step, therefore, is the analysis of business results so far.

The conducted research is directed towards acquisition costs, claim expenses, market limitations and the amount of the insurance portfolio annual premium. In the course of the construction of the optimization model, the statistical regression model and linear programming mathematical procedure were used.

Regression analysis is a frequently used statistical method for the explanation of the relationship between variables and is used in numerous applied science fields such as statistical, actuarial, financial and economic studies (Erdemir, 2019). The statistical method of regression analysis determines the existence of a correlation between the observed phenomena. By application of this statistical method, movements of the value trend are found, depending on the changes in analyzed variables. This is how, in regression analysis, a correlation between two or more phenomena is found, where phenomena are presented as dependent and independent variables. By application of the regression analysis, a regression model is formed which enables prediction of the dependable variable due to a change in the independent variable. The movement trend of the observed variables shows the dynamical mean value, expressed by the mathematical function for showing the tendencies of a change. The linear regression model amounts to a determination of the analytical expression which best shows empirical data. The general linear regression model is (Aczel, Sounderpandian, 2009):

$$Y=f(x)+e \tag{1}$$

If the functional part is the model in the form of:

$$f(x)=a+\beta X \tag{2}$$

The model becomes:

$$Y=\alpha+\beta X+e \tag{3}$$

The regression analysis is conducted based on the value couples X and Y, i.e. couples (x_1, y_1), (x_2, y_2),..., (x_i,y_i),...(x_n,y_n), and the model is presented by a system of n equations.

$$y_i=d(x_i)+e_i \tag{4}$$

i.e.:

$$y_i=\alpha+\beta x_i+e_i\ , \qquad i=1,2,\dots,n \tag{5}$$

The linear regression model is used to explore the correlation between the insurance premium and acquisition costs. Linear models are applicable as phenomena in insurance are observed through specific linear combinations of grading variables (Garido et al., 2019).

The second method used in the construction of the model is the mathematical programming procedure. The standard form of the problem of linear programming, in which we maximize or minimize the goal function, consists of the following (Neralić, 2012):

$$max/min z(x_1,x_2,\dots,x_n)=c_1x_1+c_2x_2+\dots+c_nx_n \tag{6}$$

with limitations:

$$a_{11}x_1+a_{12}x_2+\ldots+a_{1n}x_{1n}\leq b_1$$
$$a_{21}x_1+a_{22}x_2+\ldots+a_{2n}\,x_{2n}\leq b_2 \quad (7)$$

$$a_{m1}x_1+a_{m2}x_2+\ldots+a_{mn}x_n\leq b_m \quad (8)$$

$$x_1\geq 0, x_2\geq 0,\ldots,x_n\geq 0 \quad (9)$$

The goal function which is maximized or minimized is linear, where c_j, j = 1,2,…,n are goal function coefficients, while x_j, j =1, 2,…,n are structural variables. Mathematical programming deals with problems of optimization in which the optimizer comes across limitations. Linear programming observes the problems in which the linear goal function must be optimized under the conditions or limitations with non-negative decision variables. It is a formal procedure of system optimization where the goal function and limitations can be expressed by linear combinations of changeable values (Yeo et al.,2002).

4. RESEARCH METHODOLOGY

Starting from the presumption of the existence of a correlation between the amount of premium and acquisition costs, which can be expressed using a statistical model, the correlations are tested by the correlation analysis between annual premium by types of coverage and acquisition costs. Based on the conducted tests, it is proven that there is a correlation between these two variables. Hereby, the dependent and independent variables are defined, which are needed for the conduct of the statistical regression model. The dependent variable represents acquisition costs and the independent variable the annual insurance premium. Based on this, statistical models by types of coverage have been derived. Those statistical models, apart from the fact that, with them, the statistical correlation between the dependent and independent variables is illustrated, also serve for the calculation of the changes in the costs concerning the increase in the annual premium. The linear regression model applied in the research and which encompasses the said variables, and is made up of the types of coverage, is expressed with (Šošić 2006):

$$\hat{Y}=\alpha+\beta x \quad (10)$$

$$\beta = \frac{\sum_{i=1}^{n} xy-n\bar{x}\bar{y}}{\sum_{i=1}^{n} x-n\bar{x}^{\,2}} \quad (11)$$

$$\alpha=\bar{y}-b\bar{x} \tag{12}$$

Ŷ - change in acquisition costs

α - constant member

β - regression coefficient which shows an average change in acquisition costs when the gross premium value is increased by one unit

x – annual premium

The calculation of the expected acquisition cost values due to the increase in the annual gross premium is conducted by the application of the statistical linear models by insurance coverages. The sum of all acquisition costs makes up the total cost of portfolio acquisition.

The research aims to devise a model that will enable the amount of the insurance portfolio planned annual gross premium to be reached with minimization of the acquisition costs and inclusion of business limitations. The statistical linear models are introduced in the mathematical procedure programming where, apart from the combinations of the planned annual premium amounts according to the type of coverage, minimization of the total insurance portfolio acquisition cost is required. The insurance company business is conducted within the area of business limitations and parameters of upper and lower limitations are introduced in the model.

For the lower limit, the portfolio status is taken of the last covered year. The upper limit is the maximal sales difference according to the type of coverage expressed in the annual gross premium value. The statistical method of prognostic trend is used in the introduction of the upper limitation. The annual periods and annual gross premiums are linked by the prognostic trend, where the independent variable is time and the dependent, annual premium. This is how the prediction was obtained, which has its grounding in scientific methods.

Claims expenses are a significant category that affects the insurance company's profitability. The amount of claims expenses per insured cases is monitored according to types of coverage and, due to its importance, this variable is included in the programming procedure. By testing the correlation between the claims expenses and the annual gross premium, it was established that there is no statistical correlation between the amount of the annual premium and the amount of the settled claims per agreed insurance policies. For additional limitations in the programming procedure, therefore, average claims shares are calculated in the annual premium according to the types of coverage.

In this way, the optimization model includes the minimization of insurance portfolio acquisition costs, using the regression models by which the dependent variable of acquisition costs is linked with the amount of annual gross premium. The lower limit is the values of the realized gross premium by types of coverage in the last observed year. The upper limit is the limited sales values by types of coverage, obtained by regression prognostic models. The additional upper limitations are the predicted amounts of claims expenses according to the type of coverage.

Information provided by the optimization model facilitates the realisation of the planned increase in the total insurance portfolio with minimal acquisition costs while respecting market limitations in the increase of the gross premium and with limitation of the planned claims expenses by the types of coverage.

5. RESEARCH APPLICATION

The application of the model of optimization of costs of insurance portfolio acquisition will be illustrated on the example of an insurance company that operates in the Republic of Croatia's market. The accounting information shown in the insurance company annual reports is the starting point in the model application. The values of the annual gross premium, acquisition costs and claims expenses realized in the period between 2012 and 2018 are taken from the annual reports. A systematized review of accounting information for the model application is presented in table 1.

Table 1. Illustration of gross premium, claims expenses and acquisition costs in the insurance company by insurance coverage types in the period between 2012 and 2018 (in 000 kn)

Description		Year						
		2012	2013	2014	2015	2016	2017	2018
Accident insurance	Gross premium	47,135	49,569	52,406	52,956	51,844	52,926	53,738
	Claim expenses	14,494	11,433	7,926	14,488	12,602	8,619	7,922
	Acquisition costs	8,894	9,821	11,471	13,842	13,964	13,304	14,277
Financial loss insurance	Gross premium	11,754	14,623	13,647	15,406	16,039	17,381	20,007
	Claim expenses	2,062	1,956	3,155	3,133	4,453	3,996	5,989
	Acquisition costs	1,743	1,374	1,749	2,040	3,040	3,021	3,476
Travel insurance	Gross premium	15,820	15,392	14,909	14,557	15,351	22,737	25,183
	Claim expenses	3,287	3,121	2,022	2,033	2,993	5,691	4,714
	Acquisition costs	3,364	3,331	2,471	2,516	3,207	4,146	4,510
Fire insurance	Gross premium	105,565	117,178	126,158	125,316	127,450	131,499	141,348
	Claim expenses	40,611	50,416	122,652	20,573	41,048	73,389	48,741
	Acquisition costs	19,749	21,425	25,599	26,890	29,360	34,667	34,192
Liability insurance	Gross premium	37,463	42,300	46,275	52,436	68,624	81,534	94,896
	Claim expenses	32,895	32,466	30,289	35,445	36,065	36,537	32,968
	Acquisition costs	5,203	4,870	5,494	5,984	9,045	10,238	12,806
Healthcare insurance	Gross premium	237	201	462	2,589	3,324	12,386	24,192
	Claim expenses	111	51	29	263	419	2,471	7,312
	Acquisition costs	86	60	54	377	559	1,325	2,837
Loan protection insurance	Gross premium	524	1,923	3,048	2,513	2,756	3,512	3,484
	Claim expenses	348	23	999	3,220	1,785	972	711
	Acquisition costs	30	125	121	193	186	231	271

Source: insurance company annual reports

In the first step, the statistical method of linear regression is used to obtain regression models by which the change in the number of acquisition costs due to the increase in the gross premium is linked. Acquisition costs represent a dependent variable which changes concerning the change in gross premium, as an independent variable. By illustrating these relations using the linear regression model, the regression parameters are obtained, shown in the table below.

Table 2. Statistical parameters of linear regression models by types of insurance coverage

No.	Description	Intercept	X Variable	R Square	Significance F
1.	Accident insurance	-30983.37192	0.83881978	0.813039	0.005517192
2.	Financial loss insurance	-1681.885802	0.25920428	0.716557	0.01629547
3.	Travel insurance	534.9954653	0.15974338	0.834719	0.004017615
4.	Fire insurance	-31475.80187	0.47136194	0.837442	0.003849859
5.	Liability insurance	-792.0173435	0.13974075	0.977234	2.67706E-05
6.	Healthcare insurance	56.68052852	0.11295514	0.993672	1.08404E-06
7.	Loan protection insurance	-5.169165065	0.06718379	0.77061	0.009369451

Source: author's calculations

The regression models according to the type of insurance coverage are applied for the optimization process of determination of the combination of values of the annual gross premium by types of insurance coverage, with a minimal total acquisition cost. Given that the sales according to the types of insurance coverage are limited and subject to the demand and competitive positions in the insurance market, the upper limit is established in the form of the planned annual gross premium which can be agreed according to the type of insurance coverage.

The annual gross premium from the observed seven-year period represents the initial data for the prediction of the planned capabilities in insurance sales. The prognostic trend model is used for the prediction of the upper limitation. In that model, time is the independent variable, while the annual gross premium is the dependent variable. By application of the data about the amount of the annual gross premiums through annual periods, shown in table 1, representative prognostic trend models are formed and, using them, the predicted gross premium amount is calculated for the following year.

Table 3. Regression models and gross premium predicted values by types of insurance coverage

No.	Description	Regression model	R Square	Predicted gross premium (in 000 kn)
1.	Accident insurance	$y = 47611x^{0,0639}$	0.8848	54,377
2.	Financial loss insurance	$y = 96.702x^2 + 393.06x + 12045$	0.9181	21,378
3.	Travel insurance	$y = 666.75x^2 – 3790.4x + 19534$	0.9175	31,883
4.	Fire insurance	$y = 4903x + 105319$	0.8906	144,543
5.	Liability insurance	$y = 9754.1x + 21487$	0.9444	99,520
6.	Healthcare insurance	$y = 1195.6x^2 – 6025.7x + 6389.3$	0.9652	34,702
7.	Loan protection insurance	$y = 752.48x^{0,8859}$	0.8237	4,219

Source: author's calculations

Claims expenses are an important factor that affects the profitability of a particular type of insurance coverage. This is why the variable of limitation of claims amount is introduced in the optimization model. This is important for the reason that a particular type of insurance can have low acquisition costs and high expenses per insurance claim and the obtained values, which do not include this variable, would not, therefore, be representative. For the needs of determination of the amount of the claims, the calculation is used of the average share of claims in the gross premium. Covering the seven years, the average value is obtained of the shares in the gross premium by the types of insurance coverage.

Table 4. Illustration of average premium, average claim amounts and claim shares in gross premium by types of insurance coverage

No.	Description	Average premium (in 000 kn)	Settled claims average (in 000 kn)	Claim share in the premium
1.	Accident insurance	51,511	11,069	0.21489070
2.	Financial loss insurance	15,551	3,535	0.227307385
3.	Travel insurance	17,707	3,409	0.192507
4.	Fire insurance	124,931	56,776	0.454458133
5.	Liability insurance	60,504	33,809	0.558794224
6.	Healthcare insurance	6,199	1,522	0.245580881
7.	Loan protection insurance	2,537	1,151	0.453716216

Source: author's calculations

By application of the illustrated variables in the optimization model, planned accounting information is obtained about the amount of the annual premium by types of insurance coverage under the condition of realization of minimal insurance portfolio acquisition costs. The optimization conditions are within the range of the upper limitation of the predicted annual gross premium and the lower limitation of the premium value of the portfolio initial position. The additional limitation is the value of the planned and expected claims expenses according to the type of insurance coverage. The structured data for the optimization model is shown in the table below.

Table 5. Illustration of the data included in the optimization model for management of costs of acquisition of insurance portfolio (in 000 kn)

No.	Description	Initial portfolio status	Acquisition costs by type of insurance coverage	Predicted premium	Claim share in gross premium	Claim amount limit
		X	Y	Z	Q	F
1.	Accident insurance	53,738	14,277	54,377	0.21489070	11,600
2.	Financial loss insurance	20,007	3,476	21,378	0.227307385	4,700
3.	Travel insurance	25,183	4,510	31,883	0.192507	6,000
4.	Fire insurance	141,348	34,192	144,543	0.454458133	70,000
5.	Liability insurance	94,896	12,806	99,520	0.558794224	60,000
6.	Healthcare insurance	24,192	2,837	34,702	0.245580881	7,000
7.	Loan protection insurance	3,484	271	4,219	0.453716216	2,000
8.	TOTAL	362,848	72,369	390,662		161,300.00

Source: author's calculations

The programming conditions are:

Minimize: total cost (Y8)

under the condition: (12)

upper limit $X1{:}X7 \leq Z1{:}Z7$

lower limit $X1{:}X7 \geq$ insurance portfolio initial status

claim amount limit $X1{:}X7 * Q1{:}Q7 \leq F1{:}F7$

planned annual portfolio gross premium $X8 = 380{,}000{,}000$

Table 6. Planned gross premium, planned acquisition costs, and average claims by types of insurance coverage for the realization of planned total portfolio gross premiums provided the acquisition costs are minimized and taking into consideration the limits set (in 000 kn)

No.	Description	Planned gross premium	Planned acquisition costs	Amount of planned average claim expenses
1.	Accident insurance	53,738	14,093	11,548
2.	Financial loss insurance	20,677	3,678	4,700
3.	Travel insurance	31,167	5,514	6,000
4.	Fire insurance	142,175	35,540	64,613
5.	Liability insurance	99,520	13,115	55,611
6.	Healthcare insurance	28,504	3,276	7,000
7.	Loan protection insurance	4,219	278	1,914
8.	TOTAL	380,000	75,494	151,386

Source: author's calculations

Using the optimization model, the values are calculated of the planned annual gross premium by types of insurance coverage which meet the conditions of the minimal level of the total acquisition costs, with set limitations, for the realisation of the insurance portfolio gross premium planned value. By examination of the obtained values, we can see that the value of the accident insurance annual gross premium remained in the value of the initial position. Liability insurance and loan protection insurance is limited by the upper limit of the predicted gross premium. Financial loss insurance, travel insurance, and healthcare insurance are limited to the amount of the planned claims.

The characteristic of the optimization model is also additional flexibility in the creation of the scenario for goal achievement. The model flexibility is expressed in respect of the introduction of new limitations under the requirements of business operations and the insurance market. That flexibility is reflected in the introduction of new requirements into the limitation variables. This can be illustrated on the example of accident insurance, where the value of the planned gross premium is equal to the value of the gross premium initial position. Due to the number of acquisition costs concerning other insurance types, no change has occurred in the annual gross premium value of this type of insurance. The optimization model facilitates the introduction of additional limitations through conditioning of the value of the planned gross premium by the types of coverage. In this way, the creation of various scenarios is enabled for the management of costs of acquisition, adapted to the insurance industry business goals.

6. CONCLUSION

The optimization model for acquisition cost management facilitates the planning and management of the insurance portfolio. By combining the accounting information with the statistical regression models and mathematical programming, new planned accounting information is formed. This information includes the gross premium planned values, acquisition costs, and claims expenses. The gross premium planned value is included according to the type of coverage and the overall portfolio. The acquisition costs are analyzed through the increase in the annual gross premium and the planned claims expenses are limited through average claims expenses shares in the gross premium.

The research results complete the existing methods and techniques of insurance business management. The legalities that are used in the creation of the model facilitate recognition of those types of insurance through which the lowest planned insurance portfolio acquisition cost will be realized. The gross premium planned values, according to the types of insurance coverage, are incorporated in the final information base, which is set as an ultimate overall planned insurance portfolio value. The result of this is the sales plan according to the types of insurance coverages and the gross premium value, with additional monitoring of the planned acquisition costs and limitation of claims expenses.

By a comparison of the planned increase in the gross premium and the planned acquisition costs, expressed in relative figures, the increase in the planned expenses due to the planned increase in the premium can be analyzed, establish important factors which affect the amount of the total portfolio acquisition cost. By this procedure, the insurance grouping is facilitated according to the gross premium, acquisition costs and claims expenses and the process of cost optimization is improved. The model flexibility is emphasized in its adaptation through the introduction of additional limitations, which enables the creation of different business scenarios. By application of the information obtained by the model, business activities are prepared for the achievement of business goals. Further research of the illustrated model can be directed towards the risks according to the types of coverage and the analysis according to the structure of the acquisition costs.

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STRATEGIC MANAGEMENT ACCOUNTING AS AN INTEGRAL PART OF THE ENVIRONMENTAL COST MANAGEMENT IN THE HOTEL SECTOR

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Abstract

Modern business conditions in a dynamic global market have increased the importance and significance of using the information in a way that their effectiveness and power are progressively becoming an indispensable factor in strategic thinking. The company performance evaluation system has also changed significantly, so it is no longer crucial to have a good product, but it has become more important to get hold of reliable information earlier than others as a guarantee of achieving a competitive advantage in the market.

To make the correct short and long term business decisions, the managers of the existing hotel operations (who are also taking into consideration the future hotel operations), must have an adequate amount of relevant business infor-

mation at their disposal, and the knowledge necessary to process them. The source of all business-related information is accounting, and as such it provides a range of standard information that, concerning its source, has the characteristics of financial accounting, cost accounting or management accounting.

Strategic management accounting includes that part of management accounting to which non-financial and business environment information is added so the company's strategy can get realized, and in this context, the environmental cost management gains importance. Concerning the above, the hotel industry is beginning to recognize that a consistent approach to environmental protection can reduce costs, improve business operations, increase profits, and meet the needs of a growing number of customers who are increasingly looking for eco-friendly hotels, along with all of their services.

Based on the questionnaire survey conducted in the summer of 2019 among Croatian hotels, this paper analyzes in more detail the costs related to environmental protection to highlight the role of management accounting in the formation of long-term business decisions and to indicate the strategic importance of environmental management accounting.

Keywords: *strategic accounting, management accounting, environmental accounting, the Croatian hotel industry*

JEL Classification: M10, M41

1. THE CONCEPT AND IMPORTANCE OF STRATEGIC ACCOUNTING FOR BUSINESS OPERATIONS

When the non-financial and business environment information is added to the management accounting for realizing the company's strategy, the management accounting grows into the strategic management accounting. A simplified definition of the strategic management accounting would be monitoring and analyzing information obtained from the management accounting about the business activities of a company and its competitors to develop and monitor a business strategy. According to the Institute of Management Accountants (IMA), management accounting is defined as the process of identifying, measuring, accumulating, analyzing, preparing, interpreting, and exchanging accounting information required by the management to plan, evaluate, and control internal organizational relationships that guarantee an appropriate level of resource utilization and responsibility for those resources (IMA n.d.).

Management accounting (or accounting for management purposes) bases its work activities on the tasks of preparing and using accounting information in the planning and control of business operations, i.e. for making business decisions. Management accounting reports are intended for company management. The accounting management system consists of reports (Meigs & Meigs, 1999, 987): operating expenses with the technological scheme of the production process and cost indicators with the rate of yield of finished products' costs, planning and control of operating costs, and preparation of management accounting reports necessary for making business decisions.

From these requirements, management accounting in the system of cost accounting will allocate a special continuous activity to monitor production costs according to the established industrial production scheme, costs and to plan and control the execution of planned costs. The purpose of management accounting is to meet the information requirements of the management on all hierarchical levels. The main source of information is real-time internal billing. The internal calculation provides partial results according to different coverage criteria: (1) under IAS 14 and 34 (SFAS 131), (2) by processes and activities, and (3) by specific management's requirements.

By incorporating non-financial and business environment information to realize the company's strategy, management accounting in the 1980s has grown into strategic management accounting (Ramljak & Rogošić 2013, 30). The conventional approach to management, which was appropriate for operating in a calm and stable environment, did not attach particular importance to the accounting data, in particular, because the cost of collecting and processing information outweighed the benefits it could provide.

Modern business conditions in a dynamic global market have increased the importance and significance of using the information in a way that its effectiveness and power are progressively becoming an indispensable factor in strategic thinking. The company performance evaluation system has also changed significantly, so it is no longer crucial to have a good product, but it has become more important to get hold of reliable information earlier than others as a guarantee of achieving a competitive advantage in the market. With that in mind, managers seek to build and implement adequate cost accounting techniques that will create information crucial for making strategic business decisions.

Contemporary managers also believe that incorporating a strategic dimension into the area of management accounting creates a mechanism that contributes to a better understanding of customers and competition, even though these categories have never been in the focus of the management accounting. The advantages of the strategic over conventional (traditional) management accounting according to Miličević (Strategijsko upravljačko računovodstvo 2003, 120) are presented in the following comparative table.

Table 1. Comparative Overview of the Basic Guidelines for Conventional and Strategic Management Accounting

Features of the conventional management accounting	Features of the strategic management accounting
1. Past-oriented	1. Future-oriented
2. Focused on one entity	2. Observes relationships between businesses
3. Focused on one period	3. Focused on multiple periods
4. Focused on one decision	4. Focused on multiple decisions
5. Introspective	5. Open
6. Focused on production activities	6. Focused on the competition
7. Covers existing activities	7. Covers possible activities
8. Reactive	8. Proactive
9. Programmed	9. Non-programmed
10. Overlooks connections with others	10. Builds connections with others
11. Data-oriented	11. Information-oriented
12. Dependent on existing systems	12. Independent from existing systems
13. Built on conventions	13. Ignores conventions
14. Monthly performance evaluation is based on the financial statement	14. Quarterly/semiannual multidimensional overview
15. Financial evaluation with rigorous criteria in investment assessment	15. Strategic analysis using multiple models for improving the assessment-based decisions
16. Profitability analysis is based on products	16. Profitability analysis is based on products, consumers and the market

Source: Miličević, Strategijsko upravljačko računovodstvo 2003, 120.

A comparison of the guidelines presented in Table 4 reveals significant differences that should be considered in the temporal context and differences between business philosophies of the 20th and 21st centuries.

1.1. The Most Relevant Strategic Accounting Methods

Strategic management accounting, as stated by Rogošić and Perica, (2016, 154) is defined as the monitoring and analysis of management accounting information about a company (company's business activities) and its competitors as well as other stakeholder groups to develop and monitor the business strategy. Strategic management accounting involves the application of one or more management accounting methods, which are discussed in more detail below in this section of the paper.

The activity-based costing method measures the costs and effects of activities, resources, and cost objects (Peršić & Janković, 2006, 405). The first stage in the activity-based costing is to determine which resources are allocated to each activity. The activities are then assigned to cost objects (product, service, customer, contract, project or some other unit requiring a specially formulated cost measurement). This method is not limited to production costs and is also applicable in service industries. The introduction of an accounting system based on the activity-based costing method includes the following (Rogošić & Perica 2016, 155):

1. Identifying the essential (main) activities that are carried out in an organization is the process which helps to define those activity centers that have related tasks, or that have a common cost driver.
2. Assigning costs to cost centers for each activity,
3. Determination of the cause of costs for each relevant activity,
4. Assignment of activity costs to objects (products).

Activities consist of a series of tasks or work units. The choice of activity is a matter of assessment that is influenced by several factors, such as the total cost of the activity center and the ability of the individual cost driver to provide a satisfactory determinant of the activity's costs. Activities that have the same cost driver are usually merged into one cost center activity.

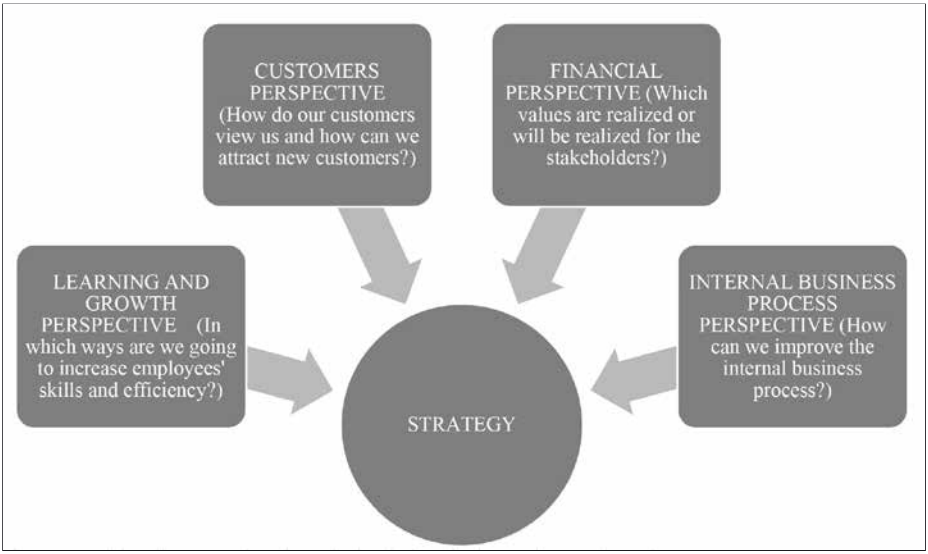
The target costing method assumes that if the market for each product dictates a target sales price, which is reduced by the target margin, the company obtains a target cost amount that represents the total cost at which the product can be produced to be profitable. Starting from the fact that the target selling price of a product is in the domain of customers, and the target sales margin is in the domain of the business owner, which the company has no influence over, it can be concluded that the company can only influence the target costs.

The target costing method assures designing of a cost-effective product for a company, which will ensure a profitable product at the earliest stage, and eliminate the additional costs of future product redesign (Rogošić & Perica, 2016, 158). It is important to emphasize that the application of the target cost method does not affect the cost of the product itself, but rather affects the use of cost information in the context of product profitability. The Life Cycle Costing method attempts to calculate the total cost of a product during its life cycle, which includes research and development, design, production, and delivery. The estimated life cycle cost of a product is useful information for decision making in the course of procurement, design optimization, production planning and other activities related to creating and selling a product.

This method estimates the lifetime of a product to determine whether the projected revenue from the sale of the product exceeds all costs of its production and delivery. When calculating the life cycle cost of a product, it is necessary to reduce all observed (future) costs to their present value. Determining the life cycle cost of a product is possible through adequately structured cost accounting, and applies to companies that face significant pre-production costs and/or high placement costs that include the costs of promoting, selling and distributing individual products. The last third method of strategic accounting is the Balanced Score Card.

The Balanced Score Card is a model of a selected set of indicators and measures derived from the company strategy used for planning and directing activities and measures achievement from different perspectives based on linking and balancing the most important success factors (Belak, 2002, 21). The Balanced Score Card is a strategic management tool that has the task of translating vision and strategies into goals and measures. The Balanced Score Card is based on Porter's model of four fundamental perspectives. The core of the construction of the Balanced Score Card model is the definition of the mission, vision, and strategy of the company based on which plans, tasks, benchmarks, and budgets are defined in the four perspectives presented in the following diagram.

Diagram 1. Balanced Score Card – Basic Model



Source: Belak, Bilanca postignuća u planiranju i praćenju rezultata poslovanja 2002, 22.

The overview of commonly used strategic management accounting methods in practice shows the complexity of this accounting field. Most methods require serious IT support and very specific know-how from both the accountants and other company professionals. The introduction of these methods very often involves the cooperation of management at all levels and experts in various areas, over a long period. Each of the observed methods can provide numerous benefits for the company, but with due regard for the limitations that arise from the nature of the method itself as well as the environment in which the company operates and the know-how acquired by its human resources. Depending on the company strategy and business goals, one or more strategic management accounting methods can be applied within the company.

2. SEGMENTS OF THE HOTEL MANAGEMENT ACCOUNTING

The segment is part of the business system, which is not a legal but only a reporting entity. Segment functions are as follows (Peršić and Janković, 2006, 300):

- It is involved in the performance of those business processes that are linked to revenues and expenses that are recognized both on the market and internally;
- A partial (operational) result is achieved on the segment level, which is systematically reviewed by the decision-maker (a function - not necessarily a person) on the business system level, in terms of resource allocation and quality of the achieved results;
- It provides an information base for decision-making on the financial effects of the made business decisions.

The segment needs to provide to the management the preconditions to anticipate future actions and the consequences of its decisions, with particular emphasis on optimizing the cash flow. Accounting must provide the preconditions to monitor and report relevant revenues and expenses by each segment. Segment's revenue and expenses, along with their planning and control, are exclusively those that can be influenced by a segment manager's decisions. Operative segments are the parts of a company that comprises of the revenue-generating business activities that incur expenses (including revenues and expenses incurred about other segments within the same company) and whose operating results are regularly reviewed by the company decision-makers.

2.1. Responsibility Accounting in Hotels

Responsibility accounting is a system of planning and evaluating the performance of business segments to manage the performance of the company more effectively. In this system, managers take responsibility for achieving the targeted financial results of the business segments they manage, following their hierarchical position and ability to control. The manager of each responsibility center, under its authority, collects and provides information on costs, revenues, profits and return on investment. Within the responsibility accounting, each segment that is controlled accounted for, and measured for a specific set of activities can be recognized as a responsibility center (Vinković Kravaica & Tomljenović 2013, 226).

Organizational units, by applying responsibility accounting, are converted into responsibility centers such as cost centers, discretionary cost centers, profit centers, revenue centers or investment centers, however, the biggest attention is given to profit centers. Profit centers produce expenses and profit and strive to maximize revenues. Decentralization of the organization to profit centers provides an insight into those business segments that operate profitably, as well as those leading to a decline in profitability of the entire company.

By analyzing the business of each profit center we can conclude the need to continue implementing the profit center's strategy, about the need to invest in it or about the need for liquidation or redirection strategy if its operation is unprofitable. The responsibility centers' accounting has the task of identifying and presenting any costs that can be realistically charged or allocated to specific effects on a causal basis. It is part of an accounting information system oriented towards the preparation of the information that is relevant for the managers of smaller organizational units. Responsibility center accounting is a system that separately measures the performance of each responsibility center. It provides a source of information for business decision-making by the lower levels of management and it is a prerequisite for the control of those business decisions' results (effects). It provides information on controllable costs and associated revenues and results. Responsibility centers are segments that occur as the following sub-units:

- Responsibility Profit Centers - a company segment that generates both revenues and expenses. Performance is judged on the profitability i.e. contribution to the coverage
- Responsibility Revenue Centers - a revenue-generating company segment
- Responsibility Cost Centers - a segment of a company that generates costs but not directly revenues. Performance is evaluated through its ability to control costs and the quantity and quality of services provided.
- Responsibility Investment Centers - A profit center for which a manager can measure the cost of assets used in the operations of the center. The most common measure is ROI, i.e. return on invested assets.

Responsibility accounting is a system of planning and evaluating the performance of business segments to manage the hotel more effectively. In this system, managers take responsibility for achieving the target financial results of the business segments they manage, per their hierarchical position and ability to control. The manager of each responsibility center, in line with its authority, collects and provides information on costs, revenues, profits and return on investment. Within the responsibility accounting, each segment that is controlled accounted for and measured for a specific set of activities can be recognized as a responsibility center (Belak, 1995, 62).

2.2. Internal Accounting by Segments as Responsibility Centers

Segment reporting, i.e. the internal accounting area, under the provisions of the International Accounting Standards, can be adjusted for the specific business activities of any hotel and the information requirements of its management. The objective of this standard is to establish the principles by which management accounting should be structured so that reports by hotel segments can be kept track of as required by management. Each segment requires information on sources of revenue and associated costs and expenses, and the segments must be recognizable in the structure of the hotel's offer. The specific nature of conditions and work in a hotel are determined by the following:

- Business segments are organizational parts of the whole hotel or its activities
- Geographic segments occur in a different location or have activities for different target users (different markets),
- Revenue that can be directly attributed to a particular segment or can be indisputably subscribed to it depending on the activity is called hotel segment revenue,
- Expenditure of a particular segment in a hotel is a target expense incurred in the execution of the actual tasks of that segment or can be justifiably attributed to that segment.

Segment management accounting involves recognizing and clearly defining those processes and activities that will be justifiably managed as reporting business segments or geographical segments, as they are a prerequisite for presenting transparent information on the justification of performing certain activities and their coverage with budgeted revenues. Therefore, the same methodological basis for planning and control must be provided in management accounting.

3. ENVIRONMENTAL MANAGEMENT ACCOUNTING

Environmental Management Accounting is defined by Vasile and Man (2012, 566) as the process of identifying, collecting, evaluating, analyzing, internally reporting and using the information on materials and energy, environmental costs, and other decision-making data, all to make such decisions that contribute to environmental protection. Peršić (2005, 10) states that environmental accounting includes: all those areas of accounting that must adapt to the new requirements in the business system, due to its orientation on environmental protection down to the lowest level of ecological accounting, i.e. green accounting.

Environmental management accounting has introduced costs that until recently have not been considered useful for monitoring into the concept, such as consumption and use of the environment, water consumption, lighting costs, waste disposal, consumables, etc. Environmental Management Accounting - EMA) adapts to the information requirements of users in a way that it must meet the information requirements of operational management and create the preconditions for making strategic business decisions important for the improvement and protection of the environment (Gulin, Janković, et al. 2011, 579).

The task of EMAs is to provide prerequisites for collecting relevant data on the lowest hierarchical level (process activities, cost center, responsibility centers) through collaboration with the management information system and environment. Environmental data and information included within the framework of internal accounting are the basis for management reporting. Environmental Management Accounting is a significant segment of socially responsible accounting, which means that, when selecting procedures and presenting results, no concessions from environmental determinants should be made so that managers can realistically view the amount and structure of environmental costs (Gulin, Janković, et al. 2011, 581).

Environmental cost accounting includes the identification, keeping record-keeping of and reporting about environmental costs, which include the costs of prevention, disposal, planning, control, reallocation of activities and repair of various damages, and can be divided into four categories (Rogošić and Perica, 2016, 164):

1. Conventional waste disposal and emissions remediation costs, including costs related to the operation and maintenance of materials. Insurance and compensations as an expense arising from an environmental protection obligation also represent the cost of remediation. This category includes common environmental costs, which include all costs of treating, disposing and cleaning up existing waste and emissions;
2. Costs of prevention and environmental management, including labor costs and external good governance services, as well as the depreciation costs of integrated technology that has an environmental impact. The focus of this category is on waste and emission prevention costs (costs of preventive environmental management activities such as "green" procurement, environmental supply chain management, cleaner production, extended producer responsibility and the like). Also included are costs of other environmental management activities such as planning and developing an environmental system, measuring environmental protection, environmental communication (e.g., community group meetings, government lobbying, environmental reporting), and other relevant costs (such as financial support for community environmental projects).
3. The procurement cost of waste materials that include water and energy, which are extremely important resources from the aspect of environmental protection, and their position in monitoring environmental costs are also significant. Sometimes, due to the inseparability of the acceptable from the waste material, a certain proportion of it may be turned into unusable and environmentally harmful material, so its procurement costs should be controlled.
4. Production costs with non-productive effects including solid waste (which is generally not as hazardous as paper and plastic), hazardous waste in all its forms (which is toxic, flammable, contagious or carcinogenic), wastewater and harmful gaseous emissions. Waste and emissions can be generated continuously (for example, wastewaters generated by car wash services and the emission of gases when transported by motor vehicles), occasionally (such as batches of products in environmentally unfriendly packaging), or, as a one-off event (in the event of an environmental disaster), and can arise from any part of the organization.

In environmental management accounting, special emphasis is placed on water and energy consumption, as well as pollution resulting from their use. Developed environmental management accounting also includes an estimate of future costs when preparing reports for internal (organizational) users to provide the most realistic basis for decision-making.

3.1. Classification of the Environmental Management Accounting

Environmental management accounting includes a wide range of environmental information management tools, which has brought up the necessity to systematically integrate environmental management accounting into two major components:

- The monetary component of environmental management accounting and
- The physical component of environmental management accounting.

The monetary component of environmental management accounting is used to cover all internal corporate environmental accounting tools and processes that measure environmentally-related financial performance in monetary units, while the physical component of environmental management accounting covers all internal corporate tools and processes using physical units with an environmental impact. Monitoring physical information allows the hotel to evaluate and report materially related aspects of environmental protection. Environmental management accounting is focused on physical inputs and outputs.

Table 2. Environmental Management Accounting Framework

		Environmental Management Accounting			
		Monetary Component of the Environmental Management Accounting		Physical Component of the Environmental Management Accounting	
		Short-term	Long-term	Short-term	Long-term
Past/Present Orientation	Routinely generated information	1. Environmental costs accounting	2. Analysis of movements in ecologically informed costs, revenues, etc	9. Accounting for materials and energy flows	10. Accounting for major environmental impacts
	Ad hoc information	3. Ex-post assessment of environmental costs relevant for making relevant decisions	4. Post-investment assessment of individual projects	11. Ex-post environmental impact assessment	12. Assessment of physical components of the environment after investment
Future Orientation	Routinely generated information	5. Monetary Environmental Opeevaluation Budget	6. Long-Term Environmental Financial Plan	13. Physical Environmental Budget	14. Long-term physical planning
	Ad hoc information	7. Relevant calculation of environmental costs	8. Monetary assessment of investments in environmental projects	15. Relevant environmental impacts	16. Physical assessment of environmental investments

Source: Schaltegger, S., Viere, T., Zvezdov, D. (2012.): Tapping environmental accounting potentials of beer brewing – Information needs for successful cleaner production, Journal of Cleaner Production, Vol. 29-30, p. 2

As can be seen from Table 2, environmental management accounting uses different tools for different decision-making situations, such as

Type of information - monetary or non-monetary (physical)

- Timeframe - past or future: looks at whether the decision is focused on the past period or makes decisions for future periods
- Length of the period - short or long term: is the decision based on strategic information relating to several years or is it more operational, i.e. relating to a shorter period
- Routine provision of information - on a regular or ad hoc basis: should the information be collected regularly or only when necessary

The framework presented is used for the conceptual purposes of classifying but it also provides a pragmatic structure for identifying an appropriate tool for making any corporate decision.

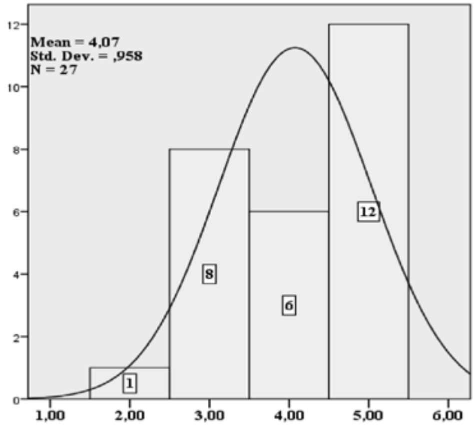
4. RESEARCH METHODOLOGY

Using a survey questionnaire as the scientific basis for this paper, the authors conducted an empirical study in which they made the following hypothesis: "The hotel accounting information system provides timely and reliable information for all internal business decision-makers" with an emphasis on the assumption that environmental accounting provides a methodological basis for recording in the business system all the relevant costs and effects of investing in environmental protection and sustainable development. Empirical research has focused on exploring personal attitudes and reflections on relevant hotel management factors about hotel accounting management functions in quality management and environmental management system.

The questionnaire consisted of certain hypotheses that the respondents were presented with that they could strongly agree with (grade 5) or strongly disagree with (grade 1). Given that the respondent would be limited by exclusivity, scaling between these extremes (grades 2, 3, and 4) is allowed, allowing for conditional confirmation (somewhat agree) (4) or conditional negation (somewhat disagree) (2) and neutrality - neither agree nor disagree (grade 3). The survey questionnaires were processed using IBM SPSS Statistics 24 software. The results of the research are presented in tables and charts followed by interpretation of the results in the form of accompanying text with the main findings and characteristics of the research.

With the hypothesis in the questionnaire ("Environmental accounting allows the transfer of data from financial accounting, cost accounting, and record-keeping to reduce environmental costs"), it is assumed that respondents generally or fully agree with the assumption that environmental accounting allows the transfer of data from financial accounting, cost accounting, and record-keeping to reduce environmental costs. A total of 27 responses were collected, i.e. 100% (all respondents answered this hypothesis). The mean score is 4.074, the median is 4.0 with a standard deviation of 0.9578 and a variance of 0.917. The frequency, distribution, and statistics of the responses collected are presented in the following tables.

Table 3. Analysis of the Response to the Hypothesis: "Environmental Accounting Enables the Transfer of Data from Financial Accounting, Cost Accounting, and Record-keeping to Reduce Environmental Costs"

Hypothesis		Frequency	Share in %	Histogram of the response to the hypothesis
Evaluation	1	0	0%	
	2	1	3,8%	
	3	8	29,6%	
	4	6	22,2%	
	5	12	44,4%	
	Total	27	100%	
Mean value		4,0741		
Mean value error		0,18433		
Median		4		
Standard deviation **σ**		0,9578		
Variance **υ**		0,917		
Σ		110		
Range		3		
Percentile	25	3		
	50	4		
	75	5		

Source: IBM SPSS Statistics 24 calculation based on survey data

The above table shows that the majority of respondents rated the hypothesis as" I fully agree - it is completely correct" (44.4%). If we add those respondents who accepted the hypothesis as "mostly true" (22.2%), then it can be concluded that there is a significant proportion (66.6%) of those who largely or fully support the made hypothesis. However, the share of neutrals (29.6%) should also be noted, which leaves room for a more detailed analysis of the causes for such an occurrence.

The median is 4 and the percentiles are expressed as 3, 4, 5. The mean value of all assigned evaluations of the above is 4.07, which confirms the hypothesis made. The detailed analysis below seeks to distribute the response to the hypothesis that environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental protection costs concerning: (1) the size of the respondent's hotel, (2) the functions performed by the respondent, and (3) the respondents' work experience. The following table shows the frequency, distribution, and statistics of collected responses to the hypothesis ("Environmental accounting enables the transfer of data from financial accounting, cost accounting, and record-keeping to reduce environmental costs") by hotel size.

Table 4. Distribution of evaluations to the hypothesis made: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs", concerning the size of the hotel

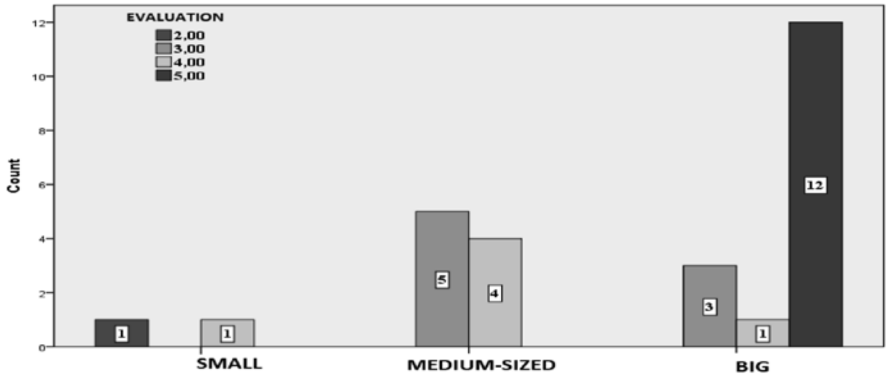
The made hypothesis		**Evaluation**					**Total**
		1	**2**	**3**	**4**	**5**	
Hotel type	small [≤ 50 rooms/units],	0	1	0	1	0	2
	medium-sized [51-100]	0	0	5	4	0	9
	big [> 100]	0	0	3	1	12	16
	Total	**0**	**1**	**8**	**6**	**12**	**27**

Testing the significance of evaluations by hotel type				
Environmental accounting allows the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs		**Value**	**df**	**Table value χ^2 for df and 5% sign.**
1-5	Pearson $\chi 2$	28,555	6	12,592
	Likelihood ratio	25,934	6	$\chi^2 > \chi^2$ table **H_1 is accepted**
	Contingency coefficient C	0,717		
	N	27		

Source: IBM SPSS Statistics 24 calculation based on survey data

The shaded boxes in Table 4 show the highest concentration of evaluations by a specific attribute. It can be seen that the hypothesis was predominantly rejected in small hotels, while it was mostly and fully accepted in large hotels. The majority of neutral responses were observed in medium-sized hotels. The value of the calculated $\chi 2$ is greater than the threshold value for df 6 and 0.5% of statistical significance. This is visually confirmed by the attached histogram because the distribution of the response does not follow the normal distribution. The likelihood ratio is consistent with Pearson's $\chi 2$ test. The contingency coefficient C has a value of 0.717, which indicates a moderately strong correlation of the variables. The following chart shows the distribution of responses to the hypothesis: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs" – relevant to the size of the hotel.

Chart 1. Distribution of evaluations of the hypothesis "Environmental accounting enables the transfer of data from financial accounting, cost accounting, and record-keeping to reduce environmental costs"- about the size of the hotel



Source: IBM SPSS Statistics 24 calculation based on survey data

Chart 1 shows the distribution of the answers to the hypothesis made according to the size of the hotel where the respondents work. The chart shows the dominance of the evaluations of respondents who work in large hotels. The following table 5 presents the frequency, distribution, and statistics of the responses collected to the hypothesis made: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs" - according to the duties of the respondents.

Table 5. Distribution of Responses to the Hypothesis Made: "Environmental Accounting Enables the Transfer of Data from Financial Accounting, Cost Accounting, and Record-keeping to Reduce Environmental Costs" - concerning their function at the hotel

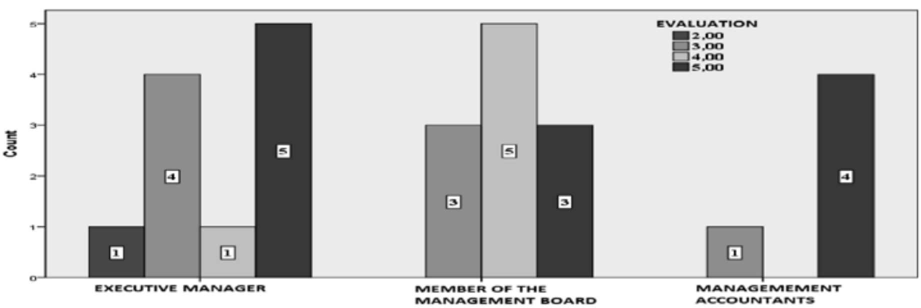
The made hypothesis		Evaluation					Total
		1	2	3	4	5	
Function	Executive manager	0	1	4	1	5	11
	Member of the management team	0	0	3	5	3	11
	Management accountant	0	0	1	2	4	5
	Total functions	**0**	**1**	**8**	**6**	**12**	**27**

Testing the significance of evaluations by respondent's function				
Environmental accounting allows the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs		**Value**	**df**	**Table value χ^2 for df and 5% sign.**
1-5	Pearson χ2	8,591	6	12,592
	Likelihood ratio	9,516	6	χ^2<χ^2 table **H_1 is accepted**
	Contingency coefficient C	0,491		
	N	27		

Source: IBM SPSS Statistics 24 calculation based on survey data

The shaded boxes in Table 5 show the highest concentration of evaluations by a specific attribute. It is visible that the members of the management team generally accept the hypothesis (18.57%), while the management accountants fully agree (4 out of 5) with the assertion. The dispersion of evaluations in the function category is evident, as is confirmed by the results of the Chi-Square Test. The value of the calculated χ2 is less than the threshold value for df 6 and 0.5% of statistical significance. The likelihood ratio is consistent with Pearson's χ2 test. The contingency coefficient C has a value of 0.491 which indicates a moderately weak correlation of the variables. The following chart illustrates the distribution of responses to the hypothesis made: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs" - given the function they perform at the hotel.

Chart 2. Distribution of Responses to the Hypothesis made: "Environmental Accounting enables the transfer of information from financial accounting, cost accounting and record-keeping to reduce environmental costs" - concerning the function at the hotel



Source: IBM SPSS Statistics 24 calculation based on survey data

Chart 2 shows the distribution of responses to the stated hypothesis according to the respondents' function in the hotels. The members of the management team fully accept the hypothesis. The following table 6 presents the frequency, distribution, and statistics of the responses to the hypothesis: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs" - according to the work experience of the respondents.

Table 6. "Environmental Accounting enables the transfer of information from financial accounting, cost accounting, and record-keeping to reduce environmental costs" - concerning the work experience of the respondents

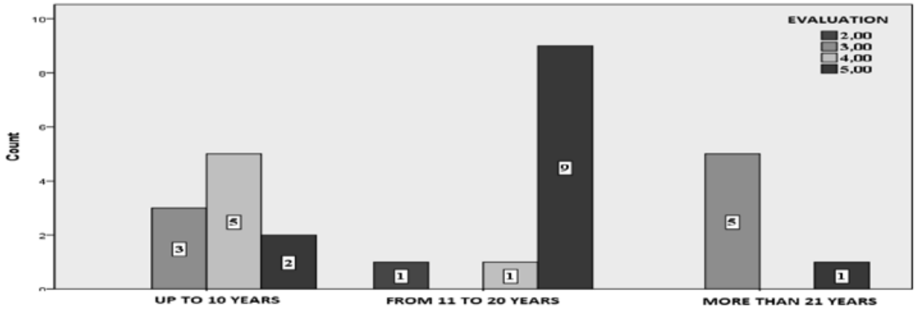
Thesis 7		Rating/evaluation					Total
		1	2	3	4	5	
Work experience	Up to 10 years	0	0	3	5	2	10
	From 11 to 20 years	0	1	0	1	9	11
	More than 21 years	0	0	5	0	1	6
	Total work experience	0	1	8	6	12	27

Testing the significance of evaluations according to the respondents' work experience				
Environmental accounting allows the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs		**Value**	**df**	**Table value χ^2 for df and 5% sign.**
1-5	Pearson χ^2	22,057	6	12,592
	Likelihood ratio	24,362	6	$\chi^2 > \chi^2$ table **H_0 is accepted**
	Contingency coefficient C	0,671		
	N	27		

Source: IBM SPSS Statistics 24 calculation based on survey data

The shaded boxes in Table 6 show the highest concentration of evaluations by an individual attribute. The dispersion of evaluations is evident from the data concerning the respondents' work experience. So the group having work experience of "up to 10 years" gave three neutral answers, five generally acceptable and two sure of the hypothesis made. The group with work experience ranging "from 11 to 20 years" is more consistent and overwhelmingly (9 out of 2) accept the thesis in its entirety. The most experienced, however, remained largely neutral (5 out of 6). The likelihood ratio corresponds to Pearson's $\chi 2$ test. The contingency coefficient C has a value of 0.671, which indicates a moderately strong correlation of the variables. The following chart 3 illustrates the distribution of responses to the hypothesis: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs" - concerning work experience.

Chart 3. Distribution of the Response to the Hypothesis: "Environmental accounting enables the transfer of data from financial accounting, cost accounting and record-keeping to reduce environmental costs" - concerning work experience.



Source: IBM SPSS Statistics 24 calculation based on survey data

From the above chart, the dispersion of responses across groups is noticeable.

Under an analysis of the respondents' answers i.e. ratings of the stated hypothesis: "Environmental accounting enables the transfer of data from financial accounting, cost accounting, and record-keeping to reduce environmental costs", the following conclusions were reached:

- The mean value is 4.07. The majority of respondents (66.6%) generally or fully agree with the hypothesis. The distribution of ratings does not follow the normal distribution. Neutral evaluations make up 29.6%; Generally, 1 respondent (3.8%) does not accept the hypothesis. None of the respondents has completely rejected the hypothesis.
- Given the size of the hotel: 44.4% of the large hotels employees were accepting the hypothesis in full. No-one has completely rejected the hypothesis. The most neutral were employees of medium-sized hotels (18.51%);
- Concerning their functions at the hotel: 45.4% of CEOs fully accept the hypothesis, while 36.5% remained neutral. It is conditionally accepted by 45.5% of the members of the management team, but 27.4% were neutral. On the whole, none of the respondents rejects the hypothesis,

but it is conditionally rejected by one respondent from the " executive manager " category.

- Concerning the work experience, a large dispersion of grades is observed. Besides the three neutrals, the "up to 10 years" group consists of employees who generally accept and two who fully accept the thesis. The most consistent is the most experienced employees who, by a large majority, 83.3% remained neutral.
- The size of the hotel, function and work experience significantly influence the employees' position regarding the hypothesis.
- The stated hypothesis is accepted by the majority of the respondents 'assessments in all three categories, where the respondents' attitudes towards the groups are irrelevant for the overall conclusion.

5. CONCLUSION

Management accounting is an important factor in a hotel's operations, which implies the necessity of achieving every possible improvement in quality and environmental management in the best and most efficient way when fulfilling its basic tasks and objectives. The questionnaire with the tested hypothesis, through its evaluation system, has obtained positive, negative or neutral views expressed by executive managers, members of management teams and management accountants from small, medium and large hotels in the Republic of Croatia, with longer or shorter work experience. The relatively small sample of 27 respondents gains additional significance when the sample is known to consist of accounting and business professionals, most of whom have solid work experience in management or accounting functions.

Finding the ideal quality management system and overall protection of the environment in which the hotel business operates, which would completely satisfy management, shareholders and the local community is not likely, but it is, therefore, possible and necessary to look for acceptable ideas and solutions improving the existing ways of quality and environmental management. The study found and statistically confirmed that the relevant factors managing the operations of Croatian hotels consider that internal calculations provide sufficient information to accurately measure and allocate costs across activities, processes and product groups.

Furthermore, it was established that the hotel's accounting information system provides timely and reliable information for all internal users who are business decision-makers. Besides, it may be emphasized that environmental accounting enables the transfer of data from financial accounting, cost accounting, and record-keeping to reduce environmental protection costs, but it should be borne in mind that all accounting information on environmental costs includes estimates of future costs. In conclusion, it can be stated that quality management systems, environmental management systems and accounting systems of monitoring all costs and reporting, are indispensable factors of management accounting that are necessary prerequisites for managing a hotel in an increasingly demanding market and under fierce competition.

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THE IMPACT OF TAXES ON HEALTHY CONSUMER HABITS

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Abstract

The country, through its tax systems, strives to raise budgetary resources to satisfy public needs and meet the needs of the population. Still, sometimes it is necessary to try to influence the habits of society through the tax system. It is not uncommon to hear that, across the world, taxes on alcohol and cigarettes are rising, which have always actually been viewed as luxury goods and, at the same time, goods that have adverse effects on human health. The country is trying to raise taxes which will lead to improving the awareness that the taxed goods are not suitable for everyday use. Moreover, sugar-sweetened beverages and sugary drinks harm human health, and the governments are deciding to follow the trend of countries which implemented the tax on sugar-sweetened beverages and sugary drinks. By May of 2019, only forty-three countries around the world have implemented a tax on sugar-sweetened beverages and sugary drinks as a measure of protecting children and adults from overweight and obesity as well as directing them towards a healthier life. Over the past few years, countries have implemented the tax, as mentioned above, to the *same extent or as part of a fee that includes several other foods that are considered unhealthy and cause overweight and obesity. One way in which sugar-sweetened beverages and sugary drinks are taxed is by the amount of sugar in the total volume of beverages consumed. In contrast, the other way is to tax the consumed drinks that contain sweeteners or only contain added sugar compared to total sugar.*

Keywords: *sugar-sweetened beverages, sugary drinks, overweight, obesity, tax*

JEL Classification: G30, M41

1. INTRODUCTION

In recent years, there have been many alerts regarding the health habits of people around the world. More and more people within all age groups are becoming overweight and obese. Overweight and obesity are defined by the World Health Organization (WHO) as abnormal or excessive fat accumulation that may impair health. For adults, WHO (2020) defines overweight as a body-mass index (BMI) greater than or equal to 25, and obesity as a BMI greater than or equal to 30. The governments are introducing different taxes on food and beverages, and the tax on sugar-sweetened beverages and sugary drinks is significant to fight against lousy consumer habits to prevent overweight and obesity, as well as other health problems. Two types of sweetened drinks are taxed, on the one hand, there are sugar-sweetened beverages defined as regular carbonated soft drinks, regular fruit drinks, non-diet sports drinks, non-diet energy drinks, sugar-sweetened coffee and tea, hot chocolate, non-diet flavored water, sugar-sweetened milk (e.g., chocolate milk), and sugar-sweetened drinkable yogurt. On the other hand, there are sugary drinks, which are defined as drinks that include the same beverage categories, plus 100% juices, consistent with the WHO's definition of 'free sugars' (Jones, Veerman, and Hammond:1).

In 2018, WHO has stated that noncommunicable diseases (NCDs) kill 41 million people each year, which is equivalent to 71% of all deaths globally. The main types of NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma), and diabetes. As can be seen, many conditions can lead to death, but governments are trying to influence the level of the people who have more risk of getting those diseases by implementing "healthy" taxes. The most common tax used across the world is the tax on cigarettes and alcoholic drinks, which can affect the customer's decision-making process regarding buying cigarettes and alcohol. Besides, tax on sugar-sweetened beverages and sugary drinks could have an impact on their decision-making process of purchasing those drinks. One of the biggest health problems are overweight, and obesity, WHO (2020) emphasizes that since 1975 worldwide obesity has nearly tripled and that most of the world's population live in countries where overweight and obesity kills more people than underweight between all age groups.

Given that the number of obese people (especially children), the number of people who have diabetes in the world, and the number of risk factors for various heart problems is too large (and continuously increasing), people are trying to find a way to reduce it to reduce different direct and indirect losses (both health and financial). Just as tobacco is taxed, the World Health Organization proposes to tax sugar-sweetened beverages and sugary drinks. In this way, there can be some positive developments: taxes on sugar-sweetened beverages and sugary drinks help reduce consumption and prevent obesity, huge health savings are generated, revenues from taxes on sugar-sweetened beverages and sugary drinks can be used to promote public health, consumers and young people with low income earn the highest tax health benefits (World Health Organization, 2017). These changes may reduce the population's exposure to liquid sugars and the associated health risks. No one specifies what kind of tax it should be, but it can be: specific excise duty, value-added tax, ad valorem tax, import and customs duty, and sales tax.

When researching the topic, the authors made one hypothesis.

H1: The implementation of a tax on sugar-sweetened beverages and sugary drinks has the effect of reducing BMI.

2. THE ROLE OF GOVERNMENT POLICIES IN THE OVERWEIGHT AND OBESITY

To fight against overweight and obesity, the government needs to implement different measures in their regulatory strategies. As can be seen, Kersh (2002) states that governmental policies toward alcohol, tobacco, and drugs consist of at least four essential regulatory strategies. The regulatory strategies for the government that Kersh mentions are to control the conditions of sale through direct restrictions or limits (especially aimed at youth); to raise prices through taxes known as "sin taxes", government litigation against producers of unhealthy substances with damage awards earmarked for health care or healthy alternatives; and to regulate the marketing as well as advertisements. Furthermore, Andreyeva et al. (2011) developed a method to estimate revenues from an excise tax on sugar-sweetened beverages and sugary drinks and diet varieties. Implementing such taxes can generate revenue and potentially decrease health care costs from declining sugar-sweetened beverages and sugary drinks consumption (Novak and Brownell, 2012). Increased intake of before-mentioned drinks is associated with weight gain and obesity (Vartanian et al., 2007; Malik et al. 2006), which is turned into expenses that consist of health, economic and social costs (Andreyeva et al., 2011).

To implement the tax on sugar-sweetened beverages and sugary drinks, it is essential to make rules which types of those drinks will be taxed and how much they will be taxed. Woodward-Lopez et al. (2011), who published a systematic literature review to determine whether sugar-sweetened beverages and sugary drinks intake increase the risk for obesity among US citizens, proposed that beverages with added sugar should be the prime candidate for taxation because they constitute more than 10% of caloric intake nationwide in the USA and provide little or no nutritional value. Also, consumption of these beverages is associated with various health problems such as weight gain and a variety of other health conditions, like diabetes mellitus, hypertension, metabolic syndrome, and more.

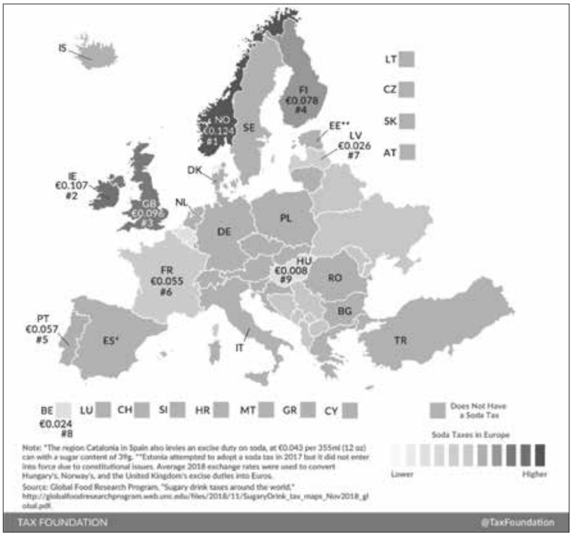
Andreyeva et al. (2011) emphasize that a penny-per-ounce, excise tax on sugary drinks implemented in the USA, would effectively raise the shelf price of sugary beverages by approximately 20%. Many scientists (Finkelstein et al., 2010; Smith et al., 2010; Dharmasena and Capps, 2012; Sturm et al., 2010; Fletcher et al., 2010a, b; Block et al. 2010) modeled the effect of penny-per-ounce excise tax, forecasting a 14% to 20% reduction in the consumption of taxed beverages. Also, since the tax will influence each person alone, it depends on each individual how they will experience that tax and what impact it will have on their future consumption of sugar-sweetened beverages and sugary drinks. Duffey et al. (2010) published a paper, where a study of food prices and health outcomes in the Coronary Artery Risk Development in Young Adults (CARDIA) was conducted, and the results show that increases in soda prices were connected to lower caloric intake and reduced body weight. If the years when studies were conducted are analyzed, it can be seen that taxation of sugar-sweetened beverages and sugary drinks is a popular topic of interest and it is essential to ask why the governments are not implementing that type of tax into their system, since it generates revenues, reduces costs and therefore improves savings.

3. TAXATION OF THE SUGAR-SWEETENED BEVERAGES AND SUGARY DRINKS IN EUROPE AND THE WORLD

Previously described problem of the increased number of people who are overweight and one of the possible ways to influence it through the implementation of a tax on sugar-sweetened beverages and sugary drinks is present in only 43 countries in the world as of May 2019 (Miller, 2019).

When looking at the situation in Europe, as stated by the Tax Foundation (2019), it can be seen that Norway is charging the highest excise duty, EUR 0.122 (€ 0.146) per can of soda (sweetened beverage). Ireland and the United Kingdom follow, with € 0.107 (€ 0.126) and € 0.096 (€ 0.113), respectively. The lowest taxes on sugary drinks are in Hungary (€ 0.008), Belgium (€ 0.024), and Latvia (€ 0.026). The above can also be seen in the figure that follows.

Figure 1. Taxation on sugar-sweetened beverages and sugary drinks in Europe



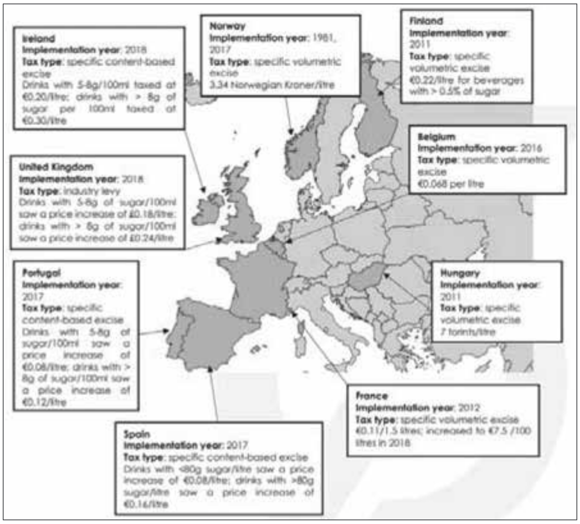
Source: Tax Foundation (2019).

Most countries impose soda taxes based on the amount of sugar per can. Some countries tax sugary drinks that contain sweeteners or include only added sugar (as opposed to total sugar). Other European countries still do not have soda taxes, as can be seen in the previous picture.

Although taxes on sugary drinks are one of the trends of the 21st century, two Scandinavian countries started charging excise taxes on sugary drinks very early. The first Finnish soft drink tax dated from 1940 and was first introduced by Norway in 1981 (Tax Foundation, 2019). According to World Cancer Research Fund International (2018), Finland introduced a tax on sugary drinks in 2011, as did Hungary, followed by Belgium in 2016, Portugal and Spain in 2017, and the UK and Ireland in 2018. In addition to various health care organizations, the European Union is also addressing this problem, as well as taxes. Thus, the 2019 Tax Trends Report states that in 2016 Belgium is adopting and, from 2018, applies an increase in excise duty on sugar-sweetened and artificially sweetened beverages (refers to the increase in the base and the rates of this tax itself). Also, in 2018 (2019), as part of health taxes, Ireland is introducing a change in the tax on sugar-sweetened beverages by amending the definition of sugar-sweetened beverages to ensure that specific categories of beverages are subject to the sugar beverages tax when these drinks do not meet the minimum calcium content of 119 milligrams per 100 milliliters (referring to an increase in the base of this tax). Furthermore, Portugal has, as part of its health taxes, increased the excise duty rate on sugary drinks (European Union, 2019).

The following overview shows, in more detail, when, how, and by what tax the European countries introduced the taxation of sugary drinks.

Figure 2. In detail taxation of sugar-sweetened and sugary drinks in the European Union



Source: World Obesity Foundation (2019).

As shown in the previous figure, each European country is individually in charge of organizing excise duty on sweetened beverages, and the most common use specific excise duties (content-based excise duty or specific volumetric excise duty).

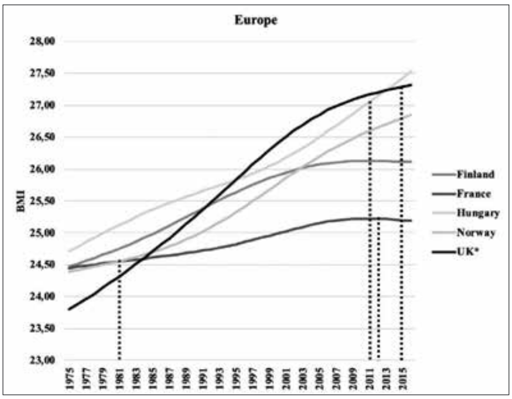
It is essential to highlight Mexico as a positive world example. In 2014, Mexico introduced a tax of 1 peso per liter of beverages with added sugars (in addition to a special tax on production and services, which represents about a 10% increase in consumer prices). According to a study conducted by the Mexican National Institute of Public Health and the University of North Carolina, there can be seen an average decline of 7.6% in purchases of sugary drinks in 2014 and 2015, respectively, with lower-income households reducing their consumption of the same beverages by 11.6%. At the same time, the purchase of non-taxed beverages (primarily bottled water) has increased. Also, over the two years, more than $ 2.6 billion has been raised (through this tax), and some of this revenue is being invested in various activities in schools in Mexico (World Health Organization, 2017).

4. EMPIRICAL EVIDENCE HOW THE TAXES ON SUGAR-SWEETENED BEVERAGES AND SUGARY DRINKS INFLUENCE BMI IN EUROPE

The data used to present empirical evidence of how BMI changes during the years in countries did where the tax on sugar-sweetened beverages and sugary drinks have been implemented is secondary data published by NCD Risk Factor Collaboration (NCD-RisC). The validity of the data is confirmed by the WHO because the WHO Collaborating Centre coordinates NCD-RisC on NCD Surveillance and Epidemiology at Imperial College London. The data that have been used consists of data on 193 countries from 1975 until 2016. Moreover, the analysis show countries that implemented a tax on sugar-sweetened beverages and sugary drinks until 2015. By 2015, only 20 countries around the world have implemented the before-mentioned tax, and out of 20 countries, 2 of them have partially implemented that tax. Partial implementation by 2015 happened in the USA by California and Navajo Nation, and in the UK by Brighton and Hove City Council.

In the following text situation in countries that have implemented a tax on sugar-sweetened beverages and sugary drinks before 2016 will be presented and discussed by the region of the world to which each country belongs based on their geographical characteristics.

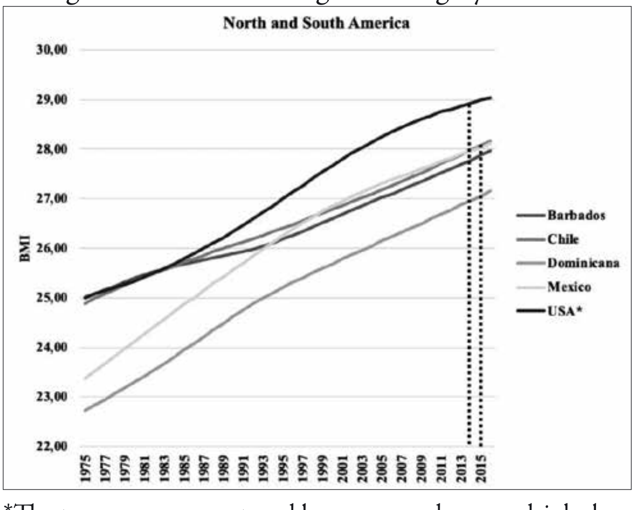
Figure 3. The situation of the BMI before and after implementation of the tax on sugar-sweetened beverages and sugary drinks in European countries



*The tax on sugar-sweetened beverages and sugary drinks has not been implemented in the whole country, but only in some regions.
Source: authors

The situation in the European countries is shown in figure 3, where five countries have implemented a tax on sugar-sweetened beverages and sugary drinks before 2016. As it is presented, BMI has continued to increase even after the tax was implemented, but some countries have managed to decrease it, while others were not able to decrease it. The first country that implemented the before-mentioned tax in the world is Norway, and they implemented a tax on sugar-sweetened beverages and sugary drinks in 1981. Before the tax implementation, the average BMI was 24,46, and after the implementation, it was 25,66. In the case of Norway, even though the tax was implemented, the average percentage of change in BMI before the tax was lower (0,11%) in comparison to the average percentage of change in BMI after the tax implementation (0,25%). Two European countries, Finland and France, have managed to slow the BMI increase by 0,01% and 0,03%, respectively, in their average percentage of change in BMI after the tax implementation. In the case of Finland and France, figure 3 shows that their BMI after the tax implementation is steady and has a negative direction of the slope. In the UK it can be seen that the BMI is increasing slowly after the tax implementation, but the tax was implemented only by Brighton and Hove City Council, and it would be interesting to see if the whole country has implemented that tax, the direction of the BMI will go in the same way.

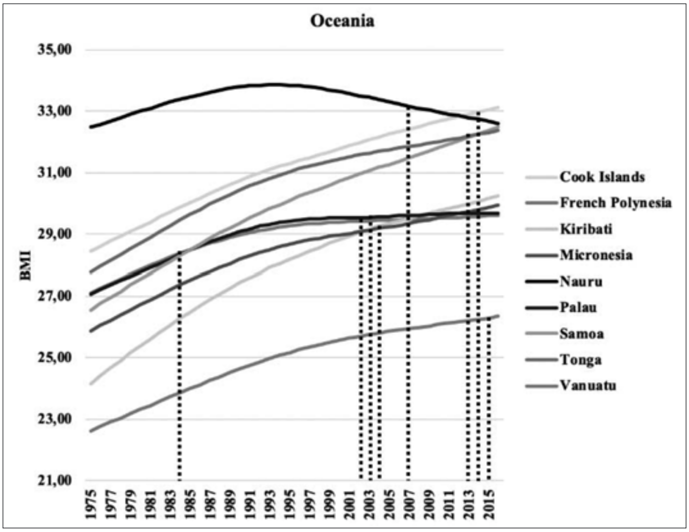
Figure 4. The situation of the BMI before and after implementation of the tax on sugar-sweetened beverages and sugary drinks in North and South America



*The tax on sugar-sweetened beverages and sugary drinks has not been implemented in the whole country, but only in some regions.
Source: authors

Figure 4 shows data for North and South American countries that implemented a tax on sugar-sweetened beverages and sugary drinks before 2016. Five countries in that region of the world have implemented the tax, and in one country, it was implemented in only a few regions, the case of the USA. The situation in North and South America is similar to the situation in Europe, regarding the tax on sugar-sweetened beverages and sugary drinks, the BMI is increasing. Besides, some European countries managed to slower the BMI increase, better to say they have managed to decrease their BMI, but in North and South America, that is not the case. Mexico was the first country in both Americas that implemented the tax, and it is also the country with the best results. The average percentage of change in the BMI in Mexico before tax was 0,47%, and after the tax implementation, it decreased to 0,26%. Two countries, Barbados and Chile, have increased their average percentage of change in the BMI before and after the tax from 0,27% to 0,32% and from 0,30% to 0,33%, respectively.

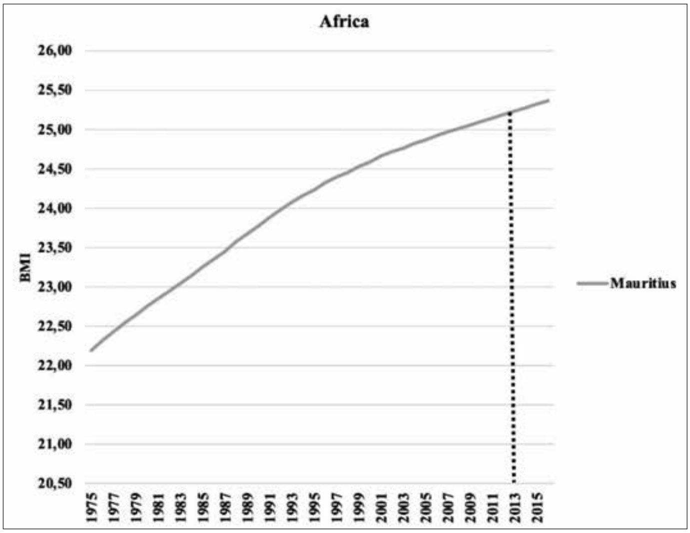
Figure 5. The situation of the BMI before and after implementation of the tax on sugar-sweetened beverages and sugary drinks in Oceania



Source: authors

The Oceania region has nine countries that implemented a tax on sugar-sweetened beverages and sugary drinks before 2016. In comparison to other analyzed regions, this region has the most countries with implemented tax. The situation with the BMI and the tax is different than in the previous two regions. In Oceania, some countries have very high average BMI before tax implementation, such as Nauru (33,43), as well as have very high average BMI after the tax implementation like Cook Islands (33,04). While some countries have a very high average before and after the tax implementation, some countries have lower average BMI before the tax implementation like Vanuatu (24,84) and after the tax implementation as Vanuatu (26,32). There is only one country that managed to decrease the BMI curve after the tax implementation, and it is Nauru, the average percentage of change in the BMI before the tax was 0,08, while after the tax implementation, it went to -0,19%. Significant improvement in their average percentage of change in the BMI before and after the tax can be seen in Palau, where it was 0,32%, and it went to 0,04% after the tax implementation.

Figure 6. The situation of the BMI before and after implementation of the tax on sugar-sweetened beverages and sugary drinks in Africa



Source: authors

Mauritius is the only African country that has implemented a tax on sugar-sweetened beverages and sugary drinks before 2016. Before the tax implementation, the average BMI was 23,94, and after the implementation, it was 25,30. In the case of Mauritius, the average percentage of change in BMI before the tax was 0,34% in comparison to the average percentage of change in BMI after the tax implementation of 0,18%.

Based on the analysis, the hypothesis (*The implementation of a tax on sugar-sweetened beverages and sugary drinks has the effect of reducing BMI.*) is not rejected because the growth of BMI in countries has slowed since the introduction of above-mentioned taxes. In 20 analyzed countries, only 4 of them have an increasing average percentage of change in BMI after the tax, while the majority, 16 of them, have a decreasing average percentage of change in BMI after the tax.

5. CONCLUSION

Even though the tax on sugar-sweetened beverages and sugary drinks has been implemented slowly in recent years around the world, it has benefits that can improve the economy and the health of citizens. If the tax is implemented, it provides the incentive to reduce consumption of sugar-sweetened beverages and sugary drinks. In that way, the government is saving money, because the cost of treating the disease associated with unhealthy food consumption is decreasing. Moreover, generated revenues can be used on growing health problems of unhealthy food consumption. Implementing the tax on sugar-sweetened beverages and sugary drinks can be an incentive for firms to produce healthier alternatives. Based on the numerical evidence shown in this paper, implementing the tax can also improve the average BMI of the citizens and reduce their overweight.

On the other hand, if the tax is implemented, it can lead to job losses, because some firms can make a shift in their production, but some firms would not be able to do that, and they will stop their production process. Furthermore, many countries have low-income groups that will be more affected if they need to pay a higher price for the product that they are often consuming. Besides, there are other options to influence citizens and their consumer habits, and maybe it would be more beneficial to ban the advertisements of unhealthy food instead of implementing the taxes. The benefit from a tax on sugar-sweetened beverages and sugary drinks has a powerful economic, social and personal aspect, but there will always be the ones who are not supporting taxes and who will demonstrate against them.

The paper analyzed BMI and the tax on sugar-sweetened beverages and sugary drinks, but other factors can influence changes in BMI. The authors' recommendations for further research on this topic are to analyze the influence between the tax on sugar-sweetened beverages and sugary drinks and generated revenues by the government as well as the influence between the tax and number of sugar-sweetened beverages and sugary drinks purchased and consumed.

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EFFECTIVE CORPORATE INCOME TAX RATE AND KEY FINANCIAL RATIOS

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Abstract

The main goal of this paper is to clarify the relationship between effective corporate income tax rate and key financial ratios for companies listed on the Zagreb Stock Exchange in the period from 2014 to 2017. The difference between the nominal corporate tax rate and effective corporate income tax rate arises from the difference between the tax base and accounting profit. Income tax is a result of the application of a nominal tax rate to the tax base that is formed by using various corrections on accounting profit. In this paper relation between effective corporate income tax rate, an indicator of the size of the company and three financial ratios; profitability, leverage and capital intensity were observed. Results indicate that profitability is positively and significantly related to effective corporate income tax indicating that an increase in profits results in larger tax obligations. Size is another important factor that is also positively related to the effective corporate income tax but the results in this paper did not lead to strong conclusions regarding this relationship.

Keywords: *corporate income tax, effective tax rate, size, financial ratios, Zagreb stock exchange*

JEL Classification: H20, H25

1. INTRODUCTION

In this paper, an effective corporate income tax rate (ECITR) was observed in the four-year period from 2014 to 2017 for non-financial firms listed on the Zagreb Stock Exchange in order to identify factors that determine ECITR. Existing scientific discussion regarding effective tax rate and its determinants is very wide and oriented primarily on the US market and other countries worldwide. The main focus of this paper is on the effective income tax rate in EU countries and primarily in Croatia. Analysis of determinants of corporate tax rate should be considered when forming management decisions. According to previous literature, the size of the firm, profitability, leverage, capital intensity, and other financial figures may influence on the resulting ECITR. One of the possible scenarios is that the firm through the large size of debt reports an increasing amount of cost of interests that lead to tax savings due to a smaller tax base. Another possible situation is that the firm declares a large profit that results in a large tax obligation. When observing long term assets, it is possible that after a certain level of capital intensity, companies note a reduction in ECITR caused by increasing depreciation.

The size of the company can also be an important factor associated with ECITR. The direction of this relationship is not clear. There are two opposing theories that bring theoretical explanation of this connection; political power theory and political cost theory. According to political power theory (Siegfried, 1972), large firms have greater resources to influence the political process in ways that will benefit them and benefit from tax planning. In contrast to the political power theory, political cost theory argues that companies are subject to political pressure (Jensen & Meckling, 1976). Because of the political cost of visibility, large companies end up paying a higher tax burden. Watts and Zimmerman (1978) noticed that firms with increasing income can expect an increase in governmental interference (political costs), raise future tax payments, and lead the public utility commission to reduce the firm's revenues (if the firm is regulated).

The aim of this paper is to investigate what variables determine ECITR in Croatia. In the first part of the analysis, we run separate linear regression models for each year of the observed period in order to identify determinants of ECITR for every year separately. Results indicate different determinants of the effective corporate income tax rate in each year. In the second step, we run panel regressions analysis in order to clarify the connection between the effective corporate income tax rate (ECITR) and profitability (ROA), indebtedness (long-term debt), capital intensity (long term assets) and firm size.

The paper is organized as follows; in the second part of the paper we present researches regarding effective corporate income tax rates on European markets, in the third part of the paper data and methodology are explained. Results of the applied regression model and a panel regression model are presented in the fourth part of the paper and in the last part of the paper main conclusions are drawn.

2. LITERATURE REVIEW

In recent years many researchers discussed determinants of effective tax rates for European companies. Member states in the EU have their own policies regarding corporate income tax, have different levels of economic development and therefore the conclusions on the connection between effective corporate income tax rate and financial ratios are not consistent.

Bubić and Vidović (2019) estimated the effective corporate income tax rate for companies listed on the Zagreb Stock Exchange and noticed large differences between tax rates for different sectors. Lucia and Slavomíra (2017) sorted European countries into clusters, based on their similarity in corporate taxation. Croatia was categorized in a cluster with Slovakia, Hungary, United Kingdom, Ireland, and Cyprus. These countries are characterized by public debt and state budget deficit and a low level of corporate tax convergence because the nominal corporate tax rate ranges from 12.5% to 23%, which is the widest range in comparison with other clusters and it has the second-lowest level of the total tax burden. Sebastian (2011) computed an effective corporate income tax rate for Bucharest Stock Exchange non-financial companies and founded that computed effective tax rate was below the statutory tax rate, throughout the period, except for the year 2009. The difference between this effective tax rate and the statutory tax rate showed a strong negative correlation with the return on assets ratio (ROA). Kraft (2014) showed that firms with higher leverage and rent/operating lease expenses and multinational operations appear to have lower ETR. The findings also indicate that firms with higher free cash flow are associated with higher ETR. According to this research return on assets (ROA) is negatively related to ETR. It, therefore, seems that more profitable firms engage more frequently in tax avoidance strategies. Vintilă et al. (2017) examined the determinants of the effective corporate tax rate for companies from three Eastern European Stock Exchanges - Bulgaria, Hungary, and Romania. The negative link between profitability and the effective corporate tax rate implies that a profitable company is able to lower its effective tax rate without using tax avoidance. The strong link between ROA and ETR signifies that CEOs from East European countries achieve lower taxation through financial management. Janssen and Buijink (2000) examined whether an association can be found between the variation in average effective tax rates (ETRs) among Dutch companies and company characteristics such as size, asset mix, extent of foreign operations, performance, leverage, being a public company and being a listed company and concluded that the taxation of corporate profits in the Netherlands is fairly neutral. Gupta and Newberry (1997) proved a significant association between size and ETR that was not consistently positive or negative, it varied over time. Delgado et al. (2014) studied the determinants of the effective tax rates for corporate taxation in countries of the European Union. For companies with lower ETRs, the most influential variables are the size, the intensity of inventories and the profitability. Companies that finance themselves through debt reduce the effective rates. Dias and Reis (2018) observed 5 EU countries: Denmark, Finland, Luxembourg, Slovenia and the United Kingdom and concluded that when nominal tax rate increases, the effective rate increases equally but with a slower growth what drives to the conclusion that companies have the ability to manage their results in order to save tax. Lazăr (2014) observed determinants of firm-specific corporate tax rates for nonfinancial companies listed on the Bucharest Stock Exchange and founded that capital intensity, leverage, and loss carry-forward provisions negatively affect corporate effective tax rates; company size and labor intensity have no effect, and profitability has a positive effect. Vržina (2018) showed that there is a significant influence of corporate income tax planning on company profitability according to research on a sample of 23 nonfinancial companies, quoted on the Belgrade Stock Exchange. Profitability increases with a decrease in ETR. Moreno-Rojas et al. (2017) observed the tourism sector in Spain and revealed higher ETR in hotels. They found a positive relationship between ETR up to a certain volume of assets. However, once this size threshold has been exceeded, the relationship becomes negative, thus reflecting the greater effort that larger entities devote to tax planning. Companies with a lower proportion of equity bear a lower tax burden, given the greater role of debt in their financing structure, with the sign of this relationship being the opposite one after a certain value. Stamatopoulos et al. (2019) examined the determinants of the variability in corporate effective tax rates before and during the financial crisis in Greece. Results indicate that corporate effective tax rates increased in the period after the beginning of the financial crisis, while their association with some firm-specific characteristics was also affected. Laura (2000) observed companies listed on the Bucharest Stock Exchange and found a negative correlation between effective tax rate, interest rate, and profitability, and positive correlation between leverage, firm size and relative growth of the company. Delgado and Martínez-Arias (2018) proved nonlinear relation between effective tax rate and company size in Germany and found a positive relationship between size and effective tax rates but afterward due to tax planning (negative relation) becomes relevant from the 0.5 quantile onwards. Leverage is a significant determinant of the effective tax rate in all quantiles with the sign of the relationship also changing, going from negative to positive. ROA is significant and negative for the last quantiles, indicating greater tax planning. Vintilă et al. (2018) showed a positive link between the ECTR and profitability, debt, capital and inventory intensity, firm size, and statutory rate for a sample of companies from Romania, Hungary, Poland, Bulgaria, and Slovenia. The authors found a negative link between market capitalization and asset growth. Onofrei et al. (2018) explored the drivers of the effective corporate tax rates for a sample of companies from Bulgaria, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, and Slovenia and concluded that indebted companies show higher levels of effective tax rates over a long time. Parisi (2016) analyzed the determinants of ETRs for Italy. The results showed that size, the debt ratio, the asset composition (capital intensity, inventory intensity), the profitability rate, the intensity of R&D expenses and labor productivity are all statistically significant variables in determining the magnitude of the ETR. Estimates show that more internationalized firms bear lower corporate tax rates. Mladineo and Šušak (2016) explored the determinants of effective tax rates (ETR) for companies from Croatia and Slovenia. A negative value of the only statistically significant variable implies that highly leveraged companies have benefited from tax law provisions that favor debt over equity.

Above mentioned researches did not give a clear answer to what financial figures are connected to ECITR and what is the direction of that relationship. Most of them relate greater profitability with ability of tax planning and therefore lower values of effective corporate income tax; Sebastian (2011), Kraft

(2014), Vintilă et al. (2017), Vržina (2018) Laura (2000) while Lazăr (2014) found positive relation between profitability and effective income tax rate. Leverage has also been proven as an important determinant of the effective income tax rate. Delgrado (2014), Lazăr (2014), Mladineo and Šušak (2016), Kraft (2014) found a negative relation between leverage and effective income tax rate arguing that interest as the cost of debt lowers the tax base. Onofrei et al. (2018) and Laura (2000) found a positive relationship between leverage and the effective income tax rate. Size is variable that should be carefully considered while it has proven to be significant but the direction between size and effective income tax rate in the case of European companies is not clear.

3. DATA AND METHODOLOGY

Data for this study were obtained from financial reports of 89 companies listed on the Zagreb Stock Exchange (ZSE). The actual size of the sample when performing each method is reported in the output table while companies in Croatia in some years reported negative tax obligations or loss and therefore were excluded from the analysis. Data were gathered from yearly financial reports for a period of 4 years (2014 to 2017). The nominal tax rate in the whole period was 20% and only in 2017, it was 18%. The effective tax rate was calculated through the ratio between the value of the tax paid over the result before tax.

In order to gain further insight in determinants of ECITR for each year separately we run multiple linear regression model:

$$ECITR=\alpha_0+\beta_1\times SIZE+\beta_2\times LEV+\beta_3\times CAPINT+\beta_4\times ROA+\varepsilon \qquad (1)$$

Dependent variable:

ECITR: the ratio between current tax payments and earnings before taxes

Independent variables included in the model:

SIZE: natural logarithm of the total assets

LEV: the ratio between long term debt and total assets

CAPINT: the ratio between long term tangible assets and total assets;

ROA: return on assets, defined as the ratio between earnings before income taxes and total assets.

In the second part of the analysis on the observed sample of stocks in the four-year period we apply panel regression models; fixed-effects model and random-effects model according to the following equations:

Fixed

$$ECITR_{it}=\alpha_i+\beta_1\times SIZE_{it}+\beta_2\times LEV_{it}+\beta_3\times CAPINT_{it}+\beta_4\times ROA_{it}+\varepsilon_{it} \quad (2)$$

Random

$$ECITR_{it}=\alpha+\beta_1\times SIZE_{it}+\beta_2\times LEV_{it}+\beta_3\times CAPINT_{it}+\beta_4\times ROA_{it}+u_i+\varepsilon_{it} \quad (3)$$

4. RESULTS

Table 1. Results of regression analysis

2014 N=58 Adjusted R Square 0,003	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			VIF
(Constant)	-0,345	0,288		-1,198	0,236	
SIZE14	0,021	0,014	0,216	1,532	0,131	1,139
ROA14	0,043	0,030	0,190	1,412	0,164	1,039
CAPINT14	0,015	0,059	0,041	0,262	0,795	1,417
LEV14	-0,013	0,118	-0,017	-0,112	0,911	1,265
2015 N=61 Adjusted R Square 0,155						
(Constant)	-0,919	0,291		-3,163	0,003	
SIZE15	-0,144	0,111	-0,170	-1,305	0,197	1,208
LEV15	0,145	0,062	0,320	2,323	0,024	1,344
CAPINT15	0,015	0,042	0,044	0,365	0,717	1,042
ROA15	0,049	0,014	0,436	3,518	0,001	1,089
2016 N=62 Adjusted R Square 0,192						
(Constant)	-1,089	0,340		-3,199	0,002	
SIZE16	0,062	0,017	0,440	3,697	0,000	1,072
LEV16	-0,198	0,147	-0,173	-1,352	0,182	1,238
CAP16	0,137	0,077	0,227	1,788	0,079	1,222
ROA16	-1,487	0,580	-0,308	-2,564	0,013	1,087
2017 N=60 Adjusted R Square 0,104						
(Constant)	-0,555	0,233		-2,384	0,021	
SIZE17	0,031	0,011	0,349	2,779	0,007	1,037
ROA17	0,043	0,048	0,112	0,902	0,371	1,023
LEV17	0,116	0,106	0,144	1,094	0,279	1,146
CAP17	0,053	0,055	0,130	0,969	0,337	1,179

Source: authors' calculations.

According to the present results of multiple regression, analysis SIZE is the variable that is significant in a two-year period (2016 and 2017) while in 2014 and 2015 it was not significant. The direction of this relationship is always positive and statistically significant. Correlation coefficient in 2017 was 0,312, in 2016 it was 0,353 in 2015 it was 0,351 while in 2014 it was not statistically significant (0,186). These results indicate that in Croatia large firms in terms of assets pay larger amounts of income tax but this relationship cannot be strongly confirmed.

Profitability observed as ROA is significant in two years, 2015 and 2016, the regression coefficient in 2015 was positive while in 2016 it was negative. According to correlation coefficients in the observed period; in 2017 (-0,20 not significant), in 2015 (0,076, not significant), in 2014 (0,176, not significant) and in 2017 (0,101 significant). The general conclusion on the impact of ROA on ECITR based on the regression analysis cannot be confirmed.

The capital intensity in this paper is calculated as the ratio between tangible assets and total assets. Based on the results of the regression analysis variable CAPINT is not significant. Correlations with ECITR are; 0,14 in 2015, 0,03 in 2014, 092 in 2016, and 0,136 in 2017. All observed correlations between CPAINT and ECITR were not statistically significant.

The last variable LEV leverage also lacks in explaining ECITR. Correlations of LEV and ECITR are very small and statistically insignificant.

Generally, when observing correlations between variables included in the analysis, the largest correlation appears between LEV and CAPINT. These correlations are in all four cases statistically significant under 1%. Correlations were; 0,35 in 2014, 0,40 in 2015, 0,388 in 2016 and in 2017 it was 0,35. The direction of the relationship is positive meaning that observed firms finance their long-term tangible assets through debt.

In the second step of the analysis, we observe 71 firms in a four-year period in means of an unbalanced panel consisting of 203 observations. We run fixed effects and random effects panel regression models. ECITR is dependent variable and SIZE, CAPINT, LEV and ROA are explanatory variables. Our hypothesis is that every observed independent variable is statistically significant in explaining ECITR. We run the Hausman test in order to select the best method between fixed effects and the random-effects model. Results of the test go in favor of the random effects model (Chi-Sq. statistic 1.297.639, prob. 0.8618). Some authors prefer fixed effects model over random effects panel regression model when observing effective income corporate tax rate; Brooks (2014), Janssen and Buijink (2000), Gupta and Newberry (1997), Lazăr (2014) and Parisi (2016). Fixed effects panel regression model accounts for individual firm firm-specific factors while the effects of the regressor are the same along the distribution of the ETRs and differences between firms can be accommodated from a different intercept. This is possible while observed companies belong to the same population, such as a stock index or stock exchange and are subject to the same tax rate.

Table 2. Results of panel regression analysis

Dependent Variable: ECITR				
Periods included: 4				
Cross-sections included: 71				
Method: Panel Least Squares				
Cross-section fixed (dummy variables)				
Total panel (unbalanced) observations: 203				
Adjusted R-squared		0.598229		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.994409	1.063.625	-0.934924	0.3516
CAPINT	-0.053129	0.157773	-0.336742	0.7369
LEV	-0.120704	0.131271	-0.919503	0.3596
SIZE	0.056323	0.051786	1.087.629	0.2788
ROA	0.057333	0.025970	2.207.621	0.0291
Method: Panel EGLS (Cross-section random effects)				
Adjusted R-squared		0.078505		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.761579	0.224485	-3.392.565	0.0008
CAPINT	0.048440	0.053675	0.902469	0.3679
LEV	-0.098397	0.079379	-1.239.588	0.2166
SIZE	0.042786	0.010834	3.949.355	0.0001
ROA	0.051292	0.022430	2.286.744	0.0233

Source: authors' calculations.

Results of performed panel regression analysis confirmed results of individual regressions performed for each year separately regarding variables LEV and CAPINT. These two independent variables in both cases, fixed effects, and random effects panel regression model remained statistically insignificant. As previously explained previous researchers favor the result of the fixed effects model over the random-effects model although the Hausman test speaks in favor of the random-effects model. Fixed effects model reports higher adjusted R-squared (0,598). According to this model, ROA is the only variable that explains the effective tax rate for firms listed on ZSE. The regression coefficient is positive meaning that firms with higher profit pay higher corporate income tax.

The random-effects model partially confirms the results of the fixed-effects model in terms of the significance of ROA and additionally, these results indicate that SIZE is a variable that also has potential in explaining ECITR on the Croatian market. Variable SIZE is proven to be significant in previous individual regression analysis for the years 2016 and 2017. The direction of this relationship is always positive indicating that large firms pay higher taxes.

4. CONCLUSION

In this paper, we apply various methods, correlation, regression and panel regression analysis in order to identify determinants of the corporate income tax rate in Croatia. Results indicate that in the case of Croatian firms ROA is the only variable that explains effective corporate income tax rate. Another variable that has potential in explaining ECITR is SIZE but this relationship remains to be further investigated and confirmed. Correlations between SIZE and ECITR in the whole period were positive and significant for the years 2016 and 2017. SIZE was significant under a 1% probability in the linear regression model in 2016.

The ratio between long-term debt and total assets and the ratio between long term tangible assets and total assets were proven to be statistically insignificant in explaining effective corporate income tax rate in Croatia both in regression analysis and panel regression analysis according to both models, fixed-effects model, and the random-effects model. When observed separately, these two variables, leverage, and capital intensity were positively and significantly mutually correlated in every year of the observed period.

Results showed that firms do not gain a significant decrease in the effective income tax rate through depreciation and the cost of debt. Profit in Croatian firms is the main driver of effective corporate income tax rate indicating that the firms are taxable according to their profits. This connection is positive meaning that grater profits are related to the higher effective income tax rate. Authors that observed effective income tax rate in other European countries relate higher profits with smaller effective tax rate; Sebastian (2011), Kraft (2014), Vintilă et al. (2017), Vržina (2018) Laura (2000). This information gives an indication of poor tax management of companies and strict tax system in Croatia. These results can be explained only in the context of foundings of Bubić and Vidović (2019) who noticed that around 30% of firms in this period each year reported losses. Our analysis showed that profitable firms end up paying income tax, while the effects of the cost of debt, depreciation or tax management on effective income tax rate remained irrelevant.

The effects of leverage, capital intensity, and size on the effective income tax rate should be further investigated. Correlations between leverage and capital intensity showed that firms finance their long-term tangible assets through debt and yet these two variables remained insignificant in the model.

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BUSINESS EXCELLENCE OF PRODUCTION COMPANIES TODAY: A CASE STUDY IN CROATIA

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Abstract

A rich country in natural resources, such as Croatia, should be a leader in the development of manufacturing activities in the EU. Is this the case in Croatia? Croatia has a lot of production potential, whether, in agriculture, shipbuilding, timber industry, clothing, footwear, as well as other production opportunities. The main question is how the production activity develops after the financial crisis that hits the entire economy, pre-bankruptcy settlements, as well as Agrokor case. The main focus of this research is to determine if we can talk today about business excellence or business failure in manufacturing companies in Croatia. BEX index of listed 38 companies in agriculture and manufacturing sectors on the Zagreb Stock Exchange used to confirm the main purpose. The average BEX index for all sectors of agriculture and production was 0.77 in 2007 and -6.82 in 2018. The main hypothesis that agricultural and production companies have found the way to a successful business cannot be confirmed. Significant progress has noted in many societies. Listed production companies also include three companies that are classified in the BEX index as world-class and should be a role model for all entrepreneurs. These companies are Ericsson Nikola Tesla d.d., Koncar D&ST d.d. and Maraska d.d. In 2018, Zvečevo d.d. found a way to achieve an exceptional BEX result by finding new markets and new customers overseas, after a series of bad business years. Our agriculture and manufacture companies need better use of EU *funds and reap the benefits of joining the EU with better access to new markets and new investors with more significant support from all ministries.*

Keywords: *Agriculture, BEX index, Manufacture, Zagreb Stock Exchange*

JEL Classification: L23, M11

1. INTRODUCTION

Manufacturing and agricultural production should be a significant driver of development for any country with enormous natural resources. The future of manufacturing in Europe lies in the nexus between emerging digital technologies and the challenges of new forms of international competition (Eurofound, 2019, p.1) In 2018, Croatia recorded the highest growth in agricultural production among EU countries together with Slovenia and Romania, according to Eurostat data (Ministry of Agriculture, 2019). In Europe, Germany, Italy, and France are the largest manufacturing countries in value-added terms. According to Eurofound (2020, p.6), Germany was the largest EU Member State in 19 of the 24 manufacturing subsectors in 2017; Italy was largest in three (the textiles, wearing apparel, and leather and related products manufacturing subsectors); France was the largest for the manufacture of beverages and the manufacture of other transport equipment.

In 2017, agricultural production in Croatia stagnated. Nor, does the development of the industry go according to plan. In 2019, production decreased by one percent compared to 2018, and in 2017, it increased only one and a half percent.

The Industrial Strategy of the Republic of Croatia 2014-2020 (2014) defines the key determinants of industrial growth. The Strategy identifies, by the criteria of profitability, export orientation and size of industries. The growth of industrial production and exports is significant for the growth of the overall economy. The measures proposed in the Strategy (2014) aim at repositioning the Croatian manufacturing industry towards exports, higher value-added products and growth potentials more significant than 5%.

Multinational companies through foreign direct investment have helped the successful restructuring of industrial enterprises in the most developed transition countries (Buturac et al., 2004). However, in Croatia, foreign investments did not produce the desired effects. Labor-intensive sectors are losing ground, and industries based on R&D are developing rapidly under the influence of globalization. That is especially true of the textile and apparel industry. Croatia is a specific case in which it did not meet its original expectations, especially in the area of industry development (Vojnic, 2000; Vojnic, 2003, according to Teodorovic & Butorac, 2006).

In their research, Teodorovic & Butorac, (2006) found that out of a total of 22 sectors of the manufacturing industry, 8 recorded a decrease in production and an increase of 14 in the period 1993-2004. Food and beverage, chemical and chemical product industries account for the largest share of total gross value added of the industry. In the manufacturing sectors with higher value-added content observed significant declines, such as Manufacture of office machinery and computers, Manufacture of radio and television apparatus and communication apparatus, Manufacture of medical, precision and optical instruments. In principle, Croatia follows the trend of most transition countries, those in which the process of de-industrialization has taken place following structural adjustments (Teodorovic & Butorac p. 712).

In the paper, Obadic (2001) emphasized the importance of industrial development for the economic development of each country, mainly because of the employment opportunity and the multiplicative effects that the development of this sector can have on other sectors. Grgic et al. (2019) in their work, they found that Croatian agriculture accounts for less than 1% of the total value of EU agricultural production.

In the research, Zdrilić & Dulčić (2016) find a positive correlation between applying the principles of business excellence and successful company performance in practice on the sample on 106 large Croatian enterprises with more than 250 employees.

Business excellence of companies integrates a world-class organization, leadership, and management. In the world exists several businesses, excellence models. In Europe exists European Foundation for Quality Management (EFQM, 2020).

The capital market divides into two components, the bond market (debt securities) and the stock market (equity securities). The capital market has a significant impact on the development of the national economy.

The main goal of this research is to determine if the situation in the agricultural and manufacturing sectors has improved or not according to the period of ten years ago.

BEX index of researched companies used to confirm the main aim. It compares the BEX index for 2015, 2016, 2017 and 2018 with the BEX index in 2007 for the listed companies on the Zagreb Stock Exchange in the sectors related to agriculture and manufacturing.

The financial crisis after 2007, the pre-bankruptcy settlement introduced in 2012, as well as the "Agrokor" case in 2017 significantly affected business indicators, as well as the BEX index, especially in the agricultural and manufacturing sectors.

Paper consists of six parts, including the introduction, conclusion, and reference. The second part presents the theoretical background of the financial statement ratio for predicting failure or success. The third part discusses the research methodology. The fourth part presents the result and discussion.

2. THEORETICAL BACKGROUND

Analysis by individual debt ratios is typical for analyzing the performance or failure of a sector's business. Financial ratios (Almansour, 2015) used in managerial, credit and investment studies.

A company is insolvent when it is unable to pay its financial obligations as they are getting due, and that is the first indicator of financial distress. Outecheva (2007, p.28) describes financial distress as an acute failure of the firm's performance and value.

Aggregate indicators predict business difficulties or bankruptcy. The models for predicting the financial health of companies have been used to estimate whether individual firms are financially stable, or there is a bankruptcy danger (Sarlija & Jeger, 2011). Models are structured using a variety of financial ratios to evaluate financial reports and measure financial performance (Panovska et al., 2010).

In their paper, Karas & Reznanova (2012) confirm that a lot of authors like Altman, Lin, Chen, Nieman, and others have been trying to find out a sustainable and accurate model for prediction of the financial problems and bankruptcy of the companies.

Beaver (1996) and Altman (2000) have presented the first modern statistical models for the financial failure prediction of the firms. Beaver's model could predict the bankruptcy of a company for at least five years before it happened. Altman in 1968 with his Z-score started his researches with financial indicators, classified into five categories (profitability, leverage, liquidity, solvency, and activity). The purpose was to choose a smaller number of indicators that could be helpful to make a distinction between a financially healthy firm and a firm which was becoming bankrupt the first Z – score model was for public manufacturers.

All these models are for the prediction of the future danger of financial problems and bankruptcy.

Belak & Aljinović Barać (2008) create BEX (Business Excellence). The BEX model allows the evaluation of business excellence and predicts the success and failure of the firm to the managing and achieving results in companies in Croatia.

The use of modern scientific methods and statistical research has proven the prognostic value of this model and amounts to more than 90%. BEX – model shows and measures the business excellence of the company in two dimensions: current business (lagging dimension) and expected business excellence (leading dimension) (Belak & Aljinović Barać, 2008, p.27-30). Financial indicators from Income Sheet and the Balance Sheet used to estimate the actual results of the performance of a company are profitability, value creation, liquidity, and financial strength. BEX calculated according to the following formula (Belak & Aljinović Barać, 2008):

$$\mathbf{BEX = 0.388\ ex_1 + 0.579\ ex_2 + 0.153\ ex_3 + 0.316\ ex_4}$$

In table 1 is shown the main elements of the BEX index according to profitability, value creation, liquidity, and financial strength.

Table 1. BEX index formula

Indicators	Elements
Profitability indicator	$ex1 = \frac{EBIT}{Total\ Assets}$
Values creation indicator	$ex2 = \frac{Net\ operating\ profit}{Equity\ capital \cdot cost\ of\ equity}$
Liquidity indicator	$ex3 = \frac{Working\ capital}{Total\ assets}$
Financial strength indicator	$ex4 = \frac{5\ (Net\ Profit + Depreciation + Amortization)}{Total\ debt}$

Source: Author's work according to Belak, 2014, p. 306

Ex1 shows the earning capability of the company. The more significant indicator ex1 is, the better. The ex 2 should be equal to 1 or higher. The interest rate on bank savings determines the cost of equity. In this research cost of capital is 1% (4% for the period of 2004 to 2007). The ex 3 should be 25% or more. The ex 4 index is the ratio of theoretically free cash flow from all activities. The excellence increases the more progressively if the obligations cover faster from free cash flow (Belak & Aljinović Barać, 2008, p. 32). The ex 4 need to be bigger than 1.

In table 2 is shown the results of the BEX index, which can be from negative to a positive number. The world-class companies have the BEX index bigger than 6 for four or more years.

The BEX model takes advantage over the rest of the similar index because calculated for companies just entering the capital market. Potential investors in securities with the help of the BEX model can evaluate the justification of securities prices (Belak & Aljinović Barać, 2008, p.35). This model allows a quick and simple evaluation of business excellence.

Boshkoska & Prisagjanec (2017) used the BEX model to develop a software for calculation and visual presentation of the business excellence and business success and failure prediction of the companies in Macedonia. As Salehi & Abedini (2009) summarized, the existence of financial distress can finally lead to the bankruptcy of the business. If managers identify the business financial distress risk in time, they will be able to take adequate corrective actions for its exclusion.

Table 2. BEX index results

BEX index	Rank	Forecast for the future
>6.01 for 4 year	World class	The company performs with excellent results, which can be expected in the next 4 years, if the management continues to improve
>6.01	World class candidate	The company is doing excellent, which can be expected in the next three years if management continues to improvement
4.01-6.00	Excellente	The company is doing excellent, which can be expected in the next three years if management continues to improvement
2.01-4.00	Very good	The company is doing very well, which can be expected in the next two years if management continues to improvement
1.01-2.00	Good	The company is doing good, which can be expected only if management start with improvement
0-1.00	Marginal aria	Business excellence is positive but not satisfactory. Serious improvements need to be made
Negative	Bad	Existence is threatened. Restructuring and inprovement need to be urgently undertaken, otherwise bad business will continue and there is a risk of failure (probability is over 90%)

3. RESEARCH METHODOLOGY

The research described in this paper based on information obtained from the consolidation and non-consolidation financial statements of 38 companies listed in the Zagreb Stock Exchange from 2015 to 2018. The breakdown of listed companies into the sectors due to their principal economic activity is according to the Statistical Classification of Economic Activities 2007 (2007).

Companies classify according to the sectoral classification from the Zagreb Stock Exchange, which consists of ten production sectors: Agriculture, forestry and fishing - 6 companies; Manufacture of food products, beverages, and tobacco products - 17 companies, Manufacture of textiles, apparel, leather, and related products - 3 companies, Manufacture of wood and paper products, and printing - 2 companies; Manufacture of coke, and refined petroleum products - 1 company, Manufacture of metal products - 1 company, Manufacture of chemicals and chemical products - 2 companies, Manufacture of computer, electronic and optical products - 1 company, Manufacture of electrical equipment - 2 companies and Manufacture of transport equipment - 3 companies.

The analyzed period for BEX index calculation refers to the consolidated and non-consolidated financial statements published on the Zagreb Stock Exchange to the four years from 2015 to 2018. Data on the BEX index for the period 2004 to 2007 were taken from the research by Belak & Aljinović Barać (2008) but according to the current sectoral classification.

The main hypothesis for confirmation of the main aim of this paper is: Agriculture and Manufacture sector in Croatia found the way to a successful business.

BEX index of researched companies used for confirmation of the main hypothesis. The research compared the BEX index for 2015, 2016, 2017 and 2018 with the BEX index in 2007.

The following statistical hypotheses used for confirmation of the main hypothesis:

The first statistical hypothesis:

H0: There is no statistically significant difference in BEX index depending on which year ratio is calculated according to the average BEX index in all research sector in 2007 (M = 0.77)

H1: There is a statistically significant difference in BEX depending on which year ratio is calculated according to the average BEX index in all research sector in 2007 (M = 0.77)

The second statistical hypothesis:

H0: There is no statistically significant difference in BEX index for each research companies depending on which the year 2015 to 2018 ratio calculated according to the company BEX index in 2007

H1: There is a statistically significant difference in BEX index for each research companies depending on which the year 2015 to 2018 ratio calculated according to the company BEX index in 2007

For the statistical analysis, this paper uses Descriptive Analysis, One-Sample Test, Paired Samples Statistics. The statistical study used the software IBM SPSS.

4. RESEARCH RESULTS AND DISCUSSION

In the research of the manufacturing and agriculture sector were 32 companies in the year 2004, 2005 and 2006, 35 companies in the year 2007, and 38 companies in the year 2015, 2016, 2017 and 2018.

In table 3 is shown One-Sample Statistics which shown that average BEX in 2004 is -2.43, in 2005 is 1.15, in 2006 is 0.79, in 2007 is 0.77, in 2015 is – 0.18, in 2016 is 0.10, in 2017 is -132.56 and in 2018 is -6.62. BEX index for 2004 to 2007 used from the research Belak & Aljinović Barać (2008).

The average BEX was 0.77 in 2007 for the research listed companies. 2007 is the time before the financial crises in Croatia and a good base to compare the BEX index from 2015 to 2018.

Table 3. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
BEX2004	32	-2.43	17.54	3.10
BEX2005	32	1.15	1.79	.32
BEX2006	32	.79	2.52	.44
BEX2007	35	.77	3.13	.53
BEX2015	38	-.18	10.76	1.75
BEX2016	38	.10	15.99	2.59
BEX2017	38	-132.56	635.09	103.02
BEX2018	38	-6.82	32.83	5.32

In table 4 is shown One-Sample test. There were not statistically significant differences between mean in 2007 and in the means in the year 2004 to 2018 ($p > 0.05$). The results in year were: BEX in 2004 $t(31) = -1.032$, $p = .310$, BEX in 2005 $t(31)=1.201$, $p=.239$, BEC in 2006 $t(31) = .053$, $p =.958$; BEX in 2015 $t(37)= -.543$, $p= .591$; BEX in 2016 $t(37) = -.258$, $p= .798$; BEX in 2017 $t(37) = -1.294$, $p = .204$; BEX in 2018 $t(37) = -1.424$, $p = .163$.

Therefore, we can accept the null hypothesis and reject alternative in the first statistical hypothesis.

Table 4. One-Sample Test

	Test Value = 0.77					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
BEX2004	-1.03	31	.31	-3.20	-9.53	3.12
BEX2005	1.20	31	.24	.38	-.27	1.03
BEX2006	.05	31	.96	.02	-.88	.932
BEX2015	-.54	37	.59	-.95	-4.49	2.59
BEX2016	-.26	37	.80	-.67	-5.92	4.58
BEX2017	-1.29	37	.20	-133.32	-342.08	75.42
BEX2018	-1.42	37	.16	-7.58	-18.38	3.20

In the table 5 is shown Paired Samples Test between BEX in the year 2004 to 2018 and the base year BEX in 2007. This test examined whether there was a statistically significant difference in the mean values of BEX scores in the research years. There were not statistically significant differences between mean in 2007 and in the means in the year 2004 to 2018 in all BEX pairs ($p > 0.05$) like is presented in table 4. In pair 1 BEX 2004 - BEX 2007 M=-3.14, t (31) = -1.20, p = .24. In pair 2 BEX 2005 – BEX 2007, M = 0.44, t (31) = 0.68, p = 0.5. In pair 3 BEX 2006 – BEX 2007 M = 0.08, t (31) = 0.29, p = .78. In pair 4 BEX 2015 -BEX 2007 M = -1.39, t (34) = -0.71, p = .49. In pair 5 BEX 2016 – BEX 2007 M= -2.22, t (34) = -0.87, p = .39. In the pair 6 BEX 2017 – BEX 2007 M= -129.21, t (34) = -1.16, p = .25. In the pair 7 BEX 20168– BEX 2007 M= -7.66, t (34) = -1.39, p = .17. Therefore, we can accept the null hypothesis and reject alternative in the second statistical hypothesis.

Table 5. Paired Simple Test

Pairs		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
P 1	BEX04 - BEX07	-3.14	14.76	2.61	-1.20	31	.24
P 2	BEX05 - BEX07	0.44	3.65	0.65	0.68	31	.50
P 3	BEX06 - BEX07	0.08	1.61	0.28	0.29	31	.78
P 4	BEX15 - BEX07	-1.39	11.69	1.98	-0.71	34	.49
P 5	BEX16 - BEX07	-2.22	15.05	2.54	-0.87	34	.39
P 6	BEX17 - BEX07	-129.21	658.46	111.30	-1.16	34	.25
P 7	BEX18 - BEX07	-7.66	32.70	5.53	-1.39	34	.17

In table 6 is shown BEX indexes according to sector classification in Agriculture, forestry and fishing and sector Manufacture of food products for the years 2004 to 2007 and for years 2015 to 2018. The average of BEX for that two sectors is 1.11 in 2007, -1.22 in 2015, 1.17 in 2016, -218.69 in 2017 and -0.04 in 2018.

Agriculture, forestry and fishing sector consist of six companies: Agromeđimurje d.d., Belje d.o.o., Koka d.d., Kutjevo d.d., PIK-Vinkovci d.o.o. and Vupik plus d.o.o.. Average of BEX in this sector is 0.95 in 2007, -6.01 in 2015, -5.53 in 2016, -690.36 in 2017 and -9.28 in 2018.

Agromeđimurje d.d. has BEX index 0.62 in 2007, -27.99 in 2015, -1.55 in 2016, 1.93 in 2017 and 1.49 in 2018. The company performed badly in 2015 and 2016 because all financial indicators were negative. The highest impact on the bad results was the high operating expenses to the revenues. During 2017 and 2018, there was a positive increase in the BEX index due to restructuring. According to these results, the company is doing good, but further improvements in business are necessary.

Belle d.o.o. has BEX index 0.79 in 2007, -0.59 in 2015, 0.73 in 2016, -218.52 in 2017 and -4.89 in 2018. The company performed badly in 2015, with a big loss. By improving the business, the management has managed to achieve positive financial results in 2016, and a positive BEX index has emerged. A drastic fall in all financial indicators occurred in 2017, due to the negative financial situation and financial crisis of the Agrokor Group. The negative result of the BEX index has diminished, but constant and serious improvements are needed to start a positive business, or they will face serious financial difficulties as well as bankruptcy.

Koka d.d. has BEX index 1.97 in 2007, 1.39 in 2015, 1.09 in 2016, 1.69 in 2017 and 1.36 in 2018. The company has performed well, but management needs to start with an improvement.

Kutjevo d.d. has BEX index 1.41 in 2007, 2.25 in 2015, 1.33 in 2016, 1.84 in 2017 and 1.14 in 2018. The company has performed well, but management needs to start with an improvement.

PIK Vinkovci d.o.o. has BEX index 0.92 in 2007, -10.15 in 2015, -30.43 in 2016, -28.18 in 2017 and -4.91 in 2018. The company has performed badly from 2015 to 2018. One part of the negative result is the influence of Agrokor. The company management needs to start with the restructuring and improvement of the business.

Vupik plus d.o.o. had BEX index -0.01 in 2007, -0.97 in 2015, -4.34 in 2016, -3900.96 in 2017 and -49.88 in 2018. The company has performed badly from 2015 to 2018. One part of the negative result is the influence of Agrokor. Vupik was the leader of agriculture in the past.

A big lose influence a bad BEX index in the Agriculture, forestry and fishing sector.

Manufacture of food products has an average of BEX 1.18 in 2007, 0.47 in 2015, 3.54 in 2016, -52.22 in 2017 and 3.23 in 2018.

Badel 1862 d.d. has BEX index 0.88 in 2007, -43.74 in 2015, 10.13 in 2016, 28.63 in 2017 and -0.48 in 2018. The company performed badly in 2015 and 2018 because of a big expenditure and a decrease in revenue. The result is 2016, and 2017 is good because of the reconstruction of business.

Brionka d.d. has BEX index 0.24 in 2007, 1.49 in 2015, -0.73 in 2016, 2.59 in 2017 and 3.23 in 2018. The company performed well in 2015, but because of the increase in expenses, BEX was negative in 2016. year. In 2017 and 2018 BEX index is positive, because of the increase in business revenue.

Čakovečki mlinovi d.d. has BEX index 2.99 in 2007, 4.76 in 2015, 5.37 in 2016, 4.27 in 2017 and 4.36 in 2018. The company excellently performed business.

Dukat d.d. has BEX index 3.63 in 2007, 3.64 in 2015, 5.09 in 2016, 5.16 in 2017 and 5.42 in 2018. The company good and excellent performed the business. In the BEX index, the biggest influence was in ex2 and ex4.

Granolio d.d. has BEX index 8.36 in 2015, 6.58 in 2016, -515.95 in 2017 and -1.91 in 2018. The company performed in the world-class candidate BEX rank in 2015 and 2016. In 2017 start Agrokor cries which had a big influence on the result of 2017. Granolio was one of the major suppliers of Agrokor.

Jamnica plus d.o.o. has BEX index 2.32 in 2007, 3.74 in 2015, 1.98 in 2016, 2.59 in 2017 and 1.42 in 2018. The company performs its business very well. The company is part of the Agrokor group.

Koestlin d.d. has BEX index -5.20 in 2007, 3.74 in 2015, 1.98 in 2016, 2.59 in 2017 and 1.42 in 2018. The company has a stable business.

Kraš d.d. has BEX index 1.06 in 2007, 2.21 in 2015, 3.26 in 2016, 4.26 in 2017 and 4.61 in 2018. The company has a stable business and a visible improvement in business.

Ledo plus d.o.o. has BEX index 2.86 in 2007, 8.29 in 2015, -11.30 in 2016, -77.49 in 2017 and -0.95 in 2018. The company had an excellent business result in 2015, but the management did not continue with improvement. The company is part of the Agrokor group.

Maraska d.d. has BEX index 0.60 in 2007, 11.02 in 2015, 30.48 in 2016, 10.19 in 2017 and 11.13 in 2018. The company performed business in the world-class BEX rank.

Podravka d.d. has BEX index 0.77 in 2007, 5.51 in 2015, 4.19 in 2016, 1.83 in 2017 and 4.75 in 2018. The company has excellent results in 2015, 2016, and 2018. In 2017. BEX index decreased because of investment in Africa and Chine and Agrokor crises.

PIK d.d. Rijeka has BEX index 0.26 in 2007, -6.11 in 2015, -4.50 in 2016, -3.16 in 2017 and -6.91 in 2018. The company has a serious problem in business and need to find a new investor with new capital.

Termes Grupa d.d. has BEX index -0.53 in 2015, 46.23 in 2016, -37.11 in 2017 and -11.20 in 2018. The company has a serious problem in business and need to find a new investor with new capital.

Viro d.d. has BEX index 3.06 in 2007, 0.35 in 2015, 3.24 in 2016, -12.32 in 2017 and -6.73 in 2018. The company has a good result in 2015 and 2016.

Zagrebačke pekarne Klara d.d. has BEX index 0.40 in 2007, 0.37 in 2015, 2.37 in 2016, 3.66 in 2017 and 1.88 in 2018. The company has an improvement in business and BEX index from 2015 to 2017.

Zvečevo d.d. has BEX index 3.05 in 2007, -1.22 in 2015, -15.82 in 2016, -38.97 in 2017 and 56.81 in 2018. The company has a very bad business from 2015 to 2017. In 2018, the company found a market in the United Kingdom and Switzerland and realized the world-class result.

Zvijezda plus d.o.o. has BEX index 0.71 in 2007, 1.69 in 2015, -11.51 in 2016, -202.10 in 2017 and -7.59 in 2018. The company is part of the Agrokor group.

For that sector the worst year was 2017 due to Agrokor crises.

Table 6. BEX Index of Agriculture and Manufacture of food products

COMPANIES	BEX INDEXS				
	2007	2015	2016	2017	2018
Agromeđimurje	0.62	-27.99	-1.55	1.93	1.49
BELJE	0.79	-0.59	0.73	-218.52	-4.89
Koka	1.97	1.39	1.09	1.69	1.36
Kutjevo	1.41	2.25	1.33	1.84	1.14
PIK VINKOVCI	0.92	-10.15	-30.43	-28.18	-4.91
VUPIK	-0.01	-0.97	-4.34	-3900.96	-49.88
Agriculture. forestry and fis.	**0.95**	**-6.01**	**-5.53**	**-690.36**	**-9.28**
BADEL 1862	0.88	-43.74	10.13	28.63	-0.48
BRIONKA	0.24	1.49	-0.73	2.59	3.23
Čakovečki mlinovi	2.99	4.76	5.37	4.27	4.36
DUKAT	3.63	3.64	5.09	5.16	5.42
Granolio	n/a	8.36	6.58	-515.95	-1.91
Jamnica	2.32	8.15	-14.94	-63.82	-3.01
Koestlin	-5.20	3.74	1.98	2.59	1.42
Kraš	1.06	2.21	3.26	4.26	4.61
Ledo	2.86	8.29	-11.30	-77.49	-0.95
Maraska	0.60	11.02	30.48	10.19	11.13
Podravka	0.77	5.51	4.19	1.83	4.75
PIK	0.26	-6.11	-4.50	-3.16	-6.91
TERMES GRUPA	n/a	-0.53	46.23	-37.11	-11.20
VIRO	3.06	0.35	3.24	-12.32	-6.73
Zagrebačke pekarne Klara	0.40	0.37	2.37	3.66	1.88
Zvečevo	3.05	-1.22	-15.82	-38.97	56.81
Zvijezda	0.71	1.69	-11.51	-202.10	-7.59
Manufacture of food products	**1.18**	**0.47**	**3.54**	**-52.22**	**3.23**
Average of manufactures	**1.11**	**-1.22**	**1.17**	**-218.69**	**-0.04**

In table 7 is shown the BEX Index of Manufacture other than a food product. The average of Manufacture other than food products is 0.27 in 2007, 1.42 in 2015, -1.54 in 2016, -0.49 in 2017 and -17.21 in 2018.

The manufacture of electrical equipment consists of two companies: Končar – D&ST d.d. and Končar – Elektroindustrija d.d. The average of BEX in this sector is 0.68 in 2007, 5.32 in 2015, 4.74 in 2016, 3.48 in 2017 and 4.78 in 2018.

Končar D&ST d.d. has BEX index 4.37 in 2007, 7.77 in 2015, 6.66 in 2016, 5.72 in 2017 and 7.29 in 2018. The company has a world-class result.

Končar – Elektroindustrija d.d. has BEX index 0.87 in 2007, 2.86 in 2015, 2.82 in 2016, 1.24 in 2017 and 2.26 in 2018. The company has a good business result.

The manufacture of chemical products consists of form two companies: Petrokemija d.d. and Saponia d.d. Average of BEX in this sector is 1.69 in 2007, -6.11 in 2015, -28.71 in 2016, -27.13 in 2017 and -35.43 in 2018.

Petrokemija d.d. has BEX index 1,65 in 2007, -16.96 in 2015, -62.57 in 2016, -60.28 in 2017 and -76.79 in 2018. The company is in business failure and management tries to find a new investor.

Saponia d.d. has BEX index 4.37 in 2007, 7.77 in 2015, 6.66 in 2016, 5.72 in 2017 and 7.29 in 2018. The company is financially stable and a good world-class candidate.

INA d.d. is the only company in the manufacture of refined petroleum products. INA d.d. has BEX 1.24 in 2007, -7.23 in 2015, 2.94 in 2016, 6.49 in 2017 and 7.31 in 2018. The crude oil price on the world market has the biggest influence on the companies result.

The manufacture of mental products has only one company MIV d.d. MIV d.d. has BEX 0.74 in 2007, 4.83 in 2015, 6.65 in 2016, 5.51 in 2017 and -128.77 in 2018. MIV finds a new investor and now has a new German owner Hawle Armaturen.

Manufacture of wood and papers have two companies; Spačva d.d. and Bilokalnik-IPA d.d. The average of BEX in this sector is 1.01in 2007, 1.27 in 2015, 1.66 in 2016, 0.88 in 2017 and 1.47 in 2018.

Bilokalnik-IPA has BEX index 0.33 in 2007, -0.11 in 2015, 0.79 in 2016, -1.02 in 2017 and -1.23 in 2018. The company is in a grey zone or negative index for the whole period.

Spačva d.d. has BEX index 1.69 in 2007, 2.65 in 2015, 2.53 in 2016, 2.78 in 2017 and 4.17 in 2018. Spačva d.d. has an outstanding business result.

Manufacture of computers and electrical products has only Ericsson Nikola Tesla d.d. The company has BEX 2.82 in 2007, 14.37 in 2015, 15.82 in 2016, 15.60 in 2017 and 18.94 in 2018. Ericsson Nikola Tesla d.d. is a world-class leader.

Manufacture of textile consist of four companies: Čateks d.d., Jadran d.d., Varteks d.d. and DTR d.d. DTR d.d. is excluded from research because the bankruptcy process was open in 2018. Average of BEX in this sector is 0.82 in 2007, -3.27 in 2015, -3.23 in 2016, -1,37 in 2017 and 4.90 in 2018.

Čateks d.d. has BEX index 0.13 in 2007, 4.82 in 2015, 3.00 in 2016, 2.46 in 2017 and 4.81in 2018. The company has a good for an outstanding result.

Jadran d.d. has BEX index 1.83 in 2007, -14.18 in 2015, -10.34 in 2016, 0.72 in 2017 and 16.65 in 2018. The company increases result and BEX index due to a new contract with Italian designer Emilio Cavallini, the opening of Internet sales in America and new shops in Croatia.

Varteks d.d. has BEX index 0.48 in 2007, -0.44 in 2015, -2.35 in 2016, -7.27 in 2017 and -6.76 in 2018. The company has a negative result from 2015 to 2018.

Manufacturing of transport equipment consists form three companies: 3. MAJ Brodogradilište d.d., AD Plastik d.d. and Brodogradilište Viktor Lenac d.d. The average of BEX in this sector is -7.07 in 2007, 6.06 in 2015, 1.92 in 2016, 4.91 in 2017 and -7.32 in 2018.

3. MAJ Brodogradilište d.d. has BEX index -14.80 in 2007, 8.078 in 2015, 1.43 in 2016, 0.59 in 2017 and –109.45 in 2018. The company is in a pre-bankruptcy settlement.

Table 7. BEX Index of Manufacture other than food products

COMPANIES	BEX INDEXS				
	2007	2015	2016	2017	2018
KONČAR D&ST	4.37	7.77	6.66	5.72	7.29
KONČAR ELEKTROIN.	0.87	2.86	2.82	1.24	2.26
Manufacture of electrical e.	**0.68**	**5.32**	**4.74**	**3.48**	**4.78**
Petrokemija	1.65	-16.96	-62.57	-60.28	-76.79
Saponia	1.72	4.74	5.15	6.03	5.93
Manufacture of chemicals	**1.69**	**-6.11**	**-28.71**	**-27.13**	**-35.43**
INA	1.24	-7.23	2.94	6.49	7.31
Manuf. of refined p. pr.	**1.24**	**-7.23**	**2.94**	**6.49**	**7.31**
MIV	0.74	4.83	6.65	5.51	-128.77
Manufacture of metal products	**0.74**	**4.83**	**6.65**	**5.51**	**-128.77**
BILOKALNIK IPA	0.33	-0.11	0.79	-1.02	-1.23
Spačva	1.69	2.65	2.53	2.78	4.17
Manufacture of wood and paper products	**1.01**	**1.27**	**1.66**	**0.88**	**1.47**
Ericsson Nikola Tesla	2.82	14.37	15.82	15.60	18.94
Man. of computer. electronic and op.pr.	**2.82**	**14.37**	**15.82**	**15.60**	**18.94**
Čateks	0.13	4.82	3.00	2.46	4.81
JADRAN tv. čarapa	1.83	-14.18	-10.34	0.72	16.65
Varteks	0.48	-0.44	-2.35	-7.27	-6.76
Manufacture of of textiles, app., leather p.	**0.82**	**-3.27**	**-3.23**	**-1.37**	**4.90**
3. MAJ BRODOGRADILIŠTE	-14.80	8.78	1.43	0.59	-109.45
AD PLASTIK	0.67	2.29	2.66	3.03	2.23
BRODOGRADILIŠTE VIKTOR LENAC	n/a	7.11	1.67	11.11	-4.74
Manufacture of transport equipment	**-7.07**	**6.06**	**1.92**	**4.91**	**-37.32**
Average of other m.	**0.27**	**1.42**	**-1.54**	**-0.49**	**-17.21**
Total Average of man.	**0.77**	**-0.18**	**0.10**	**-132.56**	**-6.82**

AD Plastik d.d. has BEX index 0.67 in 2007, 2.29 in 2015, 2.66 in 2016, 3.03 in 2017 and 2.23 in 2018. The company has a very good BEX index from 2015 to 2018.

Brodogradilište Viktor Lenac d.d. has BEX index 7.11 in 2015, 1.67 in 2016, 11.11 in 2017 and –4.74 in 2018. The company has a negative index in 2008 due to the new Turkish competition.

According to the BEX index, the main hypothesis is not confirmed.

5. CONCLUSION

The results of the BEX index indicate that the overall manufacturing industry in the Republic of Croatia had a poor performance during the analyzed period from 2015 to 2018 and that it did not even reach the 2007 year.

The Agrokor crisis had a significant impact on the companies in the group, as well as their leading suppliers. The Agrokor crises, as well as pre-bankruptcy settlement, show that companies need to have proper management, with the implementation of a sound controlling system, better use the EU market and EU funds.

To improve the investment and economic environment in the EU and create a framework for more reliable investment, the European Commission has launched an initiative called the Investment Plan for Europe, also known as the Juncker Plan. Investment Plan expected to trigger € 462.7 billion in investments and around 1,125,400 SMEs set to benefit (EU, 2019).

Europe 2020 builds on the Lisbon Strategy 2010 while maintaining its focus on competitiveness and employment. Three key elements of economic growth are smart growth, sustainable growth, and inclusive growth. Industrial growth is about strengthening the EU's internal market.

Production in Croatia is recovering from the financial crises, the crises of Agrokor d.d., pre-bankruptcy settlements, as well as the growing challenges of globalization and the new global demands for adapting production processes. Maybe some of the companies can go as well as Zvečevo d.d., in search of new customers and new markets abroad. Zvečevo d.d., after the significant negative results and BEX indicators at the bankruptcy threshold, it achieved the highest BEX index of 56.81 in 2018.

The small capital market in Croatia and only 38 companies are the main limiting factor of this research. However, regardless of the small number of companies surveyed, stock market companies should be guides to the development of each economy. The results indicate that an indefinitely long period without bankruptcy proceedings, failure to fulfill the conditions of a pre-bankruptcy settlement should not be allowed any longer if there is also another case of Agrokor. Likewise, the main task of ministries should be to connect our manufacturers with new overseas markets.

For future research, it would be necessary to extend the sample for all agricultural and manufacturing companies.

It expects that in the future, all the analyzed companies will perform more successfully to achieve the stability of the industrial production business.

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QUALITY COSTING AND USALI – ACCOUNTING INSTRUMENTS IN THE HOTEL MANAGEMENT

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Abstract

Contemporary accounting methods and techniques provide the most relevant information for management decision-making. Uniform System of Accounts for the Lodging Industry (USALI) is an accounting technique specific for the hospitality industry while Quality Costing is a strategic management accounting method designed for quality-oriented organizations. Both accounting instruments are used, among others, to achieve a better competitive position. This study aims to determine the effects of conversance with the USALI and the use of quality-related accounting information on the increase of market share, customer satisfaction, service quality, and overall performance compared to the competitors. Empirical research is based on the questionnaire addressed to the hotel accountants. Findings indicate that accounting information provided by both accounting instruments enable the better competitive position of the hotels in Croatia. Also, the results reveal that implementing a quality management system is not enough to attain the desired level of competitiveness pointing out the importance of the smart use of accounting information.

Keywords: *accounting, Quality Costing, USALI, hotel management*

JEL Classification: M41, Z32

1. INTRODUCTION

Hospitality is one of the world's fastest-growing industries and, consequently, the hotel management has become more complex. The growth of tourism has prompted hotel managers to expand the scale of their business, but the hard times, which spared no one, hitting vendors and customers alike, have forced the industry to become increasingly profit and cost-conscious. More attention is being paid to maximizing revenue and minimizing costs to improve the economic performance of hotel enterprises (Peršić, Janković & Poldurgovac, 2012, p.30). Delivering the quality of service is one of the major challenges that hotel managers are facing. It is an essential condition for success in the emerging, keenly competitive and global hospitality markets (Vrdoljak & Bukvić, 2004, p. 99).

Any serious attempt to improve quality must address the costs related to the attainment of quality, as the purpose of continuous improvement programs is not only to meet customers' demands but also to do so at the lowest cost (Pires et al., 2017, p. 501). To achieve high-quality hotel service at the lowest possible cost, the hotel should implement an accounting method known as Quality Costing. Quality Costing is a strategic management accounting tool often used in quality-oriented companies that face fierce competition. This method can be implemented in manufacturing as well as in-service companies, so it is suitable for the hotels.

Another accounting technique that is in use in the hotels around the globe is the Uniform System of Accounts for the Lodging Industry (USALI). The USALI is a system for the preparation of accounting reports and financial statements in standardized formats respecting all specific hotel industry features (Peršić & Stojanović, 2004, p. 770). The USALI was first published in 1926 by the Hotel Association of New York City (USA), and since then has seen eleven revised editions so far. The USALI has evolved in an instrument which established standardized formats and accounts classification, uniform terminology and accounting procedures to be used in the preparation and presentation of financial information in the lodging industry (Kosarkoska, 2010, p. 422). The hospitality industry is oriented to use the USALI since it provides a consistent, uniform and specific schedule for segment reporting, as well as statistic ratios and operating metrics (Janković and Peršić, 2014, p. 349). The USALI is designed for hotels regardless of their size and organization structure. This accounting subsystem provides detailed information on the performance of various departments and the contribution of each department to the overall hotel performance. It facilitates management responsibility and promotes competition between different departments within a hotel or, in the case of a hotel chain, between the same departments in different hotels, contributing to the profitability. The USALI also minimizes the effect of various accounting and reporting practices in different countries and it is independent of local fiscal norms, which is especially important for hotel chains operating in many countries (Campa-Planas et al., 2017, p. 205).

This paper aims to explore if the use of accounting standards (international or country-specific) determines the implementation of Quality Costing and the USALI in the hotels. Also, one of the study objectives is to find out is the conversance with the USALI related to the increase of market share, customer satisfaction, service quality and overall performance comparing to the competitors The other objective is to determine the effect of the use of quality-related accounting information on the increase of the same indicators.

2. QUALITY COSTING

2.1. Quality management in the hotels

Quality-oriented hotels as well as other types of the organization often apply ISO 9001 and/or Total Quality Management framework to enhance the output (service) quality. Companies in Croatia and the rest of the European Union are more inclined to the implementation of the ISO 9001 standard in their path to the improved quality. The ISO 9001 is perceived as a way to achieve competitiveness in the marketplace, continuous improvement, profit improvement, and marketing benefits. Also, this standard is used as a guide how to better run organizations, since it helps organizations to enhance quality and efficiency, improve communications, achieve competitive advantages, increase market shares, reduce cost and achieve a higher stock price (Casadesús & Karapetrovic, 2005; Djofack & Camacho, 2017). Dulčić & Žilić (2010) have pointed out that quality management in a hotel is focused on two main competitive goals: continuous value improving for hotel guests and improving total hotel business. According to literature review of Tarí et al. (2012) quality certification may generate many benefits such as financial results (increasing sales, the return of investment, market share, sales per employee); operational results (reducing logistics costs, improving supplier relationship, increasing inventory turnover, reducing non-conformities, meeting delivery dates, reducing lead time); customer results (loyalty purchases, customer satisfaction, reducing complaints); and people results (suggestions systems, improving health and security at work, lower employee absenteeism, work satisfaction, team participation). Kundid Novokmet and Rogošić (2017) noticed that there is no consensus among scholars regarding the effects of ISO 9001 and TQM implementation and offered an explication. They distinguished the difference in the long-term financial performance between companies with more mature quality management systems comparing to those with the lesser extent of application of quality management principles (or, simply, less mature QMS). The point is that a thorough and wholehearted approach to quality management (perceived as a mature QMS) can enable an organization to achieve better financial and overall organizational performance. Alonso-Almeida et al. (2013, p. 514) investigated the application of the ISO 9001 standard in the hotels and restaurants sector and noticed that it is expanding on a worldwide scale with a remark that this standard appeared to have reached saturation point in Spain. On the other hand, ISO 9001 adoption is not an easy task since the certification process generates undesirable workload related to document preparation and pushes employees to work according to prescribed procedures at the cost of limited creativity and critical thinking (Mak, 2015, p. 744). However, ISO 9001 represents an excellent framework for quality management even in the hotel industry.

2.2. Quality-related costs and accounting

Quality Costing is a strategic management accounting method specially designed for quality-oriented companies. So, the implementation of Quality Costing only has sense in the companies that apply the Total Quality Management and/or the ISO 9001 standard. Quality-related costs are in the focus of this accounting method. Those costs are not always easy to detect. More so, most of the quality costs remain hidden which means they are not covered by the accounting system and consequently managers do not have an insight into their effect. The real challenge for the accountants is to recognize records and correctly categorize quality costs. Quality costs are commonly understood as the monetary expression of the efforts undertaken by the organization to ensure the intended levels of quality (Pires et al., 2017, p. 502). Among several categorizations of quality-related costs the most widely used if the one according to the PAF (prevention-appraisal-failure) model (Shah & Mandal, 1999;

Srivastava, 2008; Jaju, Mohanty & Lakhe 2009; Omurgonulsen, 2009; Singer & Donoso, 2009; Su, Shi & Lai, 2009; Branca & Catalaõ-Lopes, 2011; Tye, Halim & Ramayah, 2011; Sansalvador & Brotons, 2013; Uyar & Neyis, 2015) presented by Feigenbaum in 1956. According to the PAF model quality costs are divided into four categories (Omurgonulsen, 2009, p. 549):

- Prevention costs: Costs that result from the efforts of the company during product design and manufacturing that prevent non-conformance to specifications, like quality planning; quality review and verification of design; process planning; supplier assurance; calibration and maintenance of quality measurement and test equipment; quality audits; administration and training; quality improvement programs; quality certification costs.
- Appraisal costs: Costs incurred to determine the degree of conformance to quality requirements, like pre-production verification; laboratory acceptance testing incoming inspection and tests; in-process inspection and tests; final inspection and tests; field performance testing; inspection and test equipment; record storage.
- Internal failure costs: Costs incurred when poor-quality products are discovered before they are delivered to the customer, like scrap; rework and repair; troubleshooting or defect/failure analysis; re-inspection and retesting; downgrading.
- External failure costs: Costs incurred after the customer has received a poor-quality product and that are primarily related to customer service, like returned material; customer complaints; product liability; warranty claims; loss of sales.

Prevention and appraisal costs are also known as costs of conformance and internal and external failure costs are considered as costs of non-conformance. The increase in costs of quality conformance typically leads to a decrease in the failure costs (known as quality costs trade-off). Tye et al. (2011, p. 1301) pointed out that the total cost of quality is the sum of the price of conformance and the price of non-conformance with a suggestion that each company must define the specific measurement areas within the business failure cost structure that best fits its business performance.

Quality Costing is highly promoted among scholars (Jafari & Rodchua, 2014; Pires et al., 2017). The advantages of Quality Costing implementations are many and according to Pires et al. (2017, p. 503), one of the most important benefits is that the resultant information may convert quality into a measurable concept, thereby understanding its impact on the organization. Another important benefit is the raising of awareness (inside the organization) of the potential effects of poor quality on the results. Pires et al. (2017, p. 503) also acknowledged that quality costs enable organizations to concentrate on areas of low performance that need to be improved. Quality costs can be used as a compass for continuous improvement actions and the planning of quality improvement. Finally, this accounting information helps communication inside the organization towards general control of quality.

On the other hand, the absence of this accounting method has numerous disadvantages because the organizations had to develop insular ways to maintain control over their areas of responsibility. Consequently, information gathering, reporting, and management become uncoordinated which leads to the wasted time, unavoidable costs, increased errors and misunderstanding, and the need for rework (Jafari & Rodchua, 2014, p. 226). Despite the recognized importance of the implementation of quality costing systems, the concept is not widely applied which means that many companies do not have formal systems of identification, measurement, and management of quality costs, and are unable to take the opportunities for improvement that may result from its implementation (Pires et al., 2017). How good this strategic management accounting method is implemented depends on the knowledge of the accountants but also their organizational as well as professional commitment. Regardless of the adequacy of the Quality Costing (as an accounting subsystem), its effectiveness will be intrinsically dependent on how management uses information on quality costs to improve quality (Sower et al., 2007; Pires et al., 2017). Therefore, the proper use of Quality Costing can lead to better quality-related performances that could be translated to improved overall organizational and financial results.

3. USALI – FEATURES AND THE REASONS FOR IMPLEMENTATION

The USALI is one of the fundamental tools that help hotel managers to benchmark financial data, monitor the progress of their business and identify revenue opportunities (Campa-Planas et al., 2017, p. 204). The USALI is generally accepted worldwide in the hotel industry and it is the basis of monitoring the hotel performance as well as a platform for hotel management accounting. The system contains a list of standard accounts that serve in compiling accounting reports for external and, in particular, internal information users. The USALI also contains the business statistics of hotels with an overview of the most important information about their performance. Based on the accounting information and business statistics of hotels, an entire array of hotel business and performance indicators can be calculated and therefore used as a part of the management accounting tools for analyzing and assessing hotel performance. Contemporary hotel performance management or controlling is based on the USALI reflecting all specific features of the hotel business and makes it possible to compare the performances of hotels in a country and worldwide (Avelini Holjevac & Vrtodušić Hrgović. 2012, p. 69). The USALI contains not only the basic financial statements, but also 32 supplementary departmental operating statements and appendices covering budgeting and forecasting, breakeven analysis, and uniform chart of accounts. This system requires the uniformity in obtaining, collecting, sorting, recording, preparing and presenting of the accounting and statistic information is strictly formalized statements that enable the comparison of a company's results with the competition, and average results of the hospitality industry on the national and international level (Peršić & Stojanović, 2004, p. 777). Therefore, USALI is implemented for financial and management accounting. More so, since the USALI follows the same concept and with the same effect as International financial reporting standard 8 – Operating segments (Janković & Peršić, 2014 p. 348).

Prior empirical research on the USALI in Croatian hotels (Peršić & Stojanović, 2004, p. 780) showed that 40.0 % of observed hotels use the USALI completely, 28.6 % partly, 4.4 % are introducing it or using it in traces, 20.5 % intend to introduce it, and the remaining 6,5 % consider this system unnecessary. Peršić and Stojanović (2004) provided an in-depth analysis of 32 supplementary departmental operating statements and noticed that the most frequent hotels prepare Rooms, Food and Beverages statements followed by Rentals and Other Income, Human Resources and Payroll taxes and Employee Benefits statements. Campa-Planas et al. (2017, p. 213) investigated the USALI implementation in Catalan and Spanish hotels and revealed that the international hotel chains demonstrated a greater implementation of the USALI. The same authors acknowledged that the USALI has several disadvantages like failing to enable the income from a commercial package to be allocated to the hotel departments. Detailed analysis of performance by departments does not consider the hotel as an entity ignoring the overall hotel performance. The system is also not coping with emerging trends such as the tendency of hotel chains to centralize all possible activities and thus limiting the role of each hotel manager. While the system is difficult to apply for small hotels with insufficiently differentiated department structures to classify expenses/costs, the results of profit centers do not derive a comprehension contribution analysis as some costs cannot be allocated to profit centers and remain undistributed operating expenses (Campa-Planas et al., 2017, p. 213). Although the USALI has been criticized for its shortcomings it is still an irreplaceable accounting technique in the hospitality industry.

4. HYPOTHESES

Hotels can be established as a segment of a company or as an entity (where a hotel is registered as a firm). Thus, the hotel as an organization (or a part of one) in Croatia is obliged to prepare financial statements according to the Accounting Act. Financial accounting must be prepared according to Croatian Financial Reporting Standards (CFRS) if a company is micro, small or medium-sized or according to the International Financial Reporting Standards (IFRS) which are mandatory for the large companies and for those that are listed on the stock exchange market. So, the size of a company is related to the use of accounting standards. Bulog, Rogošić & Pera (2019) acknowledged that effective and efficient accounting information plays a key role in management decision making so a successful manager, to be able to make quality business decisions, needs relevant, timely, accurate, reliable and complete accounting information; in summary - high-quality accounting information. Due to the complexity of their business, large-sized companies need a wider scope of accounting information that various accounting techniques and methods can provide. Chatzipetrou and Moschidis (2017) empirically confirmed that large-sized companies consider more and manage better their quality costs than small companies. All the above mentioned led to the assumption that:

H_1: Application of IFRS is positively related to the conversance with and implementation of the USALI with more segmented reporting and the Quality Costing as well as the use of accounting information in quality management.

Previous studies (Peršić & Stojanović, 2004; Kosarkoska, 2010; Avelini Holjevac & Vrtodušić Hrgović. 2012; Peršić, Janković & Poldurgovac, 2012; Janković & Peršić, 2014; Campa-Planas et al., 2017) revealed many benefits of USALI implementation emphasizing the comparability of accounting information and performance measurement. Since USALI is used in financial accounting as well in management accounting due to segment reporting it can be a good source of relevant information for the management. Therefore, the accounting information derived from USALI can be a compass in a decision making process that could result in better performance. The greater the knowledge is, the more improved performance can be expected, so:

H_2: Conversance with the USALI is positively related to the increase of market share, customer satisfaction, service quality, and overall hotel performance.

The measurement of quality costs is a good indicator of the product and service quality and the overall performance of a firm (Omurgonulsen, 2009). The information on quality costs is a key organizational resource allowing the maintenance of an attitude of constant attention towards issues related to quality, alerting managers to the potential impact of quality costs, motivating action to improve quality, helping to define the activities to reduce and control quality costs, and prioritizing quality improvement efforts. So Quality Costing is a part of the quality system and as such, it should not be understood as a complementary activity but as an integrated element in the strategic organizational thinking as well in the daily activities of the company (Jaju et al., 2009; Pires et al. 2017). Mandal and Shah (2002) found out that quality costs offer relevant information for the improved output quality and customer satisfaction. Tye et al. (2011) revealed that the implementation of quality costs plays an important role in the companies it has helped to reduce customer complaints, rework, warranty expenditure, failure costs, and total quality costs as well as improving the sales volume. Jaju et al. (2009) acknowledged the importance of quality costs in assessing greater customer satisfaction to achieve a competitive advantage. The before mentioned research results inspired the formulation of the following hypothesis according to which:

H_3: The use of accounting information in quality management leads to an increase in market share, customer satisfaction, service quality, and overall hotel performance.

5. METHODOLOGY AND RESULTS

To collect data, a structured questionnaire was used, consisting of closed questions measured by 5-point Likert-type scales. The empirical research is based on that questionnaire available online and created using Google Docs. The link to the questionnaire was sent to the e-mail addresses of 500 hotel accountants in Croatia. It was filled out by 71 respondents (the response rate was 14%). According to the categorization of the hotels, the sample consisted of 12 5-star, 31 4-star, 26 3-star, and 2 2-star hotels.

The collected data was analyzed using the SPSS program. The Mann-Whitney U test and the Jonckheere-Terpstra test were used to validate the hypotheses.

Descriptive statistics show that 52% of the observed hotels have financial accounting according to the IFRS while the rest record and prepare financial statements based on the CFRS. To determine if there is a statistically significant difference between hotels with financial accounting based on the IFRS comparing to the CFRS, the Mann-Whitney U test (Table 1) was used.

Table 1: Testing the first hypothesis

	Conversance with USALI	USALI implementation	USALI segment reporting	Quality Costing	Accounting info in QM
Mann-Whitney U	225.500	280.000	22.000	148.500	197.500
Wilcoxon W	786.500	841.000	67.000	644.500	662.500
Z	-4.559	-4.442	-3.779	-5.795	-4.472
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000
Exact Sig. [2*(1-tailed Sig.)]			.000		

Grouping Variable: Standards
Source: Author's calculation

These findings indicate that hotels with financial accounting according to the IFRS (large or listed companies) are more inclined to both observed accounting instruments: the USALI and Quality Costing. Accountants in hotels that are organized as the large-sized companies are more familiar with the USALI and this technique is frequently implemented with the more supplementary departmental operating statements (segment reporting). Also, accountants in those hotels (large-sized companies) reported that they are using Quality Costing and find the accounting information in quality management quite useful.

Before testing the second hypothesis descriptive statistics regarding conversance with the USALI were performed. Accountants were asked to self-assess their conversance with the USALI and 19 respondents (27%) rated their knowledge of the USALI as excellent. The number of accountants that are very well-familiar with the USALI is 20 (28%) while slightly less-familiar are 15 respondents (21%). Somehow familiar with the USALI are 7 accountants (10%) while 10 (14%) do not know anything about the USALI. The mean value of the overall conversance with the USALI among hotel accountants is 3.4366. The effect, that conversance with the USALI has on market share, customer satisfaction, service quality, and overall performance compared to the competitors in the last three years, is presented in Table 2.

Table 2: Testing the second hypothesis

	Market share	Customer satisfaction	Service quality	Performance
Number of Levels in Conversance with USALI	5	5	5	5
N	71	71	71	71
Observed J-T Statistic	1200.000	1176.500	1227.000	1212.000
Mean J-T Statistic	976.500	976.500	976.500	976.500
Std. Deviation of J-T Statistic	89.891	85.071	86.781	87.430
Std. J-T Statistic	2.486	2.351	2.887	2.694
Asymp. Sig. (2-tailed)	.013	.019	.004	.007

Grouping Variable: Conversance with the USALI
Source: Author's calculation

The results of the Jonckheere-Terpstra test indicate that there is a positive effect of conversance with the USALI on the perceived increase of market share, customer satisfaction, service quality, and overall performance compared to the competitors in the last three years.

On the Likert-type scale, accountants have evaluated the use of accounting information in quality management. The use of accounting information for quality management was rated as excellent by 14 (20%) and very good by 30 (42%) accountants. Ten (14%) respondents agreed that this use of accounting information was good while 6 (9%) found it sufficient and only 5 (7%) insufficient. Six accountants did not respond to this question. The mean value of the use of accounting information in quality management in the observed hotels is 3.6462. The positive effect of the use of accounting information in the quality management of the hotels was tested by the Jonckheere-Terpstra test (Table 3).

Table 3: Testing the third hypothesis

	Market share	Customer satisfaction	Service quality	Performance
Number of Levels in Accounting info in QM	5	5	5	5
N	65	65	65	65
Observed J-T Statistic	948.000	897.500	861.000	941.000
Mean J-T Statistic	742.000	742.000	742.000	742.000
Std. Deviation of J-T Statistic	75.451	72.539	73.695	74.022
Std. J-T Statistic	2.730	2.144	1.615	2.688
Asymp. Sig. (2-tailed)	.006	.032	.106	.007

Grouping Variable: Accounting info in QM
Source: Author's calculation

According to the results presented in the previous table, the use of accounting information in quality management has a positive effect on the perceived increase of market share, customer satisfaction and overall performance comparing to the competitors but not on the service quality (since the p-value is greater than 0.05). These findings are in line with the empirical results disclosed by Pires et al. (2017) and Jaju et al. (2009) who acknowledged that companies should use quality-related costs to meet customer needs and achieve customer satisfaction to become world-class competitors.

6. CONCLUDING REMARKS

This study sheds a light on the use of two accounting instruments in the hospitality industry. One of these instruments is a technique specially developed for the hotels almost 100 years ago, known as the USALI. The fundamental goal of the USALI is to provide a systematic compilation of accounting data as well as internal and external reporting to support management decision-making. Since the hospitality industry is highly competitive most of the hotels put additional effort to enhance service quality. Accounting information regarding quality-related costs can be used as a compass to achieve greater service quality in the hotels.

The findings indicate that both accounting instruments are set up in the large-sized or listed companies (hotels) more often than in the hotels established as a small and medium enterprise. The more accountants are familiar with the USALI the greater is their ability to provide managers with the wider scope of the relevant accounting information that leads to better business decisions. Those accountants find that the hotel (they are working at) has greater market share, customer satisfaction, service quality and overall performance comparing to the competitors in the last three years. The use of accounting information in quality management also leads to a better competitive position since the empirical results demonstrated its positive effect on the perceived increase of market share, customer satisfaction and overall performance (comparing to the competitors in the last three years).

To sum up, accounting methods and techniques offer a better understanding of the processes and their outcomes so they should be systematically used to provide relevant information for decision-making. This even makes more sense in a highly competitive environment (like in the hospitality industry). To implement these accounting methods and techniques, the accountants must be well informed and prepared. Investing in the accountants' knowledge should be a priority since it brings many benefits.

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JUSTIFICATION OF COST-VOLUME-PROFIT ANALYSIS IN CROATIAN MANUFACTURING ENTERPRISES

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Abstract

Cost-Volume-Profit (CVP) analysis examines the effects of changes in costs and a range of business activities on the company's profit. The basic assumption of the analysis is that if the selling prices are higher than the variable costs, an increase in the amount of production allows an increase in the coverage of fixed costs and ultimately profit realization. The break-even point is the point at which the total costs are equal to total revenues. It shows the level of production and sales in which the company covers its total costs at a specific selling price. Break-even analysis is an internal management tool used as an aid for business planning and short-term decision making. In this paper, the break-even point of a pastry shop is analyzed. The pastry shop provided data on its five best-selling products. The data showed that the largest total cost of production has product "p4" due to its highest fixed costs, while product "p5" represents the biggest gain. It is concluded that the pastry shop should increase *the production of this product. If an entrepreneur estimates that the coverage area is attainable, it continues with the production process; however, if the inability to produce a satisfactory range is assessed, the entrepreneur undertakes certain measures such as a reduction in a variable or fixed costs and an increase in the selling price. There is also a possibility of abandoning the production of a specific product or auditing a profit goal at a lower level.*

Keywords: *cost-volume-profit analysis, break-even point, the production range*

JEL Classification: G30, M41

1. INTRODUCTION

Cost behavior analysis examines how specific costs respond to changes in the volume of business activity. As expected, some costs change, while some remain unchanged. Knowledge of cost-volume-profit analysis helps you plan and decide between alternative management decisions. This analysis is an application of the marginal cost approach aimed at determining the relationship between cost, production volume, and revenue at different levels of activity (Belak, 1995: 236). It is also often referred to in the literature as Break-Even Point Analysis (Horngren et al., 2002; Chrysafis and Papadopoulos, 2009).

To make good business decisions, managers must monitor cost-related information as well as the results of decisions made to control and evaluate the success of their execution. The break-even point model is a useful analytical tool for determining economic impacts, which helps with planning and provides guidance on short-term business decision making. It shows the relationship between costs, revenues and financial results at different levels of activity, and identifies the level of production at which total costs are covered at a given sales price. The information provided by the analysis allows us to adapt quickly and effectively to market changes.

This paper aims to analyze cost behavior, i.e., the relationship between costs and revenues, to determine the break-even point and the possibilities for its application. Theoretical and practical aspects of break-even analysis will be clarified using the example of a pastry shop. Based on the data obtained, it will be determined to what extent each product participates in fixed cost coverage and income generation, as well as the level of production at which all costs are covered. The paper is divided into several sections. After the introductory part and a literature review there follows an analysis of the application of the break-even method by using a practical example of a pastry shop. Finally, the conclusions and recommendations for further research will be given at the end of the paper.

2. LITERATURE REVIEW

According to Belak (1995), different types of costs behave differently concerning changes in the amount of revenue, so these changes cause different shares of certain types of costs involved in revenue. From the above, it follows that for each product or service, there are different relationships between prices and costs. According to the same author, changes in the amount and structure of costs will cause changes in the amount of revenue and its structure and changes in the relationship between costs and revenues. This results in different profits.

CVP analysis examines the behavior of total revenues, total costs and operating income as changes occur in output levels, selling prices, variable or fixed costs (Bhimani et al., 2018: 240). CVP analysis is used to measure the economic characteristics of manufacturing a proposed product (Kee, 2007). The main uses of cost-volume-profit analysis are in performance measurement, stock valuation, control, and in the establishment of selling prices (Abdullahi et al., 2017). CVP analysis is increasingly being used in the budgeting process (Budugan and Georgescu, 2009; Bușan and Dina, 2009). Besides, Armean and Ardeleanu (2017) state that CVP analysis can be used in budget control to compare the budgeted sales, cost, volume and profit values to actual values.

The basic assumption of the analysis is that if selling prices are higher than unit variable costs, an increase in production volume enables an increase in fixed cost coverage and eventually income. The point where total costs equal total revenue is called the "break-even point". The break-even point is the production level at which total costs and total revenue are equal, i.e., the production level at which there is neither loss nor profit. It is also called the profitability threshold because it indicates an area in which a business remains profitable. The break-even point, observed for certain types of products or each product individually, represents their contribution to fixed cost coverage up to the break-even point. Production volume below the break-even point is expected to result in loss, while a higher level of production is expected to generate income (Anthony & Reece, 2004: 356). As expected, the break-even point is not of practical interest to profitable companies as they focus on profitability, which is well above the quantity and value of production at the break-even point.

After you cross over the break-even point, you enter the profit zone. The difference between revenues and variable costs is the contribution margin, which contains a portion to cover fixed costs and a portion to generate income. For this reason, the purpose of the cost-volume-profit analysis is to determine the extent to which each product type or each product participates in fixed cost coverage and income generation.

The results of this analysis allow managers and managerial accountants to choose between alternatives in terms of production volume and structure. Calculating the contribution margin for each type of product or each production center of responsibility is extremely important when making managerial decisions. As long as the contribution margin appears, there may be interest in maintaining the product or production center of responsibility.

There are several assumptions to be made in analyzing the break-even point (Bușan and Dina, 2009:106):

- revenue and cost changes resulting solely due to changes in the number of units of goods or services produced and sold;
- total costs can be decomposed into a fixed component that does not vary with production volume and a component which varies with the size of production;
- developments in total revenues and total costs are linear about volume production within a relevant period;
- selling price, the unit variable cost, and fixed costs are known and constant within a relevant period;
- analysis refers either to a single product, being assumed that the proportion of different products in total will remain constant as the change in the total number of units sold;
- all revenues and costs can be aggregated and compared without taking into account the time value of money.

In addition to these, other assumptions can also be made, such as stability of the general price level, unchanging labor productivity, the overall synchronization between production and sales is indisputable, and also the principle of readability costs (Ihemeje et al., 2015: 12).

2.1. Cost splitting in response to changes in activity level

The basic assumption of the model is the division of costs by activity level. The activity level is a measurable quantity that has a strong impact on the cost incurred. What is important to determine is how a single cost responds to a change in the activity itself. A unit of measure for a defined activity is called an activity base (for example, labor hours, units of production, units of sales, etc.).

Concerning the defined activity level, the costs can be fixed, variable and mixed. Fixed costs are costs that do not change as activity levels change. They are constant in total and are independent of the activity level. Fixed costs per unit decrease as activity levels increase.

Variable costs respond to changes in activity levels. They are directly related to the activity, and according to the intensity of their response, they are divided into proportionally variable costs (changing in proportion to change in activity level), progressively variable costs (changing faster than the change in activity level), and aggressively variable costs (changing slower than the change in activity level).

The total variable costs, in reality, consist of all three components, which makes it difficult to apply the break-even point model. For the model, all variable costs are assumed to be proportional to make the model as simple and transparent as possible. Variable costs in a total increase or decrease according to an increase or a decrease in activity level, while variable costs per unit are constant and do not respond to changes in activity level.

Mixed costs are costs that have characteristics of both fixed and variable costs. The application of the break-even point model requires a division into a fixed and a variable component.

2.2. How to calculate the break-even point

The break-even point can be calculated by using several methods, e.g. the mathematical equation, the contribution margin technique and graphic presentation (Weygandt et al., 2012, pp. 210-212).

The first approach to calculating the break-even point is the mathematical equation, and it is the simplest and basic mathematical model. The equation reads:

Required Sales – Variable Costs – Fixed Costs = Net Income

As already mentioned, the break-even point represents the level of activity at which all costs are covered and the profit is zero, and it is calculated as follows:

Required Sales – Variable Costs – Fixed Costs = 0

Selling Price x Quantity – Unit Variable Cost x Quantity – Fixed Costs = 0

$$Quantity = \frac{\text{Fixed Costs}}{\text{Selling Price} - \text{Unit Variable Cost}}$$

Another approach to calculating the break-even point is the contribution margin technique. The contribution margin indicates the portion of revenue left available to cover fixed costs and to generate income, which can be represented by the formula:

Contribution Margin = Required Sales – Variable Costs = Fixed Costs + Net Income

The contribution margin can be expressed in total or per unit:

Unit Contribution Margin = Selling Price – Unit Variable Costs

If we include the contribution margin in the mathematical model shown in the previous equation method, we obtain:

Contribution Margin = Fixed Costs + Net Income

Contribution Margin – Fixed Costs = Net Income

Unit Contribution Margin * Quantity – Fixed Costs = Net Income

The break-even point in units (expressed in quantitative terms) is calculated as follows:

$$\text{Quantity} = \frac{\text{Fixed Costs}}{\text{Unit Contribution Margin}} = \frac{\text{Fixed Costs}}{\text{Unit Selling Price} - \text{Unit Variable Cost}}$$

The contribution margin ratio shows the part of the revenue used to cover fixed costs and to achieve the desired income. It is useful for further analysis of the relationship between costs, output level, and income.

$$\text{Contribution Margin Ratio} = \frac{\text{Contribution Margin}}{\text{Revenues}}$$

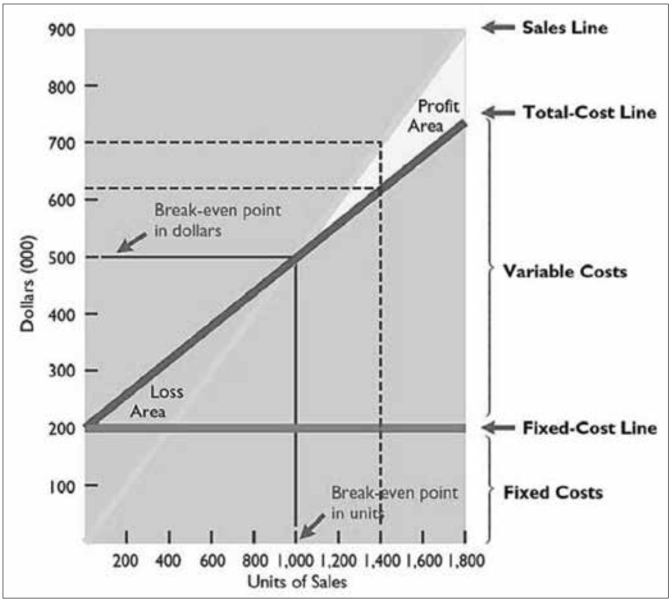
or

$$\text{Contribution Margin Ratio} = \frac{\text{Unit Contribution Margin}}{\text{Unit Selling Price}}$$

The third and final approach to calculating the break-even point is the graphical method. In the graphical method, we plot the total costs line and the total revenues line. Their point of intersection is the break-even point (Bhimani et al., 2018, p. 244).

The graphical method used for calculating the break-even point provides a concise and understandable picture of the relationship between costs and sales volume and their impact on income. The graph shows the information on sales revenue, income, total, variable and fixed costs, and it is applied when a simple overview is sufficient. The total cost line is the sum of fixed and variable costs. The sales revenue and the lines of the variable cost vary in direct proportion to sales volume, while fixed costs do not change for a particular range of business activity. Figure 1 shows the cost-volume-profit graph.

Figure 1: CVP graph



Source: Weygandt et al., 2012

The vertical axis shows costs and revenues in monetary units, whereas the horizontal axis shows the level of activity expressed in units of output. The fixed costs line is a straight line parallel to the horizontal axis because fixed costs are the same at each activity level. The total cost line is an upward sloping straight line that starts at the point where the fixed costs line touches the vertical axis and represent the sum of fixed and variable costs. The total revenue line is an upward sloping straight line that starts at the origin because no income is generated at zero activity level.

The cost-volume-profit relationship suggests that focusing on profit per unit (which differs for each production volume) is not useful for analyzing the underlying profit characteristics of a company, but rather it is necessary to focus on total fixed costs and the contribution margin (i.e., the difference between sales revenue and variable costs). Anthony and Reece (2004) outline the following four fundamental ways in which the profit of a company that produces only one product can be increased: an increase in the selling price, a decrease in variable unit cost, a decrease in fixed costs and an increase in sales.

3. COST-VOLUME-PROFIT ANALYSIS IN THE MANUFACTURING ENTERPRISE

The application of cost-volume-profit analysis will be shown by using an example of a pastry shop. It is a business that has been operating successfully since 2014 and has turned a profit every year. Because there is a large number of products in the product range, this paper analyzes only the 5 best-selling products, i.e., p1, p2, p3, p4, and p5. In what follows, we will calculate the unit cost of a product, i.e., we will calculate each product in the range. The structure of variable costs (raw materials), as well as fixed costs (overhead and labor costs) required for the production of a single sheet of desserts, will be presented.

Fixed costs will be calculated according to 2017 figures. For the calculation of fixed labor costs, under Article 21(2) of the Contribution Act (Official Gazette 84/08 - 115/16), we have used HRK 5,030.35, i.e., the prescribed contribution basis for the insured person, who is at the same time concerning the employer a member of the company management board or a company executive officer or a cooperative manager and in full-time employment. To ease calculations, the amount is rounded to HRK 5,035. The unit price of electricity of HRK 1.5 per kWh was calculated as follows: according to data provided by the pastry, the monthly electricity bill amounted to HRK 291 for the consumption of 200 kWh, which is HRK 1.5/kWh (HRK 291/200 kWh).

Approximately 1 liter of water is required for each product since water is used for dishwashing only. The price of one cubic meter of water is approximately HRK 50, i.e., the price per unit of water is HRK 0.05. Labor cost is calculated based on an average of 176 working hours. The following table shows the procedure for calculating the unit costs of products p1-p5.

Table 1. Product development calculation (in HRK)

Material costs (variable)												
Item	**Unit of measure**	**Unit price**	**Quantity p1**	**Quantity p2**	**Quantity p3**	**Quantity p4**	**Quantity p5**	**Unit cost (p1)**	**Unit cost (p2)**	**Unit cost (p3)**	**Unit cost (p4)**	**Unit cost (p5)**
Eggs	piece	1	10.00	20.00	15.00	2.00	5.00	10.00	20.00	15.00	2.00	5.00
Icing sugar	kg	20	0.50					10.00				
Sugar	kg	5	0.20	0.50	0.50	0.50	0.50	1.00	2.50	2.50	2.50	2.50
Flour	kg	3		0.50	0.30	0.60	0.60		0.45	0.90	1.80	1.50
Milk	l	5			1.00	1.20	0.40			5.00	6.00	2.00
Wafers	piece	8	0.50					4.00				
Cocoa	kg	60		0.01			0.01		0.60			0.60
Hazelnuts	kg	60		0.30					18.00			
Margarine	kg	15	0.35	0.35	0.35	0.35	0.35	5.25	5.25	5.25	5.25	5.25
Baking powder	piece	2		1.00	1.00	1.00	1.00		2.00	2.00	2.00	2.00
Chocolate	kg	50		0,4		0.4			20.00		20.00	
Lemon	kg	20	0.10		0.10			2.00		2.00		
Orange	kg	10	0.10					1.00				
Dried figs	kg	50	0.25					12.50				
Raisins	kg	35	0.25					8.75				
Vanilla sugar	piece	1.50	2.00		3.00			3.00		4.50		
Walnuts	kg	60	0.25					15.00				
Rum	l	70	0.05					3.50				
Poppy	kg	75			0.25					18.75		
Chocolate pudding powder	piece	2.5				4.00					10.00	
Sour cream	kg	22				0.20					4.40	
Cinnamon	piece	3					1.00					3.00
Cherries	kg	15					0.75					10.50
Oil	l	10					0,2					2.00
Cornstarch	kg	35					0.25					8.75
Cake topping	piece	5					3.00					15.00
Total variable cost								76.00	68.80	55.90	53.95	58.10
Other costs (fixed)												
Electricity	kWh	1.5	0.85	1.7	1.28	2.55	0.85	1.28	2.55	1.92	3.83	1.28
Water	l	0.05	1	1	1	1	1	0.05	0.05	0.05	0.05	0.05
Labor	hrs	28.61	0.5	1	0.75	1.5	0.5	14.31	28.61	21.46	42.92	14.31
Total fixed cost								15.64	31.66	23.43	46.80	15.64
TOTAL COSTS								91.64	100.46	79.33	100.75	73.74

Source: Authors, according to data provided by the pastry shop

The time required to manufacture product p1 is 30 minutes (0.5 h). Therefore, it takes half an hour to produce product p1, which implies 1.7 kW per hour, or 0.85 kWh in total.

Although the production of p1 is not time-consuming, it entails the highest cost of raw materials. The calculation gives the total cost of production of HRK 91.64. The price of one sheet of p1 is HRK 120. Next, there follows:

HRK 120 – HRK 91.64 = HRK 28.36,
28.36 / 91.64 = HRK 0.31.

One HRK invested in the production of product p1 resulted in a pre-tax profit of HRK 0.31.

It takes a total of 1 hour to produce product p2. If 1 hour is multiplied by a total consumption of 1.7 kW per hour, we obtain a total of 1.7 kWh. By adding up the costs related to raw materials and fixed costs, we get the total cost of producing a sheet of product p2, i.e., HRK 100.51. According to data provided by the pastry shop, the price of this product is HRK 155, from where it follows:

HR 155 – HRK 100.46 = HRK 54.54,
54.54 / 100.46 = HRK 0.54.

According to the data obtained, one HRK invested in the production of product p2 resulted in a pre-tax profit of HRK 0.54.

It takes a total of 45 minutes (0.75 hours) to produce product p3, and with a total consumption of 1.7 kW per hour, we obtain a total of 1.275 kWh, which is rounded to 1.28 kWh. Variable costs are HRK 55.9, while overhead and labor costs are HRK 23.43, which finally leads us to the total cost of producing a sheet of product p3, i.e., HRK 79.33. Since the selling price of one sheet of product p3 is HRK 125, this yields:

HRK 125 – HRK 79.33 = HRK 45.67,
45.67 / 79.33 = HRK 0.58.

One HRK invested in the production of product p3 resulted in a pre-tax profit of HRK 0.58.

It takes a total of 1.5 hours to produce product p4, and with a total consumption of 1.7 kW per hour, we obtain a total of 2.55 kWh. As p4 is a more time-consuming product than others included in this research, the cost structure entails a large proportion of fixed costs, such as labor and overhead costs.

The total cost of producing this product is HRK 100.75. The selling price of a sheet of product p4 is HRK 120. If we subtract the costs of raw materials and fixed costs from the total selling price of the product, a pre-tax profit is calculated as follows:

HRK 120 – HRK 100.75 = HRK 19.25,
19.25 / 100.75 = HRK 0.19.

Finally, one HRK invested in the production of product p4 resulted in a pre-tax profit of HRK 0.19.

It takes a total of 30 minutes to produce product p5, and with a total consumption of 1.7 kW per hour, we obtain a total of 0.85 kWh. In terms of time, the production of product p5 is in line with the production of product p1, and it contains certain costs related to raw materials and overhead and labor costs. Variable costs are HRK 58.1, while fixed costs are HRK 15.64, which finally leads us to the cost of product p5, i.e., HRK 73.74. The selling price of one sheet of product p5 is HRK 130, from which there follows:

HRK 130 – HRK 73.74 = HRK 56.26,
56.26 / 73.74 = HRK 0.76.

According to the above calculation, one HRK invested in the production of product p5 resulted in a pre-tax profit of HRK 0.76.

It can be observed that the highest total production cost is attributed to product p4, which can be justified by the fact that it takes the longest to produce that product (i.e., 1.5 hours), after which there follow products p2, p1, p3, and p5. If a pre-tax profit is observed for each product, the highest profit is made by product p5, which is followed by p2, p3, p1, and p4. Product p5 also has the highest profit per invested HRK, i.e., HRK 0.76, which is then followed by p3, p2, p1, and p4.

The following table shows the structure of both fixed and variable costs for one year.

Table 2. Fixed and variable costs for a one-year period

Month	1	2	3	4	5	6	7	8	9	10	11	12
FIXED COSTS												
Labor	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00	5,035.00
Contribution to the Chamber		228.00				228.00		228.00		228.00		
Bookkeeping	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00
Utility charges	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
Electricity	750.00	800.00	800.00	1,000.00	1,300.00	1,200.00	1,100.00	1,200.00	1,300.00	1,200.00	900.00	900.00
Water	300.00	350.00	300.00	400.00	500.00	400.00	400.00	350.00	400.00	300.00	300.00	350.00
TOTAL FIXED COSTS	6,427.00	6,755.00	6,477.00	6,777.00	7,177.00	7,205.00	6,877.00	7,155.00	7,077.00	7,105.00	6,577.00	6,627.00
VARIABLE COSTS												
Costs related to raw materials	4,400.00	5,200.00	5,400.00	8,000.00	9,200.00	11,000.00	7,000.00	14,000.00	8,500.00	8,500.00	4,500.00	4,000.00
Other costs (maintenance)	150.00			200.00			300.00		150.00			100.00
TOTAL VARIABLE COSTS	4,550.00	5,200.00	5,400.00	8,200.00	9,200.00	11,000.00	7,300.00	14,000.00	8,650.00	8,500.00	4,500.00	4,100.00

Source: Authors, according to data provided by the pastry shop

The total fixed cost for the 12 months is HRK 82,236, and it consists of labor costs, Chamber contribution, bookkeeping costs, utility charges, and electricity and water consumption-related costs. Variable costs include costs related to raw materials and other materials and other costs like maintenance costs, amounting to HRK 90,600 for one year. Table 3 below shows a calculation of the break-even point for each product.

Table 3. Calculation of the break-even point (expressed in HRK)

	P1		P2		P3		P4		P5	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Selling price (sheet)	120	100	155	100	125	100	120	100	130	100
Variable unit cost	76	63	68.80	44	55.90	45	53.95	45	58.10	45
CONTRIBUTION MARGIN	44	37	85.20	55	69.10	55	66.05	55	71.90	55
Fixed costs	15.64	13	31.66	20	23.43	19	46.80	39	15.64	12
INCOME	28.36	24	53.54	35	45.67	36	19.25	16	56.26	43
BREAK-EVEN POINT	42.27	35	57.56	37	42.60	34	85.09	71	28.44	22

Source: Authors, according to data provided by the pastry shop

Cost analysis resulted in a minimum level of production and sales at which all costs of the business entity were covered. Table 3 gives the break-even point calculated utilizing contribution margin. It shows which portion of revenue is available to cover fixed costs and eventually generate income. According to data provided by the pastry shop, it can be concluded that the shop uses 45% of its revenue to cover variable costs for products p3, p4, and p5, thus leaving 55% for covering fixed costs and generating profit. On the other hand, for product p1, the pastry shop uses as much as 63% to cover variable costs and 37% to cover fixed costs and generate profit.

4. CONCLUSION

CVP analysis is said to be a useful tool in managerial accounting for making short-term managerial business decisions such as determining selling prices and a product mix. The break-even point represents the point of business at which a business entity covers its expenses by revenue generated by the sales of its products. The owner of each business entity must understand this point because the production below and above that point implies a loss-making and a profit-making business, respectively. The necessary calculations were made in the paper and it was concluded that sufficient sales were made to cover all costs. However, one should be cautious when drawing conclusions based only on CVP analysis. Main limitations arise from assumptions that have to be made to conduct the analysis, primarily constant selling price, unit variable, and fixed costs, as well as from total costs segregation into fixed and variable components. Besides, not only volume affects costs. Inflation, improvement in efficiency, as well as technological improvements can influence their level. Further research should include other types of products that contribute to income generation to get a more realistic picture of the overall business of the pastry shop. If an entrepreneur or manager estimates that the real sales opportunity is much higher than the minimum required, he/she moves on with the production planning process. However, if it is assessed that the company is not able to produce and sell a satisfactory volume exceeding the minimum required level, the company takes certain measures. These measures may include a reduction in variable costs such as costs related to raw materials (e.g., by selecting more favorable suppliers), a reduction in fixed costs (by reducing labor costs, bookkeeping costs, etc.), and a selling price increase, assuming, of course, that there are possibilities of achieving the aforementioned. If the company can effect change, the process of calculating the break-even point should be repeated based on new information. On the other hand, if there is no possibility of reducing variable or fixed costs or increasing the selling price, the entrepreneur is advised to explore other options, quit the production of the product or revise the desired profit to a lower level.

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Economic Development, Technological Change, and Growth

ATTITUDES AND PREFERENCES OF DIFFERENT CONSUMER GENERATIONS TOWARDS THE INTERNET AND MOBILE BANKING IN THE REPUBLIC OF CROATIA - EMPIRICAL RESEARCH

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Abstract

Internet and mobile banking represent a modern approach to consumer-bank interaction. The use of these services entails numerous benefits and benefits for the consumer. Investing in the development of more modern and better solutions for the use of the Internet and mobile banking is an important determinant for the bank, which builds competitive advantage and lowers operating costs. The paper analyses the behavior of consumers from the perspective of different consumer generations, as well as from the aspect of different levels of education of market segments in banking, and their satisfaction, preferences, and attitudes about Internet and mobile banking services. This paper aims to examine and establish the strength of the connection between the consumer generations and the *use of the Internet and mobile banking services by consumers in the Republic of Croatia and to confirm or reject the hypothesis that consumers with a higher level of education, compared to all other consumer groups, account for the largest share in the total population which uses new technologies in banking. The empirical research in this paper shows that consumers consider the Internet and/or mobile banking to be the future of consumer interaction with the bank, e.g. both research hypotheses can be accepted. In other words, the authors conclude that there is a correlation between consumer generations and the use of the Internet and mobile banking services and that consumers with higher levels of education use the Internet and mobile banking to a larger extent. The paper outlines new trends and tools in the banking industry, most notably FinTech and gamification, which are based on a strong link between the IT industry and the banking industry.*

Keywords: *banking, new technologies in banking, Internet banking, mobile banking, consumer generations, FinTech, gamification*

JEL Classification: M31, M37

1. INTRODUCTION

There are not many inventions that have altered banks' operations at the same speed as the electronic banking revolution. The electronic banking revolution has enabled banks to expand borders and change strategic behavior, which brings new opportunities for consumers. From consumers, the biggest advantage of electronic banking is in the transparency of the market, i.e. consumers can more easily compare the services of different banks. From the banks' point of view, the use of the Internet in banking has reduced the costs related to physical and operational business management. (Chavan, 2013)

The introduction of new technology into the banking sector began in the 1950s, while it was not until the 1970s that technology became a common and standard segment of the banking industry. (Goswani, 2018)

Internet and mobile banking are part of the overall banking services covered by the umbrella term "electronic banking". The development of mobile commerce has influenced the development of Internet and mobile banking services and the emergence of new applications. Parallel to the development and availability of different applications, users are becoming more demanding in the context of expectations from the Internet and mobile banking. Product and service utility and customer experience are becoming increasingly important aspects of the development of new banking services. The pursuit of the best possible customer experience is becoming an increasingly important activity for the bank. One of the biggest obstacles to developing a better customer experience for consumers is the need to ensure and maintain a high level of security and privacy for consumers within the Internet and mobile banking service. (Svilar and Zupančić, 2016)

Internet banking is a service that allows consumers to access their bank accounts online, where they can check their account balances and make various bank transfers such as paying bills or transferring funds to another legal or natural person. Internet banking service is available to all legal and natural persons. This service provides access to bank accounts anytime, anywhere, and requires certain prerequisites. These are primarily user authentication information for users to access the service, concluded Internet banking service and Internet access. To ensure a high level of consumer security, the Internet banking service has been developed on an infrastructure that complies with international information security standards. (Dragos et al., 2010)

Mobile banking is defined as the latest service within electronic banking and is a tool for managing bank accounts through a portable device. Mobile banking is an alternative to Internet banking, further simplifying access to bank accounts and performing various transactions. Mobile banking is a fast, secure and efficient service. Consumers access their bank accounts through mobile phones or other portable devices (such as tablets). Consumers can check their bank account balances or make various transactions through their mobile banking services. To access the service, you need to authenticate yourself with your username and password, PIN, or other means of verifying your user identity. Some of the benefits of using a mobile banking service are convenience and accessibility, lower costs, time savings. Some of the disadvantages of using a mobile banking service are related to the additional cost of a subscription to the service and increased use of the Internet on portable devices. (Dragos et al., 2010)

The subject of this paper is the analysis of the acceptance and use of the Internet and mobile banking service in the context of consumer marketing models in the Republic of Croatia.

Slootweg & Rowson (2018: 86) state: "All generations are influenced and affected differently by marketing". Currently, as authors state, most marketers "see the 7 billion inhabitants of the world as divided into different groups based on the year they were born." (Slootweg & Rowson, 2018, 86) Therefore, they suggest that in the early 21st century, "online marketing approaches need to focus on specific target groups, and often the best way to reach this is by age group" (Slootweg & Rowson, 2018: 85) Rowson (2016, cited in Slootweg & Rowson, 2018: 86) suggested that "people's personalities, norms, and values are influenced according to when in history they were born."

According to this consumers' generation concept, the paper explores the acceptance and the extent to which innovative Internet and mobile banking services are used across generations. The continuous development of technologies has made a significant impact on the banking sector, where services such as the Internet and mobile banking are turning points in business and consumer relations. Certain specificities in consumer behavior and the results of empirical research related to specific generations of consumers are outlined. Also, empirical research aims to investigate the correlation of consumer behavior and innovative services offered by banks in the Republic of Croatia from different perspectives.

The paper defines two research hypotheses that, by using the results obtained from the empirical research conducted, seek to confirm or reject:

H1 - There is a connection between consumer generations and the use of the Internet and mobile banking services.

H2 - Consumers with higher levels of education are more likely to use the Internet and mobile banking.

Both hypotheses will be proved by a qualitative analysis of the data obtained from the primary research.

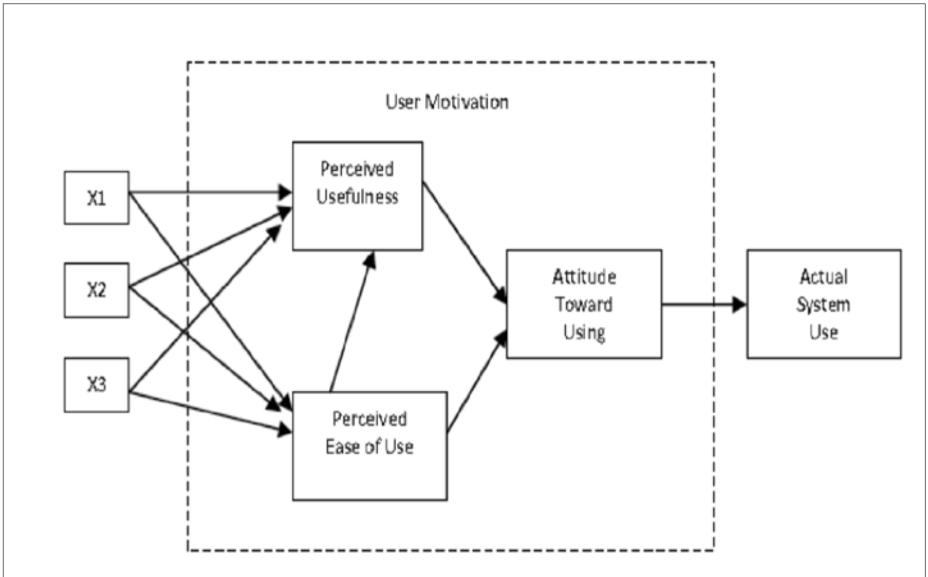
The aim of the research in this paper is to identify the correlation between different consumer generations and the use of modern banking services, primarily the Internet and mobile banking, and to confirm or reject the research hypotheses of the paper accordingly.

2. THE CONSUMERS' ATTITUDE TO USE NEW TECHNOLOGY AND TAM MODEL

The Technology Acceptance Model (TAM) was developed by Fred Davies in 1986. The TAM model is aimed at indicating the consumer's attitude about the intention to use a particular technology or service. The model has been widely accepted and applied to analyze the acceptance and use of new technology or service by consumers. Bertrand and Bouchard (2008), as cited in the paper by Omwans and Mwololo (2012), define several meta-analyses that confirm the fact that the TAM model is a valid, robust and powerful model for predicting consumer acceptance of new technology or service.

The TAM model considers economic, demoChartic and other common variables. Therefore, a large number of researchers have expanded the basic model in their work by adding new variables such as perceived risk, perceived cost, perceived safety, degree of compliance with lifestyle, and various other variables. (Shaikh & Karjaluoto, 2015, as cited in Pavlović & Savić, 2017) Figure 1 shows the TAM model, which establishes a correlation between external variables as key factors in studying the adoption of new technology. External variables in the schema are defined as X1, X2, and X3. (Omwansa and Mwololo, 2012)

Figure 1. TAM model according to Davis, 1989



Source: Author's creation according to Omwansa and Mwololo, 2012; Davis; 1989

Perceived usefulness, perceived ease of use, and attitude toward use are the dimensions used in the study of consumer adoption of new mobile services, and the research findings confirmed the results of studies conducted using the TAM model. The TAM model assumes that consumer acceptance of new technology or service is determined by the user's intention to use the technology, while perceived usefulness and perceived ease of use may predict the intention to use by the consumer. Besides, the TAM model states that perceived ease of use has a direct impact on perceived usefulness. (Omwansa and Mwololo, 2012)

3. CONSUMER GENERATIONS AND MODELS OF CONSUMER BEHAVIOR

Each consumer generation has unique needs, expectations, experiences, values, demoChartic characteristics, and lifestyles that influence its behavior and decision making when purchasing products and services. To meet the needs and desires of different consumer generations, companies apply the practice of multi-generational marketing. Multi-generational marketing is an activity focused on the unique needs and behaviors of individuals within several specific generational groups. The term generations imply a group of individuals who are born and live in the same period and experience similar events in a similar age or share a common historical, social, political and economic environment. The following sections outline the basic features of consumer generation models by chronology. (Williams and Page, 2011)

Table 1. Consumer Generations

GENERATION	YEAR OF BIRTH	AGE in years (2019)
"Pre-Depression Generation"	Before 1930	90 or more
"Depression Generation"	Year 1930 – 1945	74 – 89
Generation "Baby boom"	Year 1946 – 1964	55 – 73
Generation "X"	Year 1965 – 1976	43 – 54
Generation "Y"	Year 1977 – 1994	25 – 42
Generation "Z"	After 1995	24 or less

Source: Author's creation according to Williams et al., 2010

3.1. Pre-Depression Generation and Depression Generation

Initially, it is important to emphasize that pre-depression and depression generations are not considered relevant to the empirical research conducted by this paper because of their age. Only the basic characteristics of these two generations, which preceded the new generations, are listed here as being relevant to the subject of the research.

The generation before the Depression is also called the generation of veterans, a G.I. generation, and a World War I generation. Members of this generation were born before 1930 and are 90 years of age or older in 2019. The generation before the Depression was marked by traumatic times, rising unemployment and economic conflicts. The most significant events for this generation were WWI and WWII. (Bailor, 2006; Dietz, 2003; Fishman, 2004; Hawkins et al., 2010, cited in Williams et al., 2010)

The pre-Depression generation prefers print media such as newspapers and magazines. Communication in this generation should be direct and personal and few members of this generation use the Internet. (Rosenburg, 2008; Ford, 2006; Posnock, 2004 as cited in Williams and Page, 2011)

The Depression Generation is also called the Silent Generation, the Swing Generation, and the Traditionalists. Members of this generation were born in the period from 1930 to 1945, and in 2019 they are aged 74 to 89 years. Members of this generation were children during the Depression or World War II. They experienced a mature life in the 1950s and 1960s when members of that generation participated in the rise of the middle class, the process of industrialization, suburban development and developed social security. (Bailor, 2006; Eisner, 2005; Dietz, 2003; Gorrell, 2008; Hawkins et al. 2010, cited in Williams et al. 2010)

Products and services intended for members of the Depression Generation should be characterized by simplicity, convenience, accessibility, ease of use, and support and service as key features of the product and service. (Moore et al., 2008 as cited in Williams and Page, 2011)

3.2. Baby Boom Generation

Members of the "Baby Boom" generation are also called "Baboo", "Me" generation and the generation of love. They were born in the period between 1946 and 1964, and in 2019 they are aged 55-73. Members of the "Baby Boom" generation were born at a time of the dramatic increase in births between the end of World War II and 1964. (Hawkins et al, 2010; Gorrell, 2008 as cited in Williams and Page, 2011) In marketing activities to this generation, efforts should be made to build value for products and services, as baby boomers are not sensitive to changes in prices if they believe they are getting a quality product or service in return and the expected value. (Wong, 2010 as cited in Williams and Page, 2011)

More than 70% of the Baby Boom generation use the Internet as a means of communicating and obtaining information about products and services. The general acceptance of mobile technology by this generation is high, but it has limited use and understanding of features that rarely go beyond the basic options available to a mobile device. (McLeod, 2009 as cited in Williams and Page, 2011)

3.3. Generation "X"

Members of the "X" generation were born in the period 1965 to 1977 and today, in 2019, are 43 to 54 years old. Members of this generation have reached adulthood during difficult economic times. (Regnier, 2009, as cited in Williams and Page, 2011)

Milić (2018) states: "The core values of this generation are skepticism, fun, and informality. Their social activity takes place via mobile phones which means "call me only at work". This generation's interactive style is entrepreneurship."

Golubić (2017) claims that Generation X is ready to try out products from different and even new brands, but states that members of this generation can very easily become loyal to a particular brand because they are exposed to numerous media. For this reason, according to one author, "it can be very difficult to influence their consumer behavior precisely because they are cynical and skeptical and often seek alternative products." (Golubić, 2017)

Traditional means of communication, such as television, are not enough to attract the attention of members of this generation. In the process of marketing communication with the "X" generation, it is important to seek regular feedback on satisfaction with the use of the product or service. Multimedia tools, oral communication, and social activities, in addition to the Internet and electronic mail, have significant effects on this generation of consumers. (Williams and Page, 2011, as cited in Kilic et al., 2016)

3.4. Generation "Y"

Members of the "Y" generation were born in the period from 1977 to 1994 and today are 25 to 42 years old. Also called the Millennial Generation (Millennials). Members of this generation are descendants of the Baby Boom generation. The traits and lifestyles of the Y generation are linked to a technological, electronic and wireless society with transparent global boundaries. (Hawkins et al., 2010; Dietz, 2003, as cited in Williams and Page, 2011)

Golubić (2017, as cited in Filipović, Kraljević, 2017: 6-7) states: "Millennials define themselves as sophisticated buyers who are resistant to commercial advertising." The same author explains his claim that, as a rule, millennials have a higher level of education and are more technologically educated than previous generations. But he also points to their different views of behavior, values, lifestyle, and ethnicity. They grew with new information technologies, especially the Internet, but mobile technology and social networks, however, can easily adapt to this technology, but I also use multiple devices. (Golubić, 2017).

Some of the main features of this generation are independence and self-assurance and easy adaptation to changing situations. From a psychological perspective, Generation Y has a high sense of self-esteem and members of this generation have the potential to quickly adapt and learn. (Anantatmula and Shrivastav, 2012, as cited in Kilic et al., 2016)

3.5. Generation "Z"

Babić (2018) classifies people who were born after 1995 as members of Generation Z. He states that this is the youngest generation, which is largely similar to millennials, but as the author says, "still different in character". He states that Generation Z is the first generation that did not live in the non-IT world (Babić, 2018), and classifies them as a certain "continuation" of the millennial generation. That's why, as the author states, they spend more time online and on social networks than millennials.

The Z values of the generation are manifested in individuality and realism. Members of the generation are confident, optimistic and know their responsibilities. (Williams and Page, 2011, as cited in Kilic et al., 2016) For members of this generation, Antonić (2017) states: "While social networks are used to keep up with global news and connections, they are mostly used to develop and maintain relationships with the people we are close to. The use of social networks is embedded in the daily lives of most Generation Z members who have access to mobile technology." The author adds that increased use of mobile technology has caused most Generation Z members to spend more time on smartphones and social networks and, as the author claims, "it has led to the development of online connections becoming a new general norm." (Antonić, 2017)

4. USING INTERNET AND M-BANKING IN DIFFERENT MARKETING GENERATIONS - LITERATURE OVERVIEW

Existing literature states that culture, lack of security and trust, and the questionable usefulness of Internet technology are among the dominant factors affecting the adoption of online banking among consumers. The conducted research has concluded that the benefits, benefits of technology and adaptability of the system are determinants that affect the level of customer acceptance of new technology. (Kolodinsky et al. 2004, as cited in Perkins and Annan, 2013)

A study by Amin (2009) found that the factors that influence a consumer's decision to accept or decline the use of an online banking service are related to the usefulness, comfort of use, reliability and social norms that are significant factors in adopting new technology. Besides, it was concluded that the alleged enjoyment of use did not play a significant role in the process of adopting new banking technology in consumer behavior. (Perkins and Annan, 2013)

Numerous authors (Laukannen and Lauronen, 2005; Pavlović and Savić, 2017) claim that the issue of security is a major cause that prevents consumers from adopting a mobile banking service, while some (Nie & Hu, 2008) add that "comparing with Internet banking, mobile banking is more secure and user friendly". Security is about protecting consumers while using a mobile banking service. In their research, Laukkanen, and Lauronen (2005) state that there are three essential consumer requirements that relate to mobile banking security:

- Connection encryption to protect the transmission of sensitive and personal information,
- Access to data before use should be authorized,
- Authorization must be easy.

When consumers trust the security of conducting transactions through a mobile banking service, they are more likely to adopt and use it regularly. (Laukkanen and Lauronen, 2005, as cited in Pavlović and Savić, 2017).

The use of the Internet and m-banking services has been researched in the last 15 years, and they originate in the field of consumer behavior in Internet banking.

Table 2 shows an overview of selected recent research in the area, in addition to the aforementioned research.

Table 2. Selected recent research into the use of m-banking and Internet banking by different marketing generations

AUTHOR(S)	YEAR	RESEARCH AREA
Howcroft et al.	2002	Consumer attitudes towards bank delivery channels with the emphasis on the adoption of home-based banking
Heaney	2007	Internet banking behavior and perceptions of Generation X and Y in Australia
Singh & Morley	2009	Younger people's use of Internet banking in Australia and their perceptions of privacy, security, and trust
Foscht et al.	2009	Factors influencing the satisfaction, loyalty and behavioral intentions of the members of Generation Y with regards to their banking needs
Wessels & Drennan	2010	The key motivators and inhibitors for consumer acceptance of mobile phone banking
Kang et al.	2012	Test of a theoretical model that explains sustained use of mobile banking services
Aqwu	2012	The use of the Internet and Internet banking by Generation X and Y in Nigeria
Miah	2013	A predicted framework for global Internet Banking in the context of upcoming generations
Tan & Leby Lau	2016	The intention to adopt mobile banking services among Generation Y consumers
Deventer et al.	2017	The Generation Y students' attitudes toward a usage behavior of mobile banking in South Africa
Farah et al.	2018	Important factors of consumers intention and use behavior in mobile banking adoption

Source: authors' research

5. EMPIRICAL RESEARCH

5.1. Methodological research framework and sample characteristics

The survey was conducted in the period from 18.10.2018 to 20.02.2019 by a random sample method over the population of the Republic of Croatia. The survey was based on a questionnaire. When conducting the empirical research, a survey questionnaire was created using the online tool "Google Forms" which provides a random sample. A total of 305 residents of the Republic of Croatia have completed this anonymous survey.

When researching the professional literature regarding the marketing division of generations, it was noticed that different authors define the divisions among generations of consumers differently. The authors of this paper have not opted for any previously defined classification of consumer generations. In empirical research, the authors defined new generation classes that were thought to offer a more accurate and adequate solution to the research problem. It is the author's model by which they determine the age limit of consumers' generations for which they consider that the best way to correspond to the set research problem.

The research instrument (questionnaire used) was created based on the research of existing literature and the set research objectives. Also, the TAM model was taken into account so that the structuring of the question was based on its concept: that of Perceived Usefulness and Perceived Ease of Use are the main factors influencing Attitude towards using the Internet and mobile banking. This is especially true on the question that relates to the provided claim: "I find Internet and/or mobile banking easy to use." and "I find Internet and/or mobile banking a great option." which is mainly related to utility. Likewise, a section of the research used a recommendation from Miah (2013) that suggested that research should be based on the concept that consumer behavior was "to be segmented in terms of demographic (age, sex, income, education, etc.)".

According to the results of empirical research, it was concluded that the sample was quantitatively dominated by female members relative to the male gender. The sample included 244 female respondents, while the number of male respondents was 61, or 80% of the sample were female respondents, while the remaining 20% were male. The results of the survey indicated that 53% of the respondents had completed secondary education, which means that they completed high school at the time of completing the questionnaire. Higher education completed, which implies completion of any higher education degree at the time of completion of this survey, has 46% of respondents in the sample. Only 1% of respondents in the sample have completed basic education, which implies completed primary school.

Following the facts presented above and the table in Table 2, it is concluded that the sample was dominated by female respondents, aged 18 to 28 who have completed secondary education. It is this quantitatively largest group in the sample that influenced the results of this study.

Table 3. Structure of respondents by age groups

Respondents age when completing the survey	N (number of respondents)	The average share of the age group in the sample (in %)
From 18 to 28	157	51,50
From 29 to 43	81	26,60
From 44 to 58	58	19,00
From 59 to 73	9	2,90
Total	305	100

Source: Author's creation according to the results of empirical research

5.2. Research results

The following section analyses the results of empirical research related to the use of the Internet and/or mobile banking services.

Table 3 shows the data obtained by empirical research related to the use or non-use of the Internet and/or mobile banking services by consumers. According to the data presented in Table 3, it is concluded that 259 respondents from the sample use the Internet and/or mobile banking service, 45 respondents do not use the Internet and/or mobile banking services at all, while 1 sample respondent did not answer the question. According to the results shown in Table 3, it is further concluded that on average, the highest proportion of respondents in the analyzed sample, or 84.92% of them, use the Internet and/or mobile banking services, while 14.75% of respondents stated that they did not use either one of the services listed.

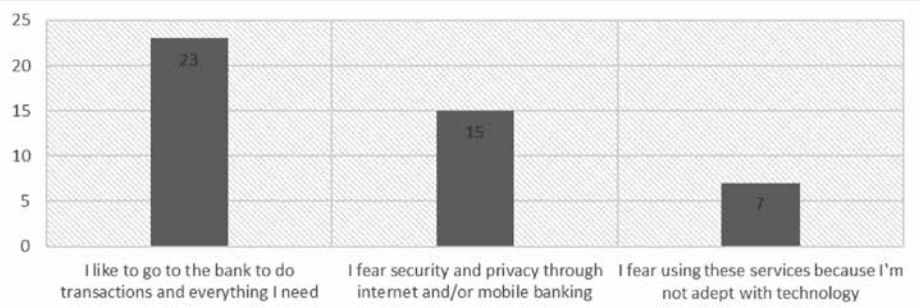
Table 4. Sample structure by use of the Internet and/or mobile banking services

Use of the Internet and/or mobile banking services	N (number of respondents)	Share of the group in the sample (in %)
Yes	259	84,92
No	45	14,75
Unknown	1	0,33
Total	**305**	**100**

Source: Author's creation according to the results of empirical research

Chart 1 lists the motives of 45 respondents, or 14.75% of the total sample, who do not use the services listed.

Chart 1. Motives for not using the Internet and/or mobile banking services (N = 45)



Source: Author's creation according to the results of empirical research

According to the results presented in Chart 1, three main motives can be identified, i.e. the reasons that influenced the decision of the respondents covered by the sample not to use the Internet and/or mobile banking services. The results of the study confirmed the findings of the professional literature, which cites consumer fear as an important factor in accepting the use of the Internet and/or mobile banking.

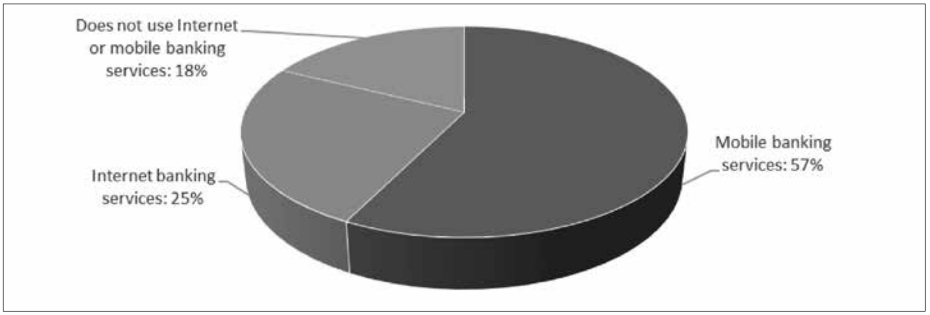
Table 5. Method of access to banking services by respondents

How do you most commonly get the services you want from the bank?	N (number of respondents)
Physical visit to the branch office	36
Combination of the Internet and mobile banking services	69
Mobile banking services	82
Internet banking services	57
ATM	61
Total	**305**

Source: Author's creation according to the results of empirical research

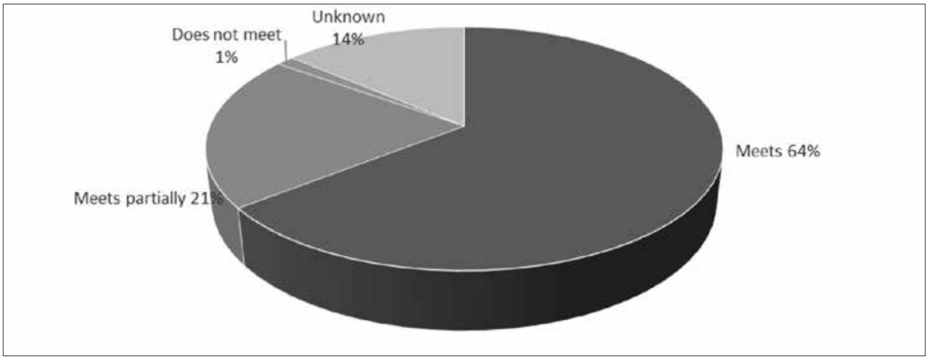
According to the results of the survey presented in Table 5, it is concluded that the largest number of respondents accessed the required services towards the bank through the mobile banking service (82). This is followed by a combination of Internet and mobile banking services (69) and an ATM (61). According to the sample of respondents, it can be concluded that out of a total of 305 respondents, 208 use the Internet and/or mobile banking as the primary channel of communication and use of banking services. It can be said that 68.2% of the consumers in the analyzed sample prefer Internet and/or mobile banking service as the primary method for obtaining the desired service by the bank.

Chart 2. The ratio of use of the Internet and mobile banking services



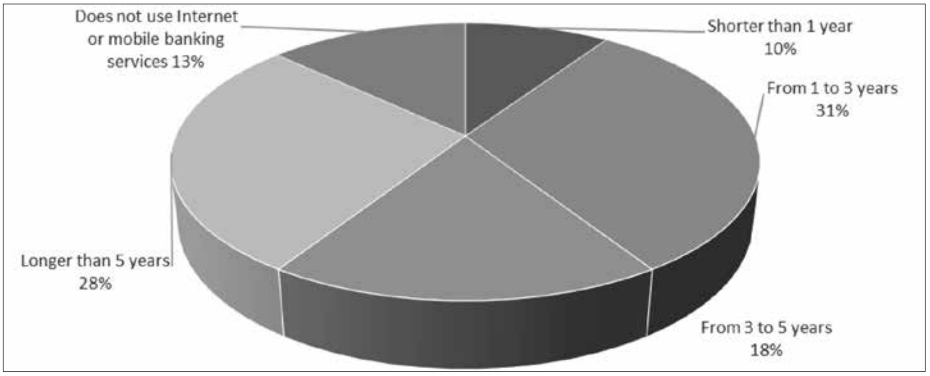
Source: Author's creation according to the results of empirical research

Chart 3. Satisfaction and fulfillment of requirements/expectations with services



Source: Author's creation according to the results of empirical research

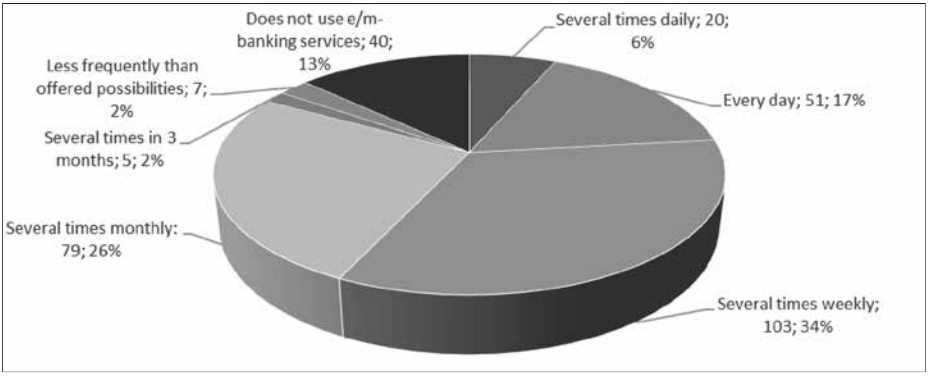
Chart 4. Length of time used for Internet and/or mobile banking



Source: Author's creation according to the results of empirical research

Summarizing all the insights presented in Charts 2, 3 and 4, we can conclude: Respondents access their bank's electronic services primarily through mobile banking, while Internet banking is used as ancillary service. A significant proportion of respondents (over 50% of the sample) are satisfied with the Internet and/or mobile banking services and have the expectations and needs that they expect from these services. The sample was dominated by respondents using the Internet and/or mobile banking for 1 to 3 years, followed by respondents using these services for over 5 years. The scale in chart 3 is created in a way to make graduation of the category "Satisfaction and fulfillment of requirements/expectations with service", which is why it is divided into three main categories: *satisfied*, *partially satisfied* and *dissatisfied*.

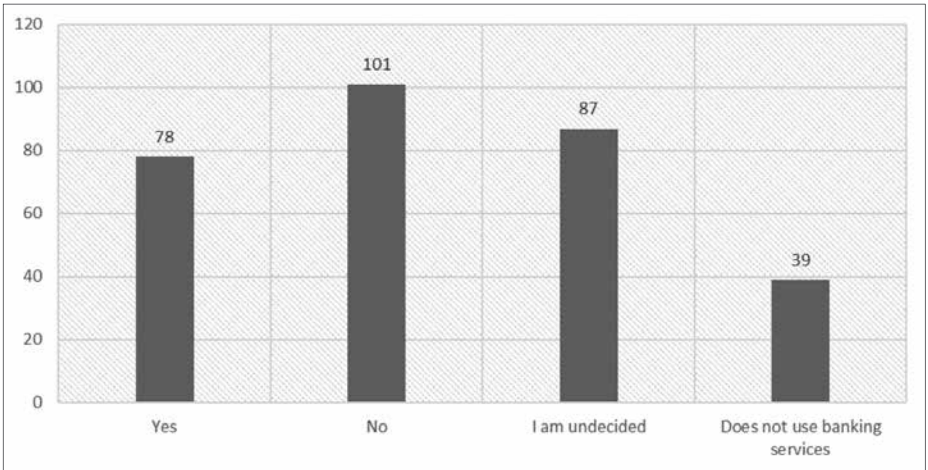
Chart 5. Frequency of Internet and/or Mobile Banking



Source: Author's creation according to the results of empirical research

According to the data in Chart 5, it can be concluded that over 1/3 of the respondents who used the survey use Internet and/or mobile banking services several times a week, followed by a group of respondents who use these services several times a month (79 of them) and 51 respondents who use these services daily.

Chart 6. Respondents' willingness to change their bank in case of change of fees for Internet and/or mobile banking service



Source: Author's creation according to the results of empirical research

The results in Chart 6 relate to the willingness of the respondents to change the bank should a competing bank offer Internet and/or mobile banking services at a lower cost. The results show that 101 respondents would not be ready to change the bank should this fee increase, while 78 respondents would be prepared to do so. 87 respondents could not decide on any of these options at the time of completing the survey.

Table 6. Respondents' views on the claims offered

PROVIDED CLAIM:	Agree	Partially agree	Disagree	Does not use banking services	TOTAL
I find the Internet and/or mobile banking a great option	232	30	2	41	305
Percentages	76%	9.8%	0.7%	13.5%	100%
I find the Internet and/or mobile banking easy to use	223	32	5	45	305
Percentages	73.1%	10.5%	1.6%	14.8%	100%
In case of a monthly fee for Internet and/or mobile banking, I would continue to use the service (s)	102	127	32	44	305
Percentages	33.4%	41.7%	10.5%	14.4%	100%
I consider the Internet and/or mobile banking to be the future of client-bank interaction	196	55	10	44	305
Percentages	64.3%	18%	3.3%	14.4%	100%

Source: Author's creation according to the results of empirical research

Table 6 lists the claims related to the Internet and/or mobile banking and the respondents' answers to them. The scale in the table is created in a way to make graduation of the claims offered. The claims offered to refer to the usefulness and ease of use (according to the TAM model), loyalty to this type of banking, and an attitude about this type of banking as the future of banking. Respondents mostly agree with the assertion that the Internet and/or mobile banking is an excellent, easy-to-use option and consider these services to be the future of customer-bank interaction. In the statement regarding the possible increase in the cost of using these services related to the motivation to use, most respondents partially agree to continue using these services further.

According to the information in Table 7, which outlines some of the basic services that can be provided using the Internet and/or mobile banking services, different conclusions can be drawn. An important limitation related to the interpretation of the data presented in Table 7 relates to the inconsistency of the respondents in answering the claims, therefore the credibility of the lessons learned arising from this question is questionable. Also, the research in this question did not consider the option when the user uses both e-banking and m-banking as additional questions about the scope and content of each of these digital banking services be needed. However, it can be a useful guideline for future research.

Consumers use mobile banking services primarily to transfer funds and make various payments and purchase GSM vouchers. The respondents from the sample are managing the standing orders equally through the Internet and mobile banking. Few consumers research bank offers and invest in funds or savings and do such activities using Internet banking.

Table 7. Way of performing required activities

The way consumers perform required activities	Through Internet banking services (e-banking)	Through mobile banking services (m-banking)	I do not use the listed option	Does not use banking services	TOTAL
Transfers between accounts (e.g., $ 100 payment to Ana Anić)	74	165	16	50	305
Percentages	24.3%	54.1%	5.2%	16.4%	100%
Transfers between own accounts (e.g., $ 100 transfer from one's current account to one's giro account)	73	156	25	51	305
Percentages	24%	51.1%	8.2%	16.7%	100%
Paying bills (e.g. overhead)	88	131	39	47	305
Percentages	28.9%	42.9%	12.8%	15.4%	100%
Paying orders from web store	96	119	29	61	305
Percentages	31.5%	39%	9.5%	20%	100%
Purchase of GSM vouchers	36	83	100	86	305
Percentages	11.8%	27.2%	32.8%	28.2%	100%
Create and manage a standing order/direct debit order	75	76	81	73	305
Percentages	24.6%	24.9%	26.5%	24%	100%
Research on the bank's offerings and products	79	73	76	77	305
Percentages	25.9%	24%	24.9%	25.2%	100%
Investing in funds or savings	59	50	110	86	305
Percentages	19.3%	16.4%	36.1%%	28.2%	100%

Source: Author's creation according to the results of empirical research

5.3. A critical review of research findings and validation of hypotheses

The conducted empirical research yielded some of the expected results. The survey found that as many as 84.92% of respondents use the Internet and/or mobile banking. The study concluded that as many as 68.2% of sample respondents use the Internet and/or mobile banking as the primary channel for accessing banking services, which suggests that the rate of acceptance of new technology in sample banking by respondents is relatively high. Furthermore, 64% of the sample surveyed are satisfied with the Internet and/or mobile banking service and are more likely to use mobile banking. Over 1/3 of the respondents (103 respondents) use the Internet and/or mobile banking service several times weekly, while only 51 respondents use these services daily. Respondents believe that the Internet and/or mobile banking is a great option that is easy to use and represents the future of customer interaction with the bank. According to data presented in the empirical research, it can be concluded that consumers use mobile banking services primarily to transfer funds and make various payments and to buy GSM vouchers, while Internet banking is used to a lesser extent.

The paper defines two research hypotheses that are intended to be confirmed or rejected using the results obtained from the empirical research conducted.

H1 - There is a connection between consumer generations and the use of the Internet and mobile banking services.

H2 - Consumers with higher levels of education are more likely to use the Internet and mobile banking.

According to the results of the research, both research hypotheses can be confirmed.

The age group of respondents from 18 to 28 years accounted for 51.50% of the sample of respondents and was predominantly influenced by the fact that 84.92% of respondents use the Internet and/or mobile banking services. Furthermore, the mentioned group of respondents of this research largely corresponds to the classification with generation "Z", thus further confirming H1.

According to the results of the survey, 99% of the sample respondents at the time of completing the survey had completed secondary or advanced education. As many as 46% of respondents had completed some of the higher education degrees at the time of completing the survey. The H2 acceptance limit applies to only 1% of subjects in the sample with completed basic education, a quantitatively dominant group in the sample, and sample size. According to the survey data, as many as 46% of respondents had completed a college degree at the time of completing the survey, it is possible to confirm the correlation between education level and technology acceptance in banking and accept H2.

In exploring the topic of this paper, some limitations were noted. The first limitation concerns the sample size of the respondents. Other limitations that were noted are lack of honesty and objectivity of the respondents when filling in the survey questionnaire, the closed type of survey questions that were sought to achieve the simplicity of the survey questions and the unwillingness of a part of the respondents to answer all the survey questions. The most important contribution of the work is manifested in conducting empirical research that provides qualitative insights. The collected qualitative insights from the questionnaire, according to consumer generation models, are observed and used to display consumer attitudes and preferences towards the use of new technology in banking.

6. DEFINITIONS OF FUTURE DEVELOPMENT: FINTECH AND GAMIFICATION

Technology has always played an important role in the financial services industry, whether the case was about the advent of the Internet, telephone or teleChart. In recent years, technology-based innovations in the financial sector have accelerated to the point where the terms "financial technology" or "FinTech" are commonly considered abbreviations for technological innovations in finance and/or the business sector that make the companies enabling such innovations. (Bunea, Kogan, Stolin, 2016)

"FinTech" refers, as a term, to new processes and products that are becoming available to financial service providers through technological advances. More specifically, the Financial Stability Board [1] defines "FinTech" as "technology-enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services." (Navaretti, Calzoari, Pozolo, 2017)

In this regard, Maričić (2018) states that "the term financial technology or Financial Technologies (FinTech) refers to technology that enables different financial solutions, and today it is often interpreted as a new business partner of financial institutions and information technology." Maričić (2018) claims that in recent years, participants in the financial services industry have jointly initiated the creation of communities such as investments, incubators, start-ups and the like. The relationships between these participants have evolved from competition to business friendship resulting in the development of innovation.

A huge gap has emerged between the former model of bank operations and the current demands of technology-oriented consumers. This space has proven

[1] Financial Stability Bord - an international institution that oversees and makes recommendations regarding the global financial system (available at: http://www.fsb.org)

to be an opportunity for FinTech companies to bridge the gap between consumers and the bank with their solutions. (Knezović, 2018)

FinTech could be the second most significant transformation in the financial industry after the advent of the first notes. FinTech has the prospect of changing the very definition of money and how we buy and invest. The future brings "FinTech" 3.0 for banks and consumers. 2019 is the year in which banks are likely to take over FinTech companies or wait for them to cease to exist. Banks that are actively involved in this transformation can expect business growth and profitability. (Pratap, 2018)

The ability to influence FinTech on the core of services traditionally offered by financial institutions such as banks stems from cost reductions that drive digital technology advancements, improved and new consumer products and easier compliance with the constraints imposed by the regulatory framework. More specifically, with the technological advancements of "FinTech" operators benefit from:

- lower costs that make the market more efficient,
- economies of scale in collecting and manipulating large datasets;
- cheaper and more secure information transfer;
- lower cost of user re-verification. (Navaretti, Calzoari, Pozolo, 2017)

Gamification in its essence involves the use of video game strategies and designs in the business world, primarily in cases when the resolution is needed in the occurrence of real situations and problems. Today, in the digital age, it is becoming an indispensable tool in the overall communication with employees, customers, and consumers.

As noted earlier, games are used for training and education purposes in numerous corporations in various fields. "In the financial sector, games are used to train, attract customers and explain to employees the complex financial processes and financial offerings. €conomia is a solemn game based on the monetary policy of the European Central Bank. It is used to teach employees about the impact of changing interest rates on unemployment, output growth, inflation, and other vital economic indicators. BankersLab offers a suite of gamification training products for the banking industry. The collection also includes a serious CollectionLab game designed to train employees. For players to win, they must successfully run the most profitable virtual bank with the most satisfied customers. Players must demonstrate expertise in every part of management regarding personnel, resources and product development. Each game module is linked to educational materials, various case studies and iOS applications. The financial sector also uses games like True Office, a game through which employees can explore financial situations such as money laundering or data trading. True Office also has a variety of game variations that a particular company can tailor to its business policy. The game also has an analysis board where you can see the progress and results of the players." (Milohanić, 2018)

7. CONCLUSION

The rapid development of technology is creating an unprecedented revolution in banking. Innovations that accompany electronic banking such as the Internet and mobile banking greatly alter the strategic behavior of banks and create a new type of consumer interaction with the bank. The modern and dynamic way of life and increasingly shorter amount of time the consumer is willing to devote to going to the bank condition the development of these services and the increasing attention they receive from different consumers generation.

This is also reflected in the results of the research, as well as recent professional literature according to which consumer acceptance of technology in banking is on the rise. The issue of security is a major cause that is aggravating the increasing level of acceptance. The dominant consumer generations covered in the empirical research of this paper are "Z", "Y" and a smaller proportion of "X".

In an empirical study conducted to develop this paper, the authors state that a sample of 305 respondents is dominated by female respondents aged 18 to 28 who have completed high school or some higher education. Over 50% of respondents who have completed the survey are satisfied with the Internet and/or mobile banking services and access electronic services through mobile banking, while Internet banking is an alternative option. Furthermore, it can be concluded that consumers consider the Internet and/or mobile banking to be the future of consumer interaction with the bank. According to the results of empirical research, both research hypotheses can be accepted. In other words, the authors conclude that there is a correlation between consumer generations and the use of the Internet and mobile banking services and that consumers with higher levels of education use the Internet and mobile banking to a larger extent.

Given the revolution that is currently underway in the global financial sector, it is obvious that the future also brings new, innovative ways to provide and use financial services and adapt to both the business and consumer sectors. "FinTech" is just one of the innovative ways of opening the way for successful communication between banks and consumers, which in the future will make a significant impact on reaping all the benefits of economies of scale and security in the use and processing of consumer personal information.

The scientific contribution of this paper is reflected in conducting an empirical study that provides relevant quantitative insights into consumer behavior in banking. Recommendations and guidelines for further research include the inclusion of a larger sample of respondents to reach a better conclusion about the research problem and to explore the relationship between banks and FinTech companies and the application of gamification in banking.

Regarding the limitation of the number of respondents covered by the sample, a recommendation for further research that could reduce or eliminate the aforementioned deficiency refers to the inclusion of a larger sample of respondents based on which a research problem will be reached.

What the future holds is hard to predict, but it is safe to assume that the real world will be moving closer to its virtual version. The population that will adapt to this will replace most everyday activities, including going to the bank, by using"armchair" services, which implies a loss of physical contact of the bank with the service user, as well as increasing innovation in attracting virtual attention.

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THE IMPACT OF ECONOMIC GROWTH ON THE HAPPINESS OF THE POPULATION WITH A REVIEW ON HAPPY PLANET INDEX

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Abstract

The purpose of this paper is to show the influence of economic growth, i.e. growth of GDP on the happiness of the population and its general impact on the national economy. The difference between economic growth and economic development is in the scope of the terms they describe. Economic growth is just one of the variables of the national economy which influences economic development, alongside inflation, unemployment, and fluctuations of the exchange rate. Moreover, this paper presents the movement of Croatian GDP, as the most important economic variable, over the last twenty-five years. According to the GDP criteria, the Republic of Croatia is at the bottom of the list of European countries, but according to the Happy Planet Index (HPI) – an index which measures the happiness of the population, the Republic of Croatia is positioned above some more developed countries of the European Union. For this reason, a comparison was made with Germany and there is a description *of the parameters that make the Croatian population happier than the German population. Also, this paper includes an empirical study that has been conducted on the sample of the Croatian population in Virovitica-Podravina County that shows what has an impact on their happiness. The study was conducted by the electronic survey, whereby a questionnaire was created using Google Forms, which was shared via e-mails and social networks such as Facebook and Instagram.*

Keywords: *economic growth, GDP, population, happiness, HPI*

JEL Classification: O40, O47

1. INTRODUCTION

The state of a country's economy is described by variables such as GDP growth, i.e. economic growth, unemployment, inflation, and an exchange rate of national currency. Economic growth as the most important determinant of a country's development may exist without economic development, but not vice versa. The national economy is striving for the overall development of the country and its general prosperity, as well as raising the standard of living, all of which are conditioned by the GDP growth. With its independence, the Republic of Croatia has gone through several phases that have led to slower GDP growth, compared to the rest of European countries, which puts it at the rear of the EU countries nowadays. These variables can be considered indicators of development in a traditional economy, while modern economies consider new indicators and variables.

In the beginning, this paper presents the concept of the economic growth and economic development, as well as their scope, which describes that the economic development is conditioned by economic growth, but the opposite is not true. This is due to other variables affecting economic development, such as unemployment, inflation, and an exchange rate of the national currency. However, no simple equation can be made of these variables, as shown by the Happy Planet Index (HPI), which measures indicators other than GDP for social development, such as the happiness of the population. The HPI is important because it puts the current and future well-being of the population in the spotlight as an important issue. This global index measures what matters –sustainable well-being for all. According to it, wealthy western countries, often seen globally as representing success, do not rank highly, and some other less developed countries achieve relatively high and fairly distributed parameters that HPI calculates, such as life expectancy and well-being with much smaller ecological footprints.

The happiness of the population and the impact of GDP on it is an increasingly popular topic nowadays in economics because the population no longer strives to generate as much income as possible but is starting to appreciate other values that cannot be expressed quantitatively. In recent years, Croats have tended to move abroad in search of better employment opportunities, and the surprising fact is the result measured by the HPI, which shows that Croatia is a happier country than Germany – the country to which most Croats have moved. This raises the question as to what is affecting the happiness of the population and whether the rule might be that higher income equals a happier person. As a possibility for practical application, empirical research has been conducted by an electronic survey, on a sample of the Croatian population in Virovitica-Podravina County, to find out what has an impact on their happiness.

2. THEORETICAL FRAMEWORK

2.1. The Economic Growth and Development

Economic growth and economic development are the terms that describe the overall progress of a country's economy and the standard of living of its population. Each country's goal is to achieve economic growth and increase the standard of living of the population concerning the base or previous year. Economic growth is one of the top subject matters in the Republic of Croatia, and many macroeconomic elements, such as employment, productivity, prices, and national currency exchange rate, are derived from this topic.

An insight into the economic characteristics of a national economy can be achieved by analyzing key macroeconomic variables which are variable quantities that measure the "health" of the economy. Benić (2016), in addition to GDP, as the main macroeconomic variable, adds savings, investment, wealth, unemployment, inflation and interest rate, Čavrak (2011) analyzes four main variables, where along with the most important GDP, there are unemployment, inflation, and national exchange rate, while Borozan (2012) considers GDP, unemployment, and inflation as main economic variables.

The most well-known and commonly used measure of aggregate economic activity, i.e. the aggregate output of individual economies is gross domestic product – GDP, which is geographically located and includes the total output produced within national borders, regardless of whether it is realized by a domestic or foreign company (Benić, 2016).

For a proper analysis of economic growth, it is necessary to distinguish it from economic development, which is a much broader concept. "Economic growth is just one quantitative dimension of economic development that marks a GDP growth within a country." (Obadić & Tica, 2016, 10). The overall progress of a country's economy is described in terms of economic growth and development, meaning economic development is a "dynamic process that represents the purpose and the essence of economy functioning." (Benić, 2016, 601). "Gross Domestic Product increasing is not just a game of numbers. Higher incomes mean good food, warm homes, and hot water. They mean safe drinking water and vaccination against persistent infections of a human race." (Nordhaus & Samuelson, 2011, 6). "Economic growth does not imply economic development per se, so it is possible to find examples, especially in undeveloped but resource-rich countries, where the benefits of economic growth have completely bypassed the largest part of the population and are completely privatized by a small number of people." (Obadić & Tica, 2016, 10). Despite the lack of an economic variable of GDP as an indicator of development, every debate on economic development still begins with an analysis of GDP growth rates, as well as an international comparison of GDP between various countries (Obadić & Tica, 2016).

For the economy to have economic growth and thus to increase the standard of its population, it is necessary to understand where the economic growth comes from, i.e. what factors are called the sources of economic growth. For this purpose, one of the basic equations of macroeconomics, according to Vidaković (2010), is presented:

(Y) variable designated GDP is one of the most commonly used indicators of economic development. GDP (Ekonomski rječnik, 2019) is the value of all final goods and services, which were produced domestically over a given period, expressed in monetary units, and includes only those products and services completed and prepared for immediate consumption.

(A) stands for technology, i.e. total factor productivity. The word technology denotes not only technical equipment but also the production processes (Vidaković, 2010).

(K) as the capital in the economy, i.e. capital goods is a broad system of factories, buildings, machines, tools, materials and the like (Benić, 2016).

(L) stands for labor, i.e. workforce. The economy that has a lot of capital will not be able to achieve aggressive economic growth unless there is a workforce that can use that capital. Also, the economy that has a lot of workforces, and does not have enough capital, will not be able to achieve high rates of economic growth (Vidaković, 2010).

The parameters from the equation in the exponent α, β, γ have the characteristic $\alpha + \beta + \gamma = 1$ and denote the share of technology (γ), capital (α) and labor (β) in the production of a particular good.

2.2. GDP Movement in the Republic of Croatia

"The modern Croatian economy, emerging in the last two decades, has been going through an extremely turbulent period, including the Homeland War, and has been confronted with a series of new, historically completely unknown processes, phenomena, and tendencies. During this emergence and development, there was an attempt for the reconstruction of the old, socialist era inherited economy, leading to the creation of a new market economy." (Čavrak, 2011, 11). With its independence, Croatia went through the period of the Homeland War, which lasted from 1990 to 1995, and the GDP movement during that period is incomparable with the periods after that.

According to data from Croatian Bureau of Statistics (Državni zavod za statistiku – DZS) the period from 1995 to 2008, when the global economic crisis appeared, was characterized by moderately low GDP growth (excluding negative GDP growth in 1999 caused by the Kosovo crisis at that time) (Državni zavod za statistiku, 2020).

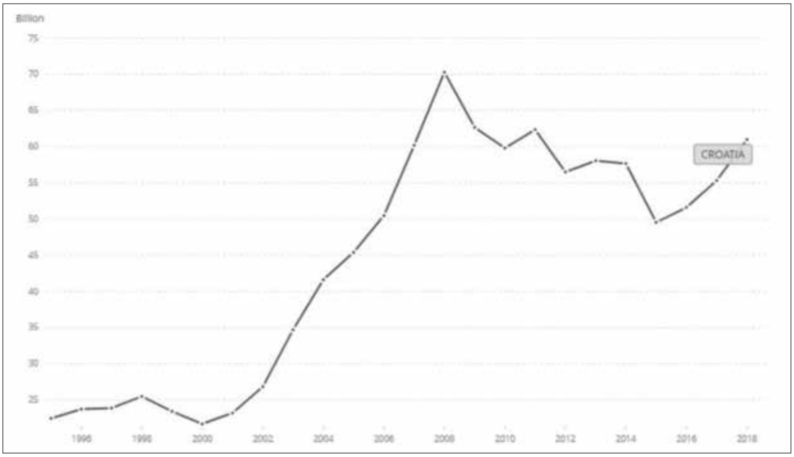
Since 2009, when the global crisis also involved Croatia and consequently revealed weaknesses in the Croatian economy, GDP trends have tended to decline over six years, until 2015, as shown in Graph 1.

Also, a halt in capital flows and a fall in global demand in 2009 led to a decline in GDP in a large number of world countries, including EU and all of its member states, except Poland, and Croatia was among the EU member states that recorded the biggest economic downturn, i.e. negative economic growth rates (HGK, 2019).

After six years of recession and crisis in Croatia, economic growth (Obadić & Tica, 2019) was recorded in 2015, and this trend has continued in the following years up to now. According to Croatian Chamber of Economy (Hrvatska gospodarska komora) interpretations, 2015 was marked by a price fall of raw oil on the global market, followed by the further dynamic economic growth of EU, which is the most important market for Croatian products, continued growth of goods export due to the elimination of trade barriers with EU member states, in addition to the increase in personal consumption, and increase of service export which is the result of successful tourist season (HGK, 2019).

The aforementioned Croatian GDP movement in the period 1995-2018 is presented in Graph 1 according to the World Bank data, in billions of US dollars (USD).

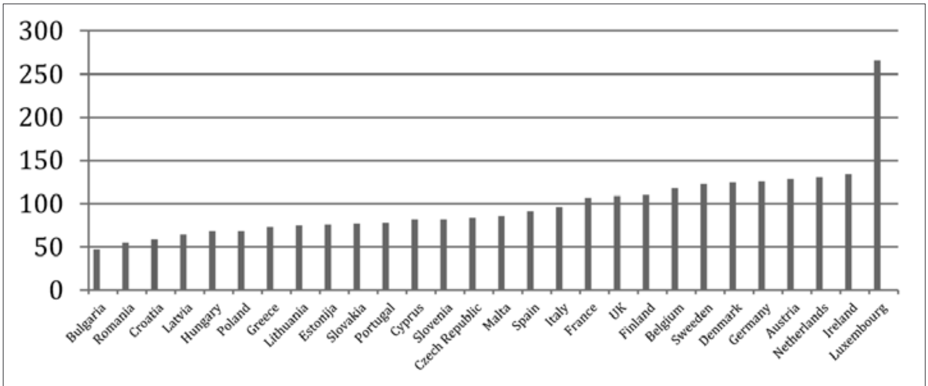
Graph 1. Croatian GDP Movement 1995-2018 (billion USD)



Source: World Bank Group – official website, GDP (current USD) – Croatia [available at https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2017&locations=HR&start=1995 accessed February 12, 2020]

Since living standard in different countries can be compared by measuring the prices of certain goods and services in each country about income, by converting prices expressed in local currency into one base currency, then by expressing GDP per capita, and ultimately adapting GDP per capita for purchasing power, an overview of the standard of living by each EU country can be obtained. According to the stated criterion (GDP per capita expressed in purchasing power standard – PPS, using the common currency) which is presented by Graph 2, Croatia is at the rear of EU countries, along with Bulgaria and Romania, according to the last available Eurostat data as of 1 December 2019.

Graph 2. EU GDP per capita Ranking according to Purchasing Power Standard (PPS)



Source: European Union – official website, Life Quality [available at https://europa.eu/european-union/about-eu/figures/living_hr#tab-2-1 accessed February 5, 2020]

What the European Union aims to do is to raise the standard of living of its population for the sake of well-being and balance of the economy. Since the standard of living is a ratio of GDP and purchasing power of the population, and therefore implies a GDP growth, i.e. economic growth, it can be concluded that GDP affects the quality of life and the standard of living of the population and the society in which they live. "A key factor in achieving strategic goals is investing in growth, i.e. direct the EU budget and private sources into projects and initiatives that will contribute to the achievement of a smart, sustainable and inclusive growth." (Maletić, 2016, 23). European Union conducts its regional policy through various measures and instruments, which aims to increase employment and competitiveness, stimulate economic growth, improve quality of life and sustainable growth (Obadić & Tica, 2016).

The term progress of society could be viewed as general prosperity of society, in which case it can be talked about if welfare (economic, social and environmental), measured by an objective and subjective approach, is characterized by an increase in the quality of life of its inhabitants (Frajman Ivković, 2012).

2.3. Population

Because the size of the population represents the basis for the creation of gross domestic income and thus economic growth, within this subsection the term population will be defined. In developed countries, the population itself is an important source of economic growth and development because of the better employment opportunities that imply economic activity. The term population means a specific set of persons in which every one of them participates with its particular characteristics, which form the basis of the population structure (Obadić & Tica, 2016). When considering a population as a source of economic growth, it must be emphasized that it is both a carrier of economic activity and a beneficiary of its results (Benić, 2016).

As mentioned in the previous chapter, the unemployment rate, as one of the variables of economic development, is related to other variables, which cause each other's growth or fall. The fact is that if the population is unemployed, they do not spend any money, the money supply is higher and the exchange rate weakens, which ultimately causes GDP to fall. All these indicators lead to thinking that a person's employment causes their happiness because they can afford the fulfillment of various desires, which leads to the general prosperity of the country. However, this is not such a simple equation, as shown by the HPI, which measures indicators other than GDP for society development.

Concerning to the number of population, alongside the problem of the aging population which affects Croatia, and a decreasing trend of newborns which consequently means less workforce for the country in the long term, the problem nowadays is increasing emigration of Croatian population who are going abroad in search of work and preserving their existence. But the analysis of it represents another area of research and goes beyond the subject of this paper.

3. THE SOURCE OF HAPPINESS OF THE POPULATION

Although the GDP of a country or a region is an important indicator, it seems that in new global conditions it still does not sufficiently explain the real state of a national economy, and much less the satisfaction with the standard and quality of life of its population (Sarić, 2019). "Enjoyment, seeking for satisfaction and pleasure can become a dominant motive that determines a person's overall lifestyle." (Milivojević, 2010, 237). Frajman Ivković (2012, 58) concludes that „the primary goal of society and public policy should not be exclusively economic growth, not even economic development, but the well-being of society, i.e. to achieve parallel progress from an objective and subjective point of view."

According to Jurković (2014), who studies the Economics of Happiness, a GDP is a measure for country's success in a traditional economy, which follows on from a 1974 study by economist Richard Easterlin, on a sample of different countries, which revealed a paradox: surveys in individual countries have shown that, on average, richer people are happier with their lives than poorer people in the same country, but it also turned out that as countries become richer, beyond the level of basic needs (food and accommodation), people are not happier, i.e. average happiness does not increase.

The Economics of Happiness does not seek to satisfy the interest of capital, but to simplify life in a community and to make its every member happy (Ekonomija sreće, 2019). Also, it is based on a premise that happiness results not solely from economic factors, but also personal and broader social elements such as environmental variables, and therefore the consumer is willing to consume organic products to have a clean environment, which consequently increases his happiness (Frajman Jakšić et al., 2010). This leads to the conclusion that the happiness of the population should be taken as a parameter for measuring the condition of the economy in a country. Therefore, the concept of happiness should be defined more closely. The Croatian Encyclopedia states that "happiness" does not depend on ideal life circumstances or material wealth, intelligence or physical attraction, age or parenthood (although there are circumstances that can increase a sense of happiness), but those are a well-developed network of social relationships, married life, work satisfaction, and a strong religious belief, and that happiness depends on what people expect from life and how they perceive themselves compared to those who belong to the same social group (Hrvatska enciklopedija, 2020).

According to Morris (2005), happiness means a different thing to different people, and the concept of happiness is often confused with the notion of comfort or mind calmness; while pleasure represents a mood in which life is good, happiness is the feeling people experience when life suddenly becomes better. The difference in the perception of happiness from one individual to another is what causes it, and even though it seems difficult to define these factors, Husnjak (2011) according to Frey & Stutzer (2001), groups them into three groups, which are:

1. demographic factors – age, gender, family occasions, nationality, education, health;
2. economic factors – unemployment, inflation, income;
3. political factors – participation in shaping the structure of government, state decentralization degree.

This raises the question of how to measure happiness if it depends on individual experience and each individual can define it subjectively. Various scales are offered to answer this question, which is more explained below, as well as Happy Planet Index (HPI) according to which comparison of Croatia and Germany is made.

3.1. Happiness Global Measurement – Scales and Indexes

Various scales such as life satisfaction scale, positive and negative experience scale, prosperity scale and similar scales are offered to answer the question on how to measure happiness, and this paper presents some of them.

The *World Database of Happiness* is an archive of research findings, publications, and reports combined into a single database on subjective enjoyment of life (World Database of Happiness, 2020). It provides country rankings according to several criteria: average happiness, happy life years, equality of happiness and inequality-adjusted happiness. How many people enjoy their life-as-a-whole on a scale 0 to 10 Croatia has a 6.3 score which is the 63rd place out of 162 countries, according to the data from 2010-2018 (World Database of Happiness, 2020).

The *World Happiness Report* is a landmark survey publication of the state of global happiness that ranks 156 countries by how happy their citizens perceive themselves to be and was written by a group of independent experts in a support of UN High-level meeting (Helliwell, Layard & Sachs, 2019). The last report that was published in 2019 had a focus on how happiness has evolved over the past dozen years, with sight on technologies, social norms, conflicts and government policies that have driven those changes. The latest data for the 2016-2018 country ranking on a three-year average, show that Croatia ranks 75th out of 156 countries in the world.

Better Life Index by Organization for Economic Co-operation and Development (OECD) calculation allows comparing well-being across countries based on topics the OECD has identified as essential, in the areas of material living conditions and quality of life. This index analyzes well-being trends in 37 OECD countries and 4 partner countries since 2010. It is a part of OECD Better Life Initiative which aims to promote "Better Policies for Better Lives", in line with the OECD's overarching mission, in a statistical report released every two to three years, including health, subjective well-being, social connections, natural capital, and more (OECD, 2020).

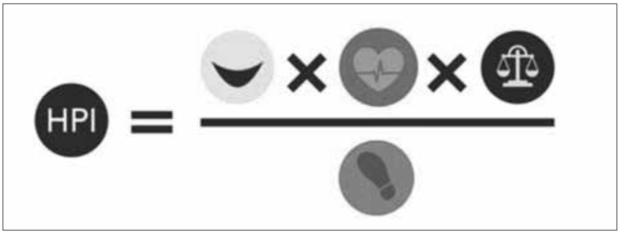
3.2. Happy Planet Index

One of the more complex ways of measuring social development and its happiness is also a Happy Planet Index (HPI) which measures the state of the country according to the achievement of a happy life (Happy Planet Index, 2019). The creator of the HPI which measures what matters –sustainable well-being for all – is Nic Marks. This index tells us how well nations are doing at achieving long, happy, sustainable lives. It also provides the compass to guide nations and shows that it is possible to live good lives without costing the Earth (Happy Planet Index, 2019). The HPI is important because it puts the current and future well-being of the population in the spotlight as an important issue. It aims to produce a happy and healthy life for everyone now and in the future, by reducing poverty and deprivation, which suggests that the Western way of developing big business is not sustainable in the long run and that other solution must be found (Happy Planet Index, 2019).

HPI is not calculated and published every year, the first one was launched in 2006, followed by one in 2009, then 2012, and the last published report was for 2016. During this time the methodology and data used to calculate the HPI have changed and improved, so the scores are not comparable for reports of different years.

The pictorial formula in Figure 1 represents what HPI combines to show how effectively residents of different countries use environmental resources to have a long and happy life.

Figure 1. Illustration of Happy Planet Index parameter measurements



Source: Happy Planet Index – How is the Happy Planet Index calculated? [available at http://happyplanetindex.org/about/#how accessed June 14, 2019]

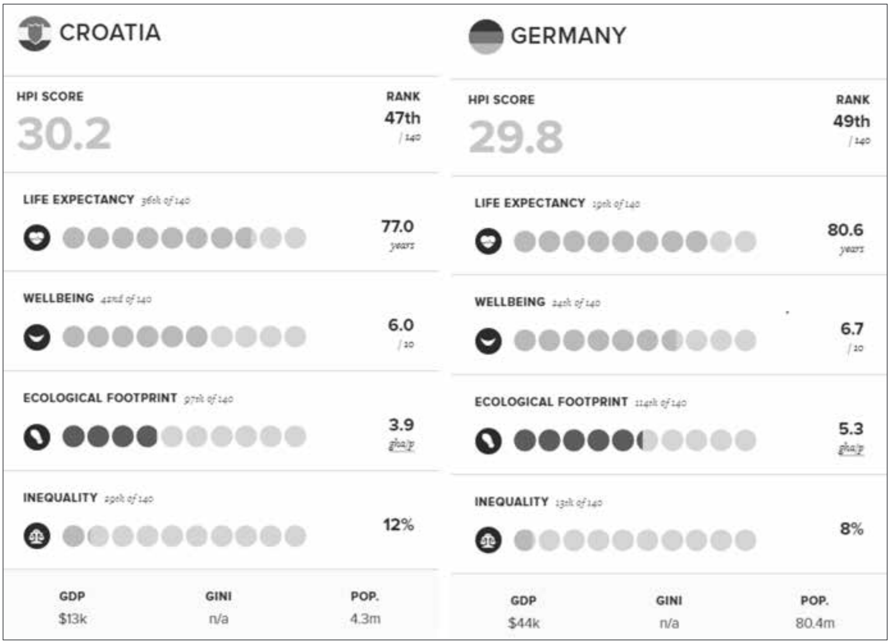
The measurements that make the HPI are Well-being (how satisfied the residents of each country say they feel with their life overall), Life expectancy (the average number of years a person is expected to live in each country), Inequality of Outcomes (the inequalities between people within a country, in terms of how long they live and how happy they feel, expressed as a percentage), and these three measurements taken multiplied together are divided by the fourth measure which is an Ecological Footprint (the average impact that each resident of a country places on the environment), explained in the formula below:

The Ecological Footprint is the only metric that measures how much nature we have and how much nature we use, and it helps countries to improve sustainability and well-being, local leaders to optimize public project investments, and individuals to understand their impact on the planet (Global Footprint Network, 2019).

3.3. The Comparison of Croatia and Germany according to HPI

In recent years, a large number of Croatian population has moved abroad in search of work. Most of those emigrants have gone to Germany, which is why these two countries were compared by the Happy Planet Index, according to the data from the last published report for 2016, as shown in Figure 2. The comparison demonstrates that GDP is not a proper indicator of the situation in a country. The reason for this could be that measuring GDP as an indicator does not consequently mean a long and happy life, which is the main goal of every population.

Figure 2. Croatia-Germany Comparison by Happy Planet Index 2016



Source: Happy Planet Index – Croatia-Germany comparison [available at http://happyplanetindex.org/countries accessed June 14, 2019]

Although Germany has more than three times the GDP of Croatia, its population is not considered to be happier than Croats. In global, Croatia ranks 47th and Germany ranks 49th. Considering the data from previously published HPI publication in 2012, Croatia then ranked 82nd with the HPI score 40.6, while Germany ranked 46th with the HPI score 47.2, which indicates a drastic improvement in the global ranking for Croatia with a nearly unchanged global ranking for Germany. The significant difference in the HPI score is in the use of different calculation methodologies where there was no category of Inequality of Outcomes in the 2012 HPI formula (New Economics Foundation, 2013).

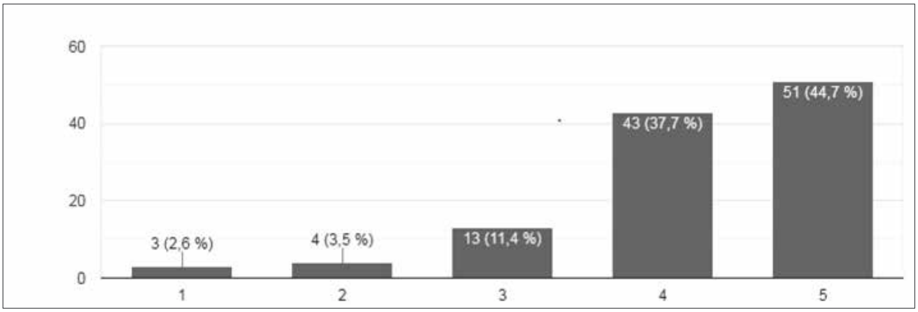
According to the comparison in Figure 2. from 2016, different values for environmental care were detected, although the indicators are approximately the same values. Environmental protection involves the practice of protecting the environment, whether at the individual, organizational or country level, for the benefit of the natural environment and humans (Ekologija, 2019), while the environmental consciousness can be broadly defined as an attitude that relates to the environmental consequences of human behavior (Frajman Jakšić et al., 2010). The Croatian population is consciously concerned with the environment, and the possible reason is that the exploitation of the country's natural resources ensures the operations of production and service activities. With their extermination, economic growth would be slowed down because the national economy is mostly based on tourism, which bases its activity precisely on the use of these resources. The question is whether Croats as a nation are aware that this is a reason that places them ahead of many developed countries. Guided by this question, as an opportunity for practical application, the following section provides a survey of the causes of happiness of the Croatian population in Virovitica-Podravina County.

4. EMPIRICAL STUDY: WHAT IMPACTS THE HAPPINESS OF THE CROATIAN POPULATION

In the previous chapter, using the HPI, it was presented that Croatia is a happier country than Germany, although Germany has more than three times the GDP of Croatia. Because a large number of the Croatian population has moved to Germany over the last years in search of work and a better life, it is surprising that Croatia is a happier country after all. This fact is especially true for Virovitica-Podravina County. To question the Croatian population in this county about what they consider happiness to be and what makes Croats a happier nation, an empirical study was conducted in June and July 2019 by the electronic survey, whereby a questionnaire was created using Google Forms, which was shared via e-mails and social networks such as Facebook and Instagram. It aimed to answer the question: "Are we aware that we are happy and what makes us happier than others?". The survey was anonymous which gave respondents the freedom to respond honestly, and it stated that the survey was to write a paper and would not be used for other purposes. Also, the respondents were asked to state the geographical area of Virovitica-Podravina County. There were

114 respondents (n=114) that answered the questionnaire, out of which 68.1% were female and 31.9% were male. Out of the total number of respondents, 49 of them were 19-25 years old, which was the majority of the survey sample, i.e. 43.8%. 42% range from 26-35 years old and 11.6% were 36-65 years old. The smallest percentage of respondents were over 65 and under 18, which makes 3% in total. The majority of respondents were currently employed or in the process of education, with a total of 83.2%, 9.7% were unemployed, and the rest classified themselves as "something else". Since the survey was conducted to examine the happiness of the Croatian population in Virovitica-Podravina County, the sample was the Croatian population in this county. The majority of respondents live in Croatia, i.e. Virovitica-Podravina County (94.2%), and the rest of them are temporarily working abroad, but still have a domicile in this county in Croatia. In the part of the survey where respondents' opinions on happiness and their impact on happiness were determined, the authors formed a Lickert's scale[1] of statements to examine the attitudes of the respondents. According to it, the respondents expressed their opinion by intensity levels ranging from 1 to 5, with 1 being 'fully disagree', and 5 being 'fully agree'. Graph 3 represents the sample of survey respondents who are considering themselves a happy person since there are 82.4% of them who assigned the two highest values to the statement "I consider myself a happy person".

Graph 3. The statement "I consider myself a happy person"



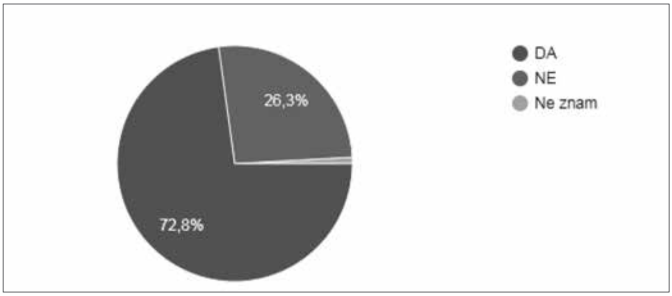
Source: authors' research

The results of a statement "My ideal profession involves a salary above average" are shown in Graph 4 from which it is evident that 72.8% of the respon-

1 According to Tkalac Verčić et al. (2010) there are attitude scales that measure the intensity of attitudes toward different objects or situations, and one of them is a Lickert's scale.

dents believe that the profession they would like to pursue in life also entails an adequate reward for that work, i.e. the salary above average, meaning the salary should be above average to consider that profession ideal.

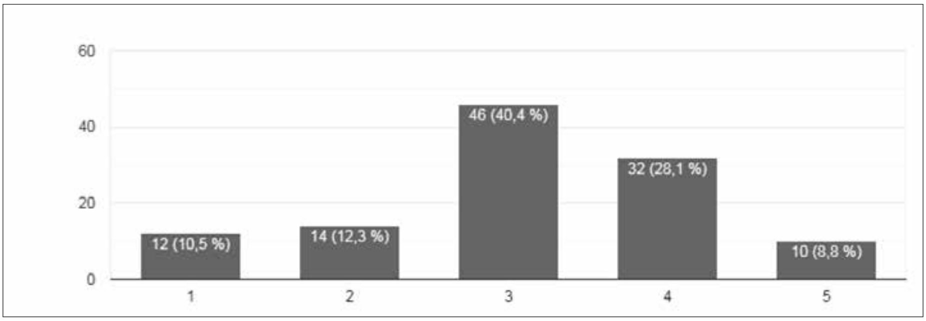
Graph 4. The statement "My ideal profession involves a salary above average"



Source: authors' research

This could lead to thinking that the majority of the respondents (72.8%) consider that money, i.e. salary above average, affects happiness. For this reason, the following statement was made: "I find that money affects my happiness", the results of which are in Graph 5. According to it, it is evident that a large percentage of respondents who think that happiness entails above average salary, do not consider that money directly affects their happiness.

Graph 5. The statement "I find that money affects my happiness"



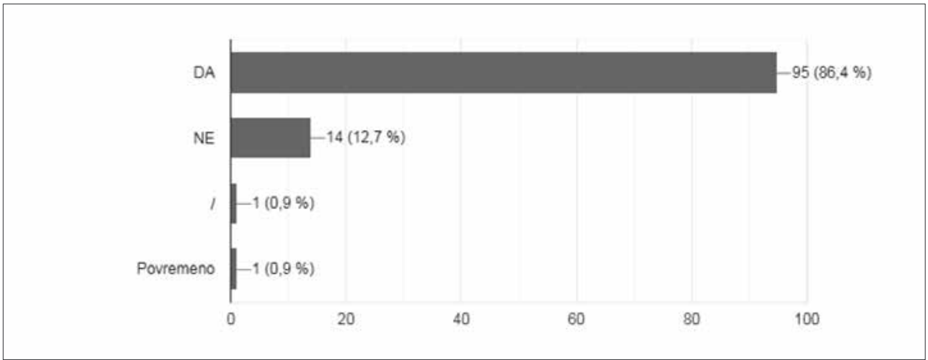
Source: authors' research

12 respondents (10.5%) consider that money does not completely affect their happiness, while only 8.8% consider that money affects their happiness

completely. The largest number of respondents (40.4%) believe that money neither affects nor it does affect their happiness.

Since HPI also measures the parameter of environmental care, the statement was made in the survey about the extent to which the respondents are happy when they exhibit concern for the environment. The offered answers were "Yes (DA)", "No (NE)", "/" indicating the attitude "Environmental care does not affect me" and "Occasionally (Povremeno)".

Graph 6. The statement "Taking care of the environment makes me happy"

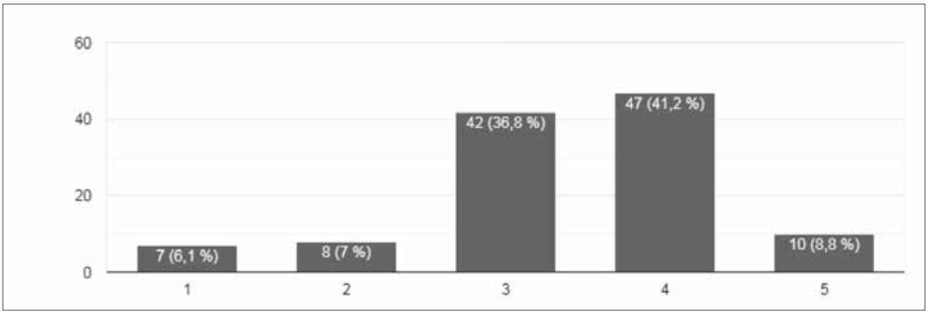


Source: authors' research

86.4% of the respondents consider themselves happy when they care for the environment, which can confirm the rule that the happiness of the population caring for the environment consequently means creating a comfortable environment for life and prolongs its expectancy. The cause of happiness of the respondents is a conscientious and careful use of the environment and its benefits, which is a good indicator of the economic expansion since it means a possibility of an increase of service and production activities based on natural resources. This increment would also indicate greater economic growth without which it is impossible to achieve economic development.

The survey has shown that GDP is not the only measure of the population's happiness, although this rule is applied in traditional economics. According to GDP, Croatia is at the bottom of European countries, but Graph 7 indicates that only 6.1% of respondents on the sample of people from Virovitica-Podravina County fully believe that their standard of living is not ideal, 7% also think that their standard of living is not ideal, but only partially. 36.8% of the respondents stated that they neither agree or disagree with this statement, while the majority, 41.2% partially, and 8.8% fully, believe that their standard of living is ideal.

Graph 7. The statement "I find my standard of a living ideal"



Source: authors' research

At the very end of this simplified survey, it can be concluded that the economy, as it is known nowadays, is slowly losing its meaning based on the principle of higher-income means the happier person, but that the time is right for measuring other indicators of happiness. An increasing number of theorists and practitioners are refuting the fact that the happiness of the population is measured solely by the size of GDP, and this survey conducted on the sample of Croatian population in Virovitica-Podravina County has shown that a significant number of them consider themselves happy, although according to economic indicators, such as GDP, Croatia is at the bottom of European countries, and in particular this applies to the said county.

Also, it was shown that taking care of the environment, making it comfortable for life and prolonging life expectancy, is considered more important than earning a higher personal income. Ralašić & Bogdan (2018) provided an example of how the happiness of the population and their quality of life can decline despite GDP growth, in cases where the increase in production in the city affects increased traffic in the city, which at the same time increases air pollution and negatively affects climate change, thus reducing the happiness of the population.

Since the correlation between GDP and other quantitative variables can present the "health" of an economy in a country or a region, it does not mean that it will directly affect a linear growth of the happiness of the population.

Previous research findings have shown that quantitative aspects, such as GDP at a country level, do affect the happiness of its population to a certain level, but beyond that level, some other non-quantitative aspects of life are more important for people to be happier. And the question is what exactly is that level and what is the correlation between these other aspects of life that would encourage greater happiness in people.

By examining the parameters that make one country or region happier than other, it can be concluded that a traditional view of happiness, as a result of income growth, has ended, and the Economics of happiness is future-oriented and more accurately shows the parameters that affect the happiness of the population.

5. CONCLUSION

Economic growth is a term that describes GDP growth and, as such, is a necessary precondition for achieving economic development, which entails not only a quantitative dimension but also a qualitative dimension to a country's progress and improvement in the quality of life of its inhabitants. GDP is one of the variables, along with inflation, unemployment rate and the fluctuations of the exchange rate, which illustrates the "health" of the economy of a country. The population, as one of the sources of economic growth, would mean an increase in the workforce for Croatia, which would increase the GDP level by generating its income. An additional and currently major problem for the Croatian economy is the emigration of its population abroad in search of work and a better life. This raises the question of whether a person's higher-income makes them happier and whether going abroad is an essential need.

What today's countries want to achieve is balance and general well-being that ensures a longer and happier life. Nowadays, more and more parameters are being analyzed which, in addition to GDP, show the development of countries. Since a GDP does not involve many aspects, such as population happiness and well-being, environment, social connections, health, natural capital, and others, there are many alternative scales and indexes developed to evaluate it. One such analysis is a Happy Planet Index, according to which Croatia ranks above some of the more developed countries. HPI measures the state of the country according to the achievement of a happy life while considering the parameters such as Well-being, Life expectancy, Inequality of Outcomes and Ecological Footprint.

This paper concludes that economic growth does not affect the happiness of the population in the modern economy and that the perspective of development has changed if different parameters for its measurement are included. Although the correlation between GDP, unemployment, inflation and the exchange rate of national currency presents the state of a country's economy, it does not affect the happiness of the population, i.e. it does affect to a certain level, beyond what other aspects of life are more important for people to be happier. And the question is what exactly is that level and what is the correlation between these other aspects of life that would encourage greater happiness in people. In future research it would be useful to conduct research at the Croatian level including all counties, and also to analyze and compare Croatia with other countries according to other indexes that measure the happiness of the population. Furthermore, it would be recommendable to include the statistical significance of the individual variables to complete the analysis of the observed parameters. Based on the above mentioned, it can be concluded that the happiness of the population can affect economic growth, but economic growth does not consequently mean the happiness of the population.

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E-GOVERNMENT IN EUROPEAN COUNTRIES: GENDER AND AGEING DIGITAL DIVIDE

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Abstract

The 4th industrial revolution has brought not only new opportunities but new demands and challenges, also in government communication to citizens and businesses. Transformations do not only concern ICT usage differences but also social, economic, educational and business changes, and bring risks known as „digital divide". One of the services that are integrated into the new digital environment, and not yet in full deployment, is e-government. Governments are faced with challenges of digital transformation, aiming to achieve, such as enhanced public services, enhanced administration, enhanced social value, cost reductions or empowerment of citizens bringing them closer to the public policy of decision-making. Although e-government aims to provide access to individuals, businesses, interest groups or their governments, various types of "digital divide" present barriers to full implementation of e-government services. In order to investigate the utilization of e-government, we used data from the Eu-

rostat database for 32 countries for 2018. The research is performed by the use of K-means cluster analysis and the non-parametric Kruskal-Wallis test. The aim of the research is two-fold: (i) to perform cluster analysis of e-government practice across European countries and identify the position of Croatia, and (ii) to detect possible reasons of a digital divide in relation to age and gender divide and economic development. K-means cluster analysis revealed three clusters as optimum. Results of the Kruskal-Wallis test confirm the statistically significant difference among clusters at 1% significance regarding GDP, global gender inequality index and political empowerment. Results reveal that the digital divide is one of the major challenges preventing citizens from the use of e-government services. According to existing studies, governments should perform business processes reengineering and transform the way of work and communication, but also enable ICT training programs in order to decrease the digital divide and to exploit the full potential of e-services.

Keywords: *e-government, ICT, digital divide, digital transformation, cluster analysis.*

JEL classification: O33

1. INTRODUCTION

The age of the 4th industrial revolution has brought new opportunities, but also new demands, challenges, and risks, also in government communication to citizens and businesses. Transformations do not only concern ICT usage, but also social, economic, educational and business changes, and bring risks known as „digital divide". One of the services integrated into the new digital environment, and not yet fully deployed, is e-government. Although e-government is aimed to provide access to all levels of population, regardless the age, geographical area, gender, education, etc., there is a gap between groups. The aim of the research is twofold: i) to analyze age and a digital gap in the utilization of e-government services in Europe and ii) to compare it with the current situation in Croatia.

Nowadays, governments are faced with challenges of digital transformation, aiming to achieve: enhanced public services, enhanced administration, enhanced social value, cost reductions or to empower citizens bringing them closer to the public policy of decision-making.

In an analog way to e-commerce, which brings customer and business closer, e-government brings closer citizens and businesses to government, through various types of interactions. Fang (2002) point out several basic models of e-government: G2B (government to business), B2G (business to government), G2C (government to citizens), C2G (citizens to government), G2E (government to employee), G2G (government to government), G2N (government to non-profit), N2G (non-profit to government). E-government includes a number of digital applications that can be implemented as online services with focus on external target groups (citizens, businesses, interest groups) or internal objectives (the government itself) as in (Bertot et al., 2012): (i) public access systems – offering public information on companies, businesses, government entities; (ii) knowledge management systems – transforming data into useful information and delivering it to the specific entities; (iii) transaction systems – including public access and knowledge management systems into proper information for the purposes of users willing to carry out payment transaction; (iv) e-government system infrastructure – including logging, auditing; (v) web-based applications – with possibilities of downloading forms, online help with filling forms; and (vi) communication tools – including e-mails, Newsletters, forums, notifications, and social media disseminate information, communicate with public.

Although e-government aims to provide access to individuals, businesses, interest groups or government, various types of "digital divide" present barriers to high-degree utilization of e-government services. According to Hargittai (2002), there are two types of the digital divide: first-order and the second-order digital divide. Generally, the first order digital divide relates to access to the Internet and online tools, being strongly dependant on technological infrastructure and costs of online access. Here, the internet penetration rates specific for the country indicate the digital divide between wealthy and indigent nations. The second-order digital divide relates to the development of digital literacy and digital capabilities, i.e. on the ways of using the internet, online tools and digital environment (e.g. access to an abundance of information, information research, collaboration, use of social media, collect relevant information, create networks of influence, etc.).

Digital Divide, as one of the omnipresent threats, creates a new gap of social exclusion between those who can and cannot access e-services. Numerous researches include various types of divide, which may include: infrastructure and accessibility divide including broadband and speed divide, racial and ethnic divide related also to English-speaking population correlated with Internet usage; age divide related to elderly population; gender divide related to female population; non-user divide including individuals who do not use Internet; educational divide; knowledge and digital skill divide; social inequity existing before advent of Internet being continuation of social inequality including also access to mobile phones; income; special needs/ disability divide among individuals with disabilities; geographic divide; location divide related to rural and remote areas because of speed and quality of services; content divide relevant in local languages; migration divide related to digital skills and language divide; mobile divide, and useful usage divide related to usage, such as e-government services. An important aspect of usage of e-government services would be a multilingual platform intended for a generic approach to various e-government services, using standardized processes as in Poljičak et al. (2014).

In order to gain insight into the usage of e-government services in European countries and to clarify the position of Croatia regarding usage of e-government, we aim to investigate the functional utilization of e-government services. Our paper is focused on two research contributions: (i) to perform cluster analysis of e-government usage among the European countries and to position Croatia in the given data set, and (ii) to detect possible reasons of a digital divide in relation to gender divide and economic development. In this research, we used data obtained from the Eurostat database for 32 countries for 2018. In the first stage, the K-means cluster analysis is performed in order to identify homogenous groups, according to e-government usage, based on the Eurostat database for 2018. In the second stage, identified clusters are evaluated by the ANOVA test. Kruskal-Wallis test is performed for an additional 6 factors in order to reveal statistical significance among three clusters.

The organization of the paper is as follows: after the introduction of the part in the first chapter, the literature review is given related to e-government services and the digital divide. In the third chapter, the methodology is presented. The fourth chapter brings results giving descriptive statistics on the usage of e-government services and e-government usage by males and females. For the identified cluster, descriptive statistics are given, followed by ANOVA analysis and cluster means. Clusters are compared according to economic development and gender inequality by the Kruskal-Wallis test. In the end, the conclusion is given, followed by recommendations for further research.

2. LITERATURE REVIEW

2.1. E-government

E-government is often interchanged with e-governance are often interchanged and used in various meanings. *E-government* (eGovernment, often called electronic government), relates to web-based technology, Internet, network and mobile computing with the aim to change communication and relations among government, citizens and businesses (Grönlund & Horan, 2005; Guida & Crow, 2009; Hasan et al., 2019). The aim of e-government is to facilitate information or services in a shorter period, to improve service delivery and productivity, to decrease costs and to empower people bringing them closer to public policy decision-making. The interaction between government and users can be performed in obtaining information, filling forms, making payments, online comments, etc.

While e-government is characterized by delivery of services and information to users (Fang, 2002), *e-governance* (or electronic governance) goes beyond e-government and includes the participation of citizens in political activities with the possibility to change needs and influence governments policy-making (e.g. e-voting, e-democracy) in order to improve governance. According to Palvia and Sharma (2007) e-governance is a broader term that includes e-government with greater participation of citizens in governance. Twizeyimana and Andersson (2019) indicate that e-governance services are well established in high-developed countries, while in the least Developed Countries (LDC) there are many challenges, which include large digital divide, inadequate infrastructure, lack of skills and competences, implementation, use and management of e-government system. In LDC countries, only 15% of projects are successful, causing loss of credibility and reliance on the modernization of public administration.

Twizeyimana and Andersson (2019) investigated the current state on the public value of e-government. The authors found out the following values: improved public services; improved administrative efficiency; open government (OG) competences; ameliorated ethical behavior and professionalism; augmented trust and confidence in government; and augmented social value and well-being. These values are afterward generalized into three public value dimensions: enhanced Public Services, Administration, and Social Value.

The presence of e-government can be evaluated through the *Web Measure Index* based 5-stage model (Palvia and Sharma, 2007): (i) emerging presence in stage I– limited and presence of e-government on web on web pages or official websites with links to relevant institutions; (ii) enhanced presence stage II– where government provides greater number of sources to public, such as laws, regulations, policies, newsletters, downloadable databases; (iii) enhanced presence stage III – offering online services through downloading of forms for tax payment, renewal of licenses; (iv) transactional presence at stage IV – allowing two-way interactive communication between government and users, including options for tax payment, applications for birth certificate, ID cards, and (vi) networked presence in stage V – being the highest level, characterized by integration of services with the aim to include participation of society in constructive open dialogue through online forms, comments, and others.

In public administration, special attention is given to human-computer interface management and government online systems. Relatively little attention is given to the analysis of e-Government usage in the health sector. As presented in Tursunbayeva, Franco, and Pagliari (2017), the health sector represents the critical point of governmental charge in many countries where a considerable proportion of national GDP is spent on public health.

Another crucial aspect is the citizens' confidence in e-government services. Lončarić and Stančić (2017) point out national strategies, regulations, and legal framework as a starting point for achieving trusted e-government. Santa, MacDonald and Ferrer (2019) investigated the importance of trust and analyzed direct and indirect effects of confidence in online services on the satisfaction of the e-Government service G2B users in Saudi Arabia. Danila and Abdullah (2014) investigated the same issues in Malaysia. The authors found out that the effects of confidence on user satisfaction are evaluated by the effectiveness of the e-G2B system (e.g., Service Quality, System Quality and Information Quality) and by operational efficacy, were the most important drivers influencing user satisfaction are operational efficacy and information quality. Stančić, Ivanjko and Garić (2017) examined the level of trust in G2B e-services in eight European countries and identified weak spots as areas of possible improvements. Zoroja et al. (2019) performed research to investigate the digital divide according to e-government utilization, focusing on gender and education (female vs. male; lower, medium vs. higher education) in 32 European countries for 2017. Results of cluster analysis showed the clustering of 32 European countries into four clusters according to their usage of e-government and that differences between countries are larger than the difference between gender and education level of individuals. Besides the digital divide in developing and developed countries, another important factor is infrastructure accessibility and ICT skills.

Results show a positive relationship between participation in government ICT training courses and levels of e-government usage and that the elderly are minimally active in using e-government services, followed by the disabled. On the other side, Danila and Abdullah (2014) find reasons for relatively low usage of e-services in Malaysia, based on TPB (Theory of Planned Behaviour), TAM (Technology Acceptance Model), and ISS (Information System Success model) and propose an integrated model for improved usage of e-services.

2.2. Digital Divide

Disparities in use of ICT regarding age, education, digital skills, access, and socio-cultural element create a „digital divide"and disable development of „knowledge-society". On one side ICT use, including e-government services, promote gender, age and other types of equalities. These disparities are the concern by many government institutions, businesses, citizens and civil society organizations.

The European Parliament (2018) published a study related to the digital gender gap, indicating possible solutions for the digital inclusion of females. According to this study, the current situation shows the gender gap in access and usage of digital technologies, in digital competences and education, digital labor market and online risks. Becker et al. (2008) in the research indicate that in June 2006, the EU ministerial conference declared strategy for inclusion into e-government of elderly people (eAgeing), for overcoming geographic divide, to increase public accessibility (eAccessibility), to strengthen digital competences (eCompetency) and cultural inclusion (cultural eInclusion).

Lin et al. (2011), Lee and Porumbescu (2019), Danila and Abdullah (2014) showed how TAM (Technology Acceptance Model) has a positive impact on the usage of e-government services, despite cultural differences. Results showed that basic elements of TAM had a strong influence on user-intention towards the usage of e-government services.

Hall and Owens (2011) discuss whether e-government services targeting lower-income population who receive public welfare benefits are really available to all, or create a digital divide between more wealthy and educated population and those with lower status and less educated (Zhou, Singh, and Kaushik, 2011). Results show that the gap begins with Internet access, spreading to e-government services. Education and income are strong predictors for the usage of e-government services, but also gender in the e-government divide as in Turkey (Akman et al., 2005) and Internet usage in Canada (Noce and McKeown, 2008).

Pejić Bach et al. (2013) conducted a research on digital divide among corporations, analyzing: i) geographical area, the time frame of the study, sampled corporations ii) phenomena researched and used as an indicator, type of digital divide iii) analysis of data collection type and size, the methodology used.

Zhou, Singh, and Kaushik (2011) conducted an analysis of 500 randomly selected individuals across three South Asian countries with the aim to investigate factors having an impact on computer and Internet use in rural areas. Results showed a strong digital divide related to education, income, English language, infrastructure, and accessibility. Lee and Porumbescu (2019) explored the effectiveness of IT training courses on usage of e-government in South Korea, showing positive associations for elderly and disabled citizens.

Vicente and Novo (2014) analyzed drivers of citizens' decision to engage in social and political presence on the Internet in Spain. Results show the importance of internet-related skills, a significant gender gap, but also that the unemployed participate socially and politically online more than the rest of the population.

Akman et al. (2005) conducted a survey in Turkey among e-government users of different gender and education levels, from categories of ordinary citizens, private sectors and government, concluding that usage of e-government content and services are closely related to gender and education level. Brännström (2012) investigated the same issues in Kenya and Somalia.

Al-Rababah and Abu-Shanab (2010) did the research on gender digital divide in Jordan showing that e-government projects have gaps dealing with gender inequality in developing countries, rural areas and industrialized countries. Abu-Shanab et al. (2013) showed the highest divide in categories of rural vs. cities (78.5%), gender level (76.2%) and income (68%) in Jordan. Bakunzibake et al. (2019) conducted a survey on changes in the process of e-government usage in Rwanda from a social and technical perspective.

Vassil et al. (2016) conducted research on the exertion of e-voting which was implemented as a means to augment turnout, especially among the younger population. E-voting aimed for the inclusion of people with difficulties, as reduced mobility, socially excluded. The authors elaborated on e-voting in Estonia from 2005 – 2015. The authors indicate that they did not find any strong relations regarding education, gender or income, but did find a slightly positive correlation between higher education and e-voting. The authors also indicate that associations between e-voting and age, computer literacy, ethnicity and confidence towards e-voting diminish eventually.

The European Commission has developed the Digital Economy and Society Index (DESI) in order to help policymakers to estimate the progress of EU countries towards the digital economy and digital society, taking into account the use of the Internet as an indicator of their digital skills. DESI Index from 2018 shows the highest scores for Denmark, Finland, Sweden, and the Netherlands, followed by Luxembourg, UK, Ireland, Belgium, Estonia. Out of 28 countries, Croatia is at 22nd place, after which follows Hungary, Poland, Italy, Bulgaria, Greece and Romania (European Commission, 2019).

Gender segregation in the labor market includes changes in human resources practice by regulating gender balance at middle and top management, in business strategy, in training and developing leadership skills, ICT skill gap, changes in organizational culture and in a social context. These recommendations aim to diminish institutional barriers, promote female entrepreneurship, address the problem of financing and financial literacy, increase participation in corporate boards, studying in STEM.

According to the World Economic Forum (2018), the Global Gender Gap since 2006 has been used to measure relative gaps between women and men in four areas: education, health, economy, and politics. This study states that there is still a disparity of 32% in gender, although there is an improvement in 89 countries out of 144. The largest is in the domain of politics (77.1%), then economy (41.9%), health (4.6%) and education (4.4%).

3. METHODOLOGY

3.1. Measuring e-Government in Europe

In order to research the usage of e-government services in Europe, we collected data from Eurostat for the year 2018, with the focus on 32 European countries (EU countries, Norway, Turkey, Switzerland, and Serbia). Data is provided in the Appendix. We used eight variables regarding e-government usage: males in 4 age groups and females in four age groups. For the analysis regarding economic development, the following indicators are used: GDP per capita, global gender inequality index, economic participation and opportunity, educational attainment, health, and survival.

3.2. Cluster analysis by K-means, ANOVA and Kruskal-Wallis test

Cluster analysis is a technique often used to classify objects or similar observations into cognate clusters, which are homogenous inside the group and heterogeneous with other groups. Clustering is a method of unsupervised learning, used in data analysis to find hidden patterns or to identify groups of objects that share traits that are more common.

Two main types of cluster analysis are partitioned clustering and hierarchical clustering, differentiating by the nested or unnested clusters. K-means is a partitioned clustering method, where data is grouped into non-overlapping clusters. K-means algorithm aims to divide *n* observations into *k* non-overlapping clusters where each observation belongs to only one cluster, with the nearest mean. In the research, we used a K-means clustering, which groups the statistical units into nested groups, starting with all statistical units in one group, and then divide them with the application of the "top-down" method.

ANOVA (analysis of variance) is used to determine whether there is statistical significance among eight variables of age and gender among clusters.

Identified clusters are compared using the Kruskal-Wallis test in order to investigate whether there is a statistically significant difference among clusters with respect to six indicators of economic development and gender inequality.

4. RESULTS

4.1. Descriptive analysis

Table 1 presents descriptive statistics on the usage of e-government services for 2018 showing the highest percentage of e-government usage by population aged from 20-24 years for both genders (F: 65,969%, M: 64,750%), aged 25-54 years (F: 63,750%; M: 62,719%) then by age 16-19 and 55-74 years. In all age groups, women were in groups with higher e-government usage, having also larger standard deviation, except for the oldest age group.

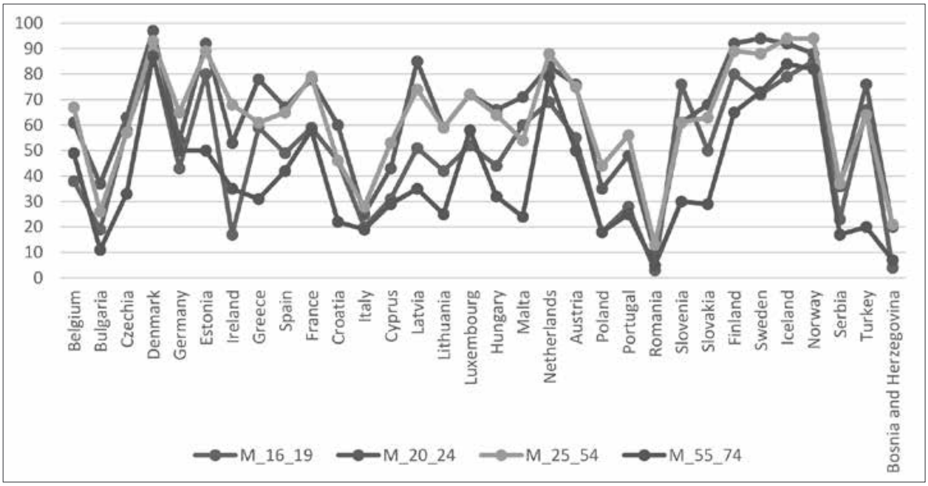
Table 1. Descriptive statistics of the observed variables

	Valid N	Mean	Minimum	Maximum	Std.Dev.
M_16_19	32	48,875	3,000	88,000	23,818
F_16_19	32	**51,063**	5,000	92,000	24,693
M_20_24	32	63,750	10,000	97,000	22,891
F_20_24	32	**65,969**	10,000	98,000	23,999
M_25_54	32	62,719	13,000	94,000	21,663
F_25_54	32	**63,750**	13,000	95,000	23,163
M_55_74	32	**39,813**	5,000	87,000	23,280
F_55_74	32	35,219	3,000	86,000	24,596
GDP per capita in PPS	32	98,594	31,000	261,000	44,566
Global gender inequality index	32	0,740	0,628	0,858	0,051
Economic participation and opportunity	32	0,700	0,466	0,808	0,072
Educational attainment	32	0,996	0,968	1,000	0,008
Health and survival	32	0,975	0,967	0,980	0,005
Political empowerment	32	0,291	0,045	0,674	0,152

Source: Authors' work based on Eurostat; World Economic Forum (2018); Bold letters indicate the higher mean value between males and females

Figure 1 presents e-government usage by males in 2018 according to four different age groups. The lowest level of usage of e-government services is by the age of 55-74 (avg. 39.81%), followed by age group 16-19 years (avg. 48.88%) and the highest percentages between 62-64% (age group 20-24: 63.75% and age group 25-54: 62.72%). The lowest usage of e-government services in the male group in Bosnia and Herzegovina, Romania, Bulgaria, Serbia, Poland, and Italy.

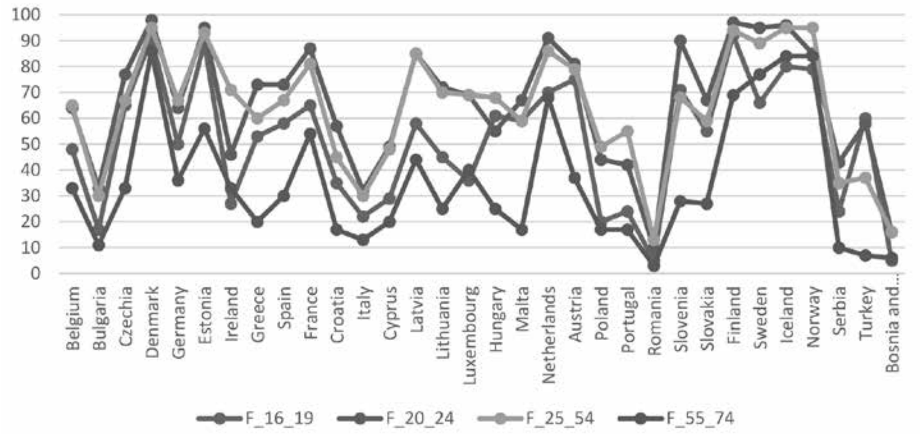
Figure 1. E-government activities of individuals via websites – Percentage of males



Source: Authors' work based on Eurostat

Figure 2 presents e-government usage by males in 2018 according to four different age groups. The lowest level of usage of e-government services is the same as for males – the age group 55-74 (avg. 35.22%), followed by age group 16-19 (avg. 51.06%) and the highest e-government usage for the age group 20-24 (65.97%) and age group 25-54 years (63.72%). The lowest usage of e-government services in the female group is Romania, Bosnia, and Herzegovina, followed by Bulgaria, Italy, and Serbia.

Figure 2. E-government activities of individuals via websites – Percentage of males

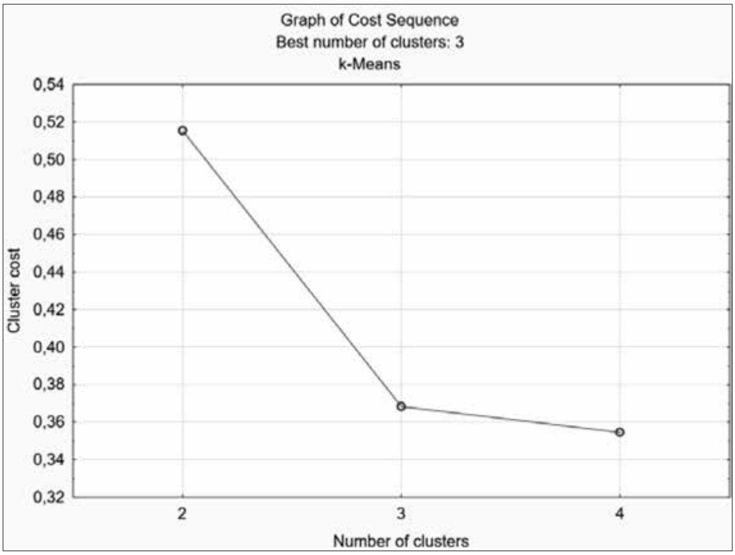


Source: Authors' work based on Eurostat

4.2. Cluster analysis

Results of cluster analysis are presented by (i) ANOVA analysis (Table 2), (ii) cluster means (Table 3) and (iii) graph of the cost sequence (Figure 3). Figure 3 presents a graph of the cost sequence where it is showed that three clusters are appropriate for this analysis.

Figure 3. Graph of the cost sequence



Source: Authors' work based on Eurostat data (2018)

Table 2 presents the results of ANOVA analysis and k-means clustering for 8 variables. Results present optimal grouping of 32 European countries into 3 clusters. All of the selected variables are statistically significant at 1%, indicating that the decision on grouping variables into three clusters is valid.

Table 2. ANOVA analysis, k-means clustering; 8 variables, 3 clusters, n=32 countries

	Between SS	df	Within SS	df	F	p-value
M_16_19	13644,250	2	3941,250	29	50,198	0,000***
F_16_19	14952,380	2	3949,500	29	54,895	0,000***
M_20_24	13652,750	2	2591,250	29	76,397	0,000***
F_20_24	14327,340	2	3527,625	29	58,891	0,000***
M_25_54	11897,530	2	2650,938	29	65,077	0,000***
F_25_54	12801,000	2	3831,000	29	48,451	0,000***
M_55_74	13136,060	2	3664,813	29	51,973	0,000***
F_55_74	16014,090	2	2739,375	29	84,765	0,000***

Source: Authors' work based on Eurostat data (2018)
Note: *** statistically significant at 1%

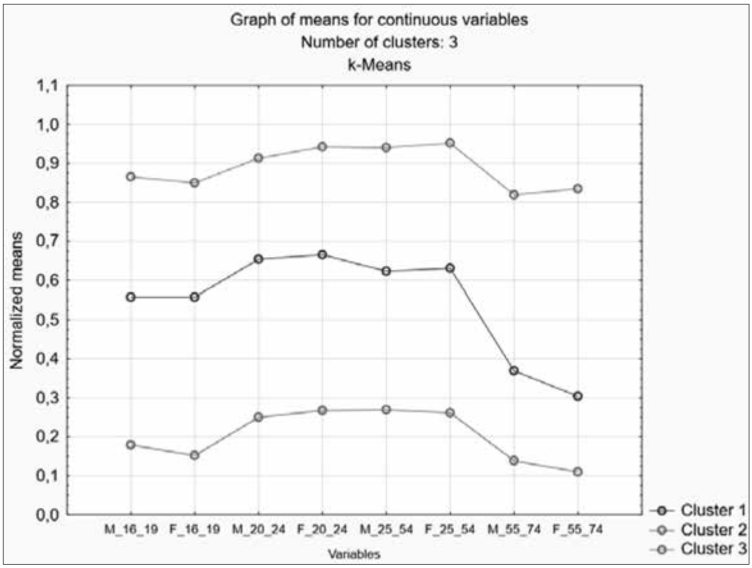
Table 3 represents descriptive statistics of the e-usage usage indicators across clusters. The table presents the overall ranking of clusters according to the 8 factors, as follows: Cluster 3, Cluster 1 and Cluster 2. Cluster 3 has the highest average value, as it consists of the most developed countries with the highest GDP, education attainment and involvement in the usage of e-services. The graph of the cluster means is presented in Figure 4.

Table 3. Descriptive statistics of the e-government usage indicators across clusters

	Cluster 1	Cluster 2	Cluster 3
M_16_19	50,375	**18,250**	76,500
F_16_19	**53,500**	**18,250**	**79,000**
M_20_24	66,875	31,750	89,500
F_20_24	**68,625**	**33,625**	**93,000**
M_25_54	63,438	**34,750**	89,250
F_25_54	**64,750**	34,500	**91,000**
M_55_74	**35,313**	**16,375**	**72,250**
F_55_74	28,250	12,125	**72,250**
Number of cases	16	8	8
Percentage(%)	50%	25%	25%

Source: Author's research based on Eurostat data (2018); Bold letters indicate the higher value between males and females

Figure 4. Graph of the cluster means



Source: Author's research based on Eurostat data (2018)

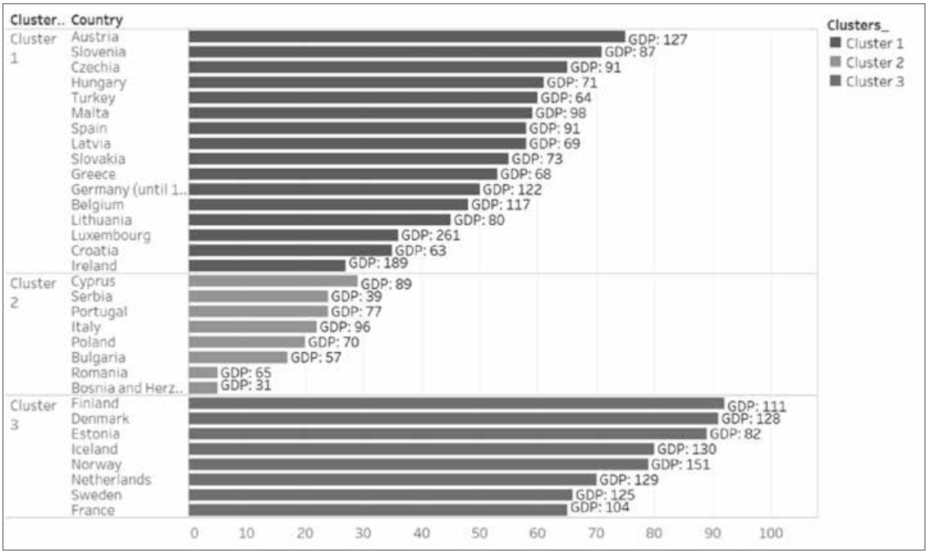
Countries belonging to various clusters are presented in Table 4. Figure 5 presents the three discovered clusters, correlating with national GDP per capita in PPS. This result indicates that there is a potential relationship between the implementation of e-government and the level of economic development as well as gender inequality, which will be investigated in the next subchapter.

Table 4. European countries according to clusters based on e-Government usage; 2018

Cluster	European countries
C1	Belgium, Czech, Germany, Ireland, Greece, Spain, Croatia, Latvia, Lithuania, Luxembourg, Hungary, Malta, Austria, Slovenia, Slovakia, Turkey
C2	Bulgaria, Italy, Cyprus, Poland, Portugal, Romania, Serbia, Bosnia and Herzegovina
C3	Denmark, Estonia, France, Netherlands, Finland, Sweden, Iceland, Norway

Source: Author's research based on Eurostat data (2018)

Figure 5. Clusters and GDP per capita in PPS



Source: Author's research based on Eurostat data (2018)

4.3. Comparison of clusters according to economic development and gender inequality

In this chapter, the outcomes of the Kolmogorov-Smirnov tests are displayed (Table 5). Cluster 3 has the highest GDP per capita in PPS which is above the average EU GDP (120,00), as a result of grouping the most developed European countries. Cluster 3 has the highest economic participation opportunity, educational attainment, and political empowerment. Results of the Kruskal-Wallis test confirm the statistically significant difference among clusters at 1% significance regarding GDP, global gender inequality index and political empowerment. There is statistical significance among clusters regarding economic participation, educational attainment and health and survival, at $\alpha=0,05$.

Table 5. Average values of GDP per capita in PPP and gender inequality indicators across clusters & results of Kruskal-Wallis test

Cluster	GDP per capita in PPS	Global gender inequality index	Economic participation and opportunity	Educational attainment	Health and survival	Political empowerment
Cluster 1	104,44 (52,90)	0,72 (0,04)	0,69 (0,08)	0,99 (0,01)	**0,98** (0,00)	0,23 (0,12)
Cluster 2	65,50 (22,68)	0,72 (0,02)	0,67 (0,05)	0,99 (0,01)	**0,98** (0,01)	0,24 (0,08)
Cluster 3	**120,00** (20,74)	**0,80** (0,04)	**0,75** (0,05)	**1,00** (0,01)	0,97 (0,00)	**0,46** (0,14)
Total	98,59 (44.57)	0,74 (0,05)	0,70 (0,07)	1,00 (0,01)	0,98 (0,01)	0,29 (0,15)
Kruskal-Wallis H (p-value)	11,638 (0,003)***	11,669 (0,003)***	7,715 (0,021)**	9,162 (0,010)	4,654 (0,098)	10,465 (0,005)***

Source: Author's based on Eurostat (2018) and World Economic Forum (2018)
Note: Indicated means and standard deviations (in parentheses); bold letters point the highest average value; *** 1%, ** 5% significance

5. CONCLUSION

e-Government as a new type of service, integrated into the digital environment, offers new opportunities, but also brings new demands, challenges a risk. However, it requires not only the usage of information and communication technologies but to provide first-order and second-order changes, related to, firstly, internet access and then, to social, economic, educational and business changes. E-government services are still in the early stage of adoption, due to barriers known as the „digital divide".

The aim of our research was to gain insight into the usage of e-government services across European countries and to and to clarify the position of Croatia regarding usage of e-government. Our paper is focused on two research contributions: (i) to perform cluster analysis of e-government usage among the European countries and to position Croatia in the given data set, and (ii) to detect possible reasons of a digital divide in relation to age and gender divide and economic development. In order to achieve our goals, we used data obtained from the Eurostat database for 32 countries (EU countries, Norway, Turkey, Switzerland, and Serbia) for 2018.

The results of our research indicate that 32 European countries can be grouped into three clusters, based on 8 factors related to gender and age (males and females in four age groups), with Croatian belonging to the middle-level cluster, but at the lower level. ANOVA analysis showed a statistically significant difference among the 8 variables used for cluster analysis, at the significance level of 1 %, suggesting the existing digital divide related to gender and age across the European countries. Results of the Kruskal-Wallis test confirm the statistical difference among clusters at 1% significance regarding GDP, global gender inequality index and political empowerment. At the significance level of 5%, there are statistically significant differences regarding economic participation, educational attainment, and health and survival.

Our research shows that the usage of e-government services is not equally distributed across countries and is interrelated with GDP and political empowerment. Cluster with lower GDP has lower economic participation and opportunity and lower political empowerment. This indicates that countries with lower GDP also lag behind the usage of e-government services. Due to various types of barriers that create a "digital divide" (e.g. knowledge and skill gap, geographic, income, education and special needs, etc.), it is possible that in the future, this gap can be even broader. According to existing studies, governments should perform business processes reengineering and transform the way of work and communication, but also enable ICT training programs in order to decrease the digital divide and to exploit the full potential of e-services.

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Appendix 1. Data used in the analysis of e-government usage

	M_ 16_19	F_ 16_19	M_ 20_24	F_ 20_24	M_ 25_54	F_ 25_54	M_ 55_74	F_ 55_74
Belgium	38	48	61	64	67	65	49	33
Bulgaria	19	17	37	33	26	30	11	11
Czechia	58	65	63	77	57	67	33	33
Denmark	88	91	97	98	93	95	87	86
Germany	43	50	54	64	65	67	50	36
Estonia	80	89	92	95	89	93	50	56
Ireland	17	27	53	46	68	71	35	33
Greece	59	53	78	73	61	60	31	20
Spain	49	58	67	73	65	67	42	30
France	59	65	78	87	79	81	58	54
Croatia	46	35	60	57	46	45	22	17
Italy	20	22	25	32	28	30	19	13
Cyprus	31	29	43	49	53	48	29	20
Latvia	51	58	85	85	74	85	35	44
Lithuania	42	45	59	72	59	70	25	25
Luxembourg	52	36	72	69	72	69	58	40
Hungary	44	61	66	55	64	68	32	25
Malta	60	59*	71	67	54	59	24	17
Netherlands	69	70	83	91	88	86	79	68
Austria	55	75	76	81	75	79	50	37
Poland	18	20	35	44	44	49	18	17
Portugal	28	24	48	42	56	55	25	17
Romania	3	5	10	10	13	13	5	3
Slovenia	76	71	61	90	61	68	30	28
Slovakia	50	55	68	67	63	59	29	27
Finland	80	92	92	97	89	94	65	69
Sweden	72	66	94	95	88	89	73	77
Iceland	79	80	92	96	94	95	84	84
Norway	85	79	88	85	94	95	82	84
Serbia	23	24	36	43	37	35	17	10
Turkey	66	60	76	58	64	37	20	7
Bosnia and Herzegovina	4	5	20	16	21	16	7	6

Source: Eurostat (2018); Note: estimated

Appendix 2. Data used in the analysis of economic development and gender inequality

	GDP per capita in PPS	Global gender inequality index	Economic participation and opportunity	Educational attainment	Health and survival
Belgium	117	0,738	0,714	1,000	0,973
Bulgaria	57	0,756	0,708	0,989	0,979
Czech	91	0,693	0,651	1,000	0,980
Denmark	128	0,778	0,734	1,000	0,971
Germany	122	0,776	0,734	0,976	0,973
Estonia	82	0,734	0,729	1,000	0,979
Ireland	189	0,796	0,725	0,996	0,970
Greece	68	0,696	0,684	0,992	0,971
Spain	91	0,746	0,660	0,998	0,972
France	104	0,779	0,685	1,000	0,974
Croatia	63	0,712	0,681	0,998	0,980
Italy	96	0,706	0,592	0,995	0,969
Cyprus	89	0,684	0,679	0,998	0,967
Latvia	69	0,758	0,807	1,000	0,980
Lithuania	80	0,749	0,765	0,997	0,980
Luxembourg	261	0,712	0,693	1,000	0,972
Hungary	71	0,674	0,680	0,994	0,979
Malta	98	0,686	0,614	1,000	0,969
Netherlands	129	0,747	0,698	1,000	0,968
Austria	127	0,718	0,658	1,000	0,974
Poland	70	0,728	0,706	0,998	0,980
Portugal	77	0,732	0,721	0,991	0,978
Romania	65	0,711	0,705	0,996	0,980
Slovenia	87	0,784	0,795	1,000	0,980
Slovakia	73	0,693	0,657	1,000	0,980
Finland	111	0,821	0,786	1,000	0,977
Sweden	125	0,822	0,808	0,998	0,969
Iceland	130	0,858	0,793	0,999	0,968
Norway	151	0,835	0,806	0,999	0,972
Serbia	39	0,730	0,672	0,998	0,980
Turkey	64	0,628	0,466	0,968	0,976
Bosnia and Herzegovina	31	0,712	0,599	0,981	0,980

Source: Eurostat (2018) and World Economic Forum (2018)

ANALYSIS OF THE EVOLUTION OF REGIONAL DISPARITIES IN ROMANIA

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Abstract

This paper studies the level and evolution of regional disparities in Romania over the period 2007-2017. In this respect, we employ two methodologies highly relevant and well-established in the literature: (i) the relative distance method and (ii) the cluster analysis. The results of the empirical analysis indicate a major discrepancy between the Bucharest-Ilfov region and all the other seven development regions. During the analysis period, there are no significant changes in the positioning of the regions. Regional disparities were not reduced over the period considered, although there are European and national programs for this matter. Therefore, we conclude that an efficient public sector should consolidate the regional disparities with the EU Cohesion Policy.

Keywords: *regional disparities, relative distance method, cluster analysis, Romania*

JEL Classsification: O11, O18

1. INTRODUCTION

globalization phenomenon, as well as the quality of Romania as a European Union member state, impose the necessity of sustained development in terms of the public sector performance and the equivalence of citizens' living conditions in the country. Romania and all the European Union member states are going through a continuous process of adapting the national legislation to the European legislation, by promoting the principles and values of the European Union. One of the main objectives of the European Union is to strengthen economic, social and territorial cohesion and solidarity between member states.

This paper contributes to the specialized literature with a new approach regarding the analysis of the evolution of regional disparities in Romania. The novelty of the approach lies in the use of two distinct methodologies undertaking a more complex and comprehensive analysis. The opportunity of the topic consists in the fact that the standardization of the way of life for all the European Union citizens, in general, and of every country, in particular, represents a fundamental European principle.

The paper is structured as follows. The first part contains an overview of the specialized literature in the field of analysis of regional disparities. The second part of the paper describes the methodology performed in the analysis. The results are presented in the third part of the paper and the conclusions of the study are described in the last part.

2. LITERATURE REVIEW

Since the establishment of the European Economic Community in 1957, through the Treaty of Rome (1957), its main objective was the harmonious and balanced development of the Member States. Moreover, it was intended to establish good and equal standards of living among citizens. The Treaty of the European Union (1991) defines and justifies the purpose of economic and social cohesion at the level of art. 130 A (158). Respecting the provisions of this article, an essential role of the cohesion process is to reduce gaps between regions. Thus, we conclude that the reduction of regional disparities is a European objective existing since the establishment of the Community to this day. In order to be able to apply policies to reduce disparities, they must first be quantified.

The objective of achieving the territorial cohesion of the European Union is also present in the Treaty of Lisbon (2007). In the sense of the treaty, territorial cohesion implies the adequacy of natural and anthropogenic resources to the needs of socio-economic development in order to eliminate disparities and dysfunctionalities between different spatial unities, while preserving the natural and cultural diversity of the regions. In line with the principles of the Cohesion Policy of the European Union, the Romanian Government has developed the National Development Plan. Its purpose is to rapidly reduce the socio-economic development disparities in Romania. The solutions identified to reduce disparities are: (i) improving administrative performance and local public infrastructure, (ii) protecting natural and cultural heritage, (iii) rural development, and (iv) strengthening the business environment and innovation.

According to the OECD (2002) vision, regional or spatial disparities express the existence of marked differences in some economic phenomena under investigation. Thus, we can make the analysis of disparity considering a multitude of indicators, in accordance with the specifics and objectives of the analysis undertaken. Nelea (2006) performs a study of the disparities between European states using the rank method, a method based on relative distances. The indicators used by the author are: (i) Net income on households, (ii) Poverty rate, (iii) Average number of rooms/person, (iv) Percentage of people claiming at least two environmental problems in the area of residence, (v) Proportion of households in which active persons aged 18 to 64 do not work, (vi) Probability of loss of jobs over the next six months, (vii) Percentage of people with poor health and (viii) Trusted people. Babucea (2007) conducts a study on the disparities between the regions of Romania using the cluster method and considering the nominal average salary as the indicator. The results of the study indicate the existence of three clusters. Two of these were represented by the Bucharest-Ilfov region and the Western region, which distinguished themselves from the other regions. The third cluster consists of the remaining six regions that are close to results. Cumatrenco (2007) advocates the need to structure communities in homogeneous groups. Moreover, the author performs a qualitative analysis that reveals the main advantages of cluster analysis, such as the wide variety of available analyzed.

Ceausescu (2011) analyzes the disparities of the developing regions in Romania through the relative distance method. The indicators considered by the author are GDP per capita, unemployment rate, activity rate, and occupancy rate. The results indicate that the Bucharest-Ilfov region is stronger than the rest of the regions, and the Western region is performing well in every year considered in the analysis. Țotan et al. (2012) apply the rank method and the relative distance method to quantify the regional disparities in Romania. The indicators selected for analysis are (i) GDP per capita, (ii) employment rate, (iii) adult literacy rate, (iv) life expectancy and (v) gross enrollment rate in all levels of education. Once again, the Bucharest-Ilfov and Western regions record the best results. Cojocaru (2013) performs a qualitative analysis of the phenomenon of regional disparities in the Republic of Moldova. The author emphasizes the importance of disparities between regions of a country in order to be able to formulate public policies that reduce existing socioeconomic disparities.

Crudu (2015) analyzes the gap between how the European Union Member States have been affected by the global economic crisis. The author considers three indicators, GDP / inhabitant, unemployment rate and labor productivity, analyzing the results of European states before and after the crisis. The conclusion of the study is that EU cohesion policies on European states and regions have played a decisive role in reducing the effects of the economic crisis. Postoiu and Busega (2015) conduct a study on regional and national disparities at the European level. The authors use the sigma convergence to quantify the level of disparity and consider two indicators: GDP per capita and employment rate.

The results of the analysis indicate large discrepancies between the regions and the European states, with the best results being recorded in the central and northern parts of the Union.

The European Commission (2018) identifies at the level of the 2018 Country Report on Romania a strong level of disparities between development regions. The Commission's recommendation to reduce these large discrepancies in the proper implementation of active labor market policies to mobilize disadvantaged groups. There are eight development regions in Romania: (i) North-Eastern Development Region, (ii) South-Eastern Development Region, (iii) South-Muntenia Development Region, (iv) South-Western Development Region Oltenia, (v) the Western Development Region, (vi) the North-Western Development Region, (vii) the Center Development Region and (viii) the Bucharest-Ilfov Development Region. These regions were established in 1998 by the Association of County Councils in Romania. The constitution of the regions has been properly achieved with the NUTS II level divisions in the European Union. This constitution came as a necessity of regional development, imperative for the accession of Romania to the European Union. Moreover, each region must operate efficiently in order to achieve the general public sector performance target.

3. METHODOLOGY AND DATA

The classification or grouping method is an important method in the statistical processing of data. Such data hierarchies allow qualitative and quantitative analyses of the socio-economic peculiarities of the studied collectivities. In the particular case of the empirical analysis developed in our study, we achieve a multi-criteria hierarchy of the developing regions in Romania. In achieving this goal, we use two methods mentioned in the literature: (i) the relative distance method and (ii) the cluster analysis.

The relative distance method involves transforming the initial values of selected indicators into relative distances from the best value of each indicator for each criterion. So the report $\frac{x_{ij}}{x_{maxj}}$ shows the relative distance of each region „i" to the region with the maximum performance for the indicator/criterion „j". Finally, determine the average relative distances for each region and calculate the simple geometric mean of all reports determined for all criteria „j":

$D_i = \sqrt[m]{\prod_{j=1}^{m} \frac{Xij}{Xmax\ j}}$, where m is the number of criteria used. (1)

The geometric mean shows the central trend or the typical value of a set of data by extracting the root of m, where m represents the number of terms.

An alternative to this method is the rank method, which is based on the relative distance method but involves the construction of an aggregate index using weightings or importance given to the indicators considered. For indicators whose maximum value represents the best value, the partial rank is calculated using the formula:

$$R_j^i = n - \frac{a_j^i - a_j^{min}}{a_j^{max} - a_j^{min}} * (n-1), \text{ cu } i = 1, 2 \ldots n\ ;\ j = 1, 2 \ldots m \quad (2)$$

Where:

a_j^i = the level of the indicator j in the territorial unit i

a_j^{min} = indicator level j in the minimum performance territory unit

a_j^{max} = the level of the j indicator in the maximum performance territory unit

n = number of territorial units

m = number of characteristics (indicators) included in the analysis

For indicators whose minimum value represents the best value, the partial rank is calculated using the following formula:

$$R_j^i = n - \frac{a_j^{max} - a_j^i}{a_j^{max} - a_j^{min}} * (n-1) \quad (3)$$

Where:

a_j^{min} = the level of the j indicator in the maximum performance territory unit

a_j^{max} = the level of the j indicator in the minimum performance tertiary unit

The final rank is obtained by aggregation by applying the formula:

$$\check{R}_j = \frac{\sum_{j=1}^{m} R_j^i p_j}{100}, \text{ where } = \sum_{j=1}^{m} p_j = 100\%. \quad (4)$$

We consider that this approach involves a subjective dimension by assigning the weights of each indicator to determine the aggregate index. As a consequence, we believe that approaching the method using geometric means allows for an objective study.

We conduct a study on the quantification and evolution of disparities between all regions of Romania and all regions except the Bucharest-Ilfov region for a period of 11 years from 2007 to 2017. The analysis period was selected as the first year in which Romania has become a member state of the European Union and the last year for which the data collection could be carried out considering the limit of their availability at the level of the specialized institutes. The indicators selected for this analysis are the indicators of sustainable territorial development according to the National Statistics Institute:

(i) GDP per capita/region, starting from GDP, the primary indicator for economic performance, GDP per capita is an indicator that reveals living standards. GDP per capita is also likely to be the most relevant and enlightening indicator for the well-being of the regions because it is decisive for internal economic well-being. We also consider that the GDP per capita indicator would be strongly correlated with other important aspects of well-being that affect individuals of any community (labor, social or public welfare);

(ii) the gross average wage, an indicator of economic and social development that shows the purchasing power of citizens in a given area as well as a general level of population incomes;

(iii) the active population, representing persons of at least 15 years of age who supply labor. This indicator is relevant to our study to outline a realistic picture of the region's labor potential;

(iv) the poverty rate, reflecting the percentage of people living in a material deprivation life below a minimum standard of living;

(v) the unemployment rate, reflecting the number of unemployed persons and the general labor market.

For an exhaustive analysis of the study of regional disparities, we also apply another highly effective hierarchical tool, the cluster analysis. This analysis is based on a series of classification algorithms that divide a set of variables into homogeneous groups. By working on the principle of the distance between variables, cluster analysis starts from the Euclidean distance determination, where the distance between points x and y is determined using the formula:

$$d(x,y)=\sqrt{\sum_i (x_i - y_i)^2} \tag{5}$$

For the study of the disparities using the cluster analysis, in the years 2007, 2012 and 2017, we selected only three indicators: (i) GDP per capita/region, (ii) gross average wage and (iii) unemployment rate. We consider that this limited selection indicates a more realistic picture of the socio-economic situation of the regions, considering three basic indicators for the analysis of regional disparities. We analyze the years 2007, 2012 and 2017 to capture the evolution of the grouping of regions. The data set is the same as the analysis of relative distances, with data collected from the National Institute of Statistics. The data was processed in SPSS.

4. RESULTS

We conducted the analysis starting from the year 2007, based on five indicators to achieve a ranking of the regions in Romania. The hierarchy of regions is realized by considering all eight development regions, but also by excluding the Bucharest-Ilfov region from the analysis. In table 1 we note that the Western region is the most developed of the seven provincial regions of Romania. The final rank is the result of the geometric mean of all reported indicator ratios.

Table 1. Relative distances between regions except for Bucharest-Ilfov in 2007

Year 2007	Region	Indicator-report (xi/ximax)					Final rank	Position
		GDP / capita	Gross average salary	Active population	Poverty rate	Unemployment rate		
1	NORTH-WESTERN Region	0.83	0.92	0.69	0.49	0.98	0.76	2
2	CENTRE Region	0.88	0.93	0.61	0.54	0.50	0.67	3
3	NORTH-EASTERN Region	0.55	0.92	1.00	0.27	0.84	0.65	5
4	SOUTH-EASTERN Region	0.70	0.96	0.68	0.32	0.51	0.60	6
5	SOUTH-MUNTENIA Region	0.71	0.96	0.87	0.37	0.55	0.65	4
6	SOUTH-WESTERN Region	0.68	1.00	0.59	0.27	0.65	0.59	7
7	WESTERN Region	1.00	0.97	0.48	1.00	0.77	0.81	1

By including the Bucharest-Ilfov region in the analysis, it becomes the most developed, at a considerable distance from the other regions, as it can be observed in Table 2.

Table 2. Distances between Bucharest and Ilfov regions in 2007

Year 2007	Region	Indicator-report (xi/ximax)					Final rank	Position
		GDP / capita	Gross average salary	Active population	Poverty rate	Unemployment rate		
1	NORTH-WESTERN Region	0.43	0.66	0.69	0.45	0.98	0.61	3
2	CENTRE Region	0.45	0.66	0.61	0.49	0.50	0.54	4
3	NORTH-EASTERN Region	0.29	0.66	1.00	0.24	0.84	0.52	6
4	SOUTH-EASTERN Region	0.36	0.69	0.68	0.29	0.51	0.48	7
5	SOUTH-MUNTENIA Region	0.37	0.69	0.87	0.33	0.55	0.53	5
6	BUCHAREST Region	1.00	1.00	0.61	1.00	1.00	0.90	1
7	SOUTH-WESTERN Region	0.35	0.72	0.59	0.24	0.65	0.47	8
8	WESTERN Region	0.52	0.69	0.48	0.91	0.77	0.66	2

For all 11 years of the analysis, such hierarchies were made, the final results of the final ranks of the regions being presented in table 3. The North-Western Region records the best results in the 11 years analyzed, followed by the Western region, which, except for the years, occupies the 2nd position, compared to the first position in 2007 and 2009.

Table 3. The final position of the regions, except for Bucharest-Ilfov

No.	Region	The final position of the region in the year										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	NORTH-WESTERN Region	2	1	2	1	1	1	1	1	1	1	1
2	CENTRE Region	3	5	6	5	5	4	5	5	4	2	2
3	NORTH-EASTERN Region	5	4	5	4	3	2	3	3	3	3	3
4	SOUTH-EASTERN Region	6	6	4	6	7	7	6	7	6	6	6
5	SOUTH-MUNTENIA Region	4	3	3	3	4	5	4	4	5	5	5
6	SOUTH-WESTERN Region	7	7	7	7	6	6	7	6	7	7	7
7	WESTERN Region	1	2	1	2	2	3	2	2	2	4	4

By including the Bucharest-Ilfov region in the analysis of relative distances, this region keeps the first position, with all the other regions following. Such a positioning of the region where the capital of the country is located is natural. Bucharest is Romania's most powerful economic engine, with all the studied indicators having the best values at the capital level (as indicated in results from Table 4).

Table 4. The final position of the regions

No.	Region	The final position of the region in the year										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	NORTH-WESTERN Region	3	2	3	2	2	2	2	2	2	2	2
2	CENTRE Region	4	6	7	6	6	5	6	6	5	3	3
3	NORTH-EASTERN Region	6	5	6	5	4	3	4	4	4	4	4
4	SOUTH-EASTERN Region	7	7	5	7	8	8	8	8	7	7	7
5	SOUTH-MUNTENIA Region	5	4	4	4	5	6	5	5	6	6	6
6	BUCHAREST Region	1	1	1	1	1	1	1	1	1	1	1
7	SOUTH-WESTERN Region	8	8	8	8	7	7	7	7	8	8	8
8	WESTERN Region	2	3	2	3	3	4	3	3	3	5	5

Figure 1 highlights the evolution of the final scores recorded by all 8 development regions. There is a significant distance between the Bucharest-Ilfov region and all the other 7 regions. The cluster analysis begins with the determination of Euclidean distances (results are presented in Table 5), based on which the dendrogram is outlined as the next step.

Figure 1. Evolution of the ranks of the regions over the period 2007-2017

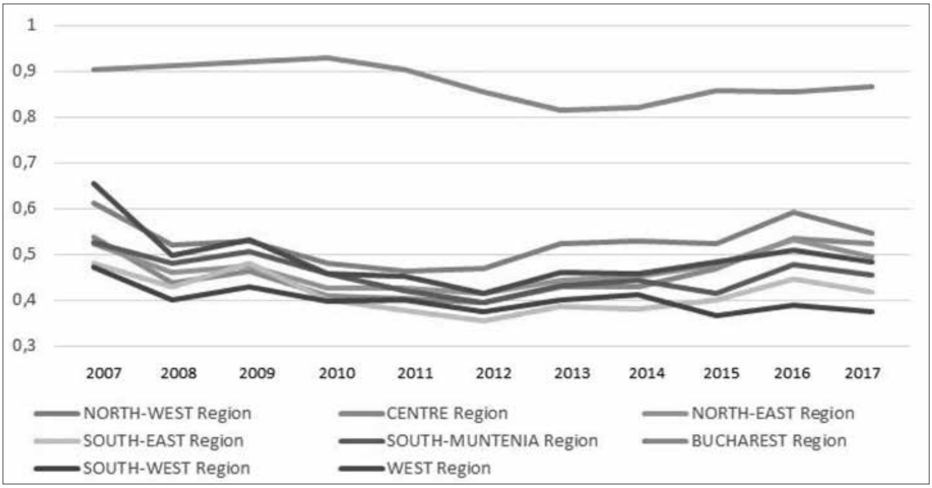


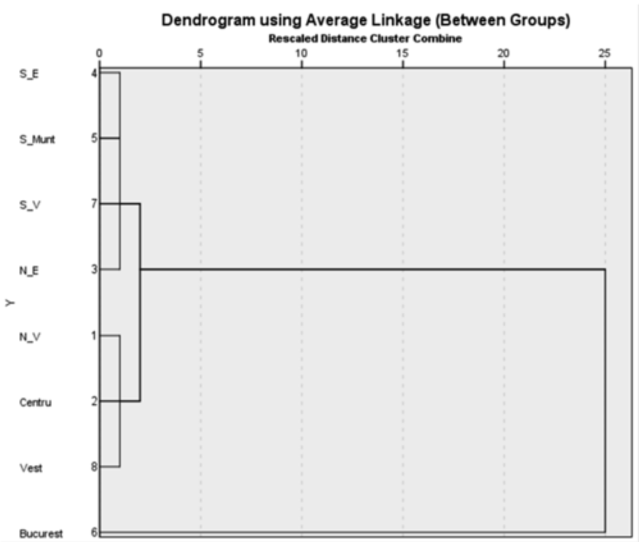
Table 5. Euclidean distances between all regions in 2007

Proximity Matrix

Case	Squared Euclidean Distance							
	1:N_V	2:Centru	3:N_E	4:S_E	5:S_Munt	6:Bucurest	7:S_V	8:Vest
1:N_V	.000	939042.640	39307920.65	8816004.690	8140824.850	597082007.3	12354243.08	13927191.40
2:Centru	939042.640	.000	52397346.21	15507506.33	14607507.53	550671624.3	20100120.84	7633778.760
3:N_E	39307920.65	52397346.21	.000	10898160.70	11677516.90	942674742.6	7608147.210	100023137.3
4:S_E	8816004.690	15507506.33	10898160.70	.000	13457.360	750861537.1	299508.490	44891428.85
5:S_Munt	8140824.850	14607507.53	11677516.90	13457.360	.000	744518053.5	439177.690	43350441.65
6:Bucurest	597082007.3	550671624.3	942674742.6	750861537.1	744518053.5	.000	780929830.3	428637143.9
7:S_V	12354243.08	20100120.84	7608147.210	299508.490	439177.690	780929830.3	.000	52486346.16
8:Vest	13927191.40	7633778.760	100023137.3	44891428.85	43350441.65	428637143.9	52486346.16	.000

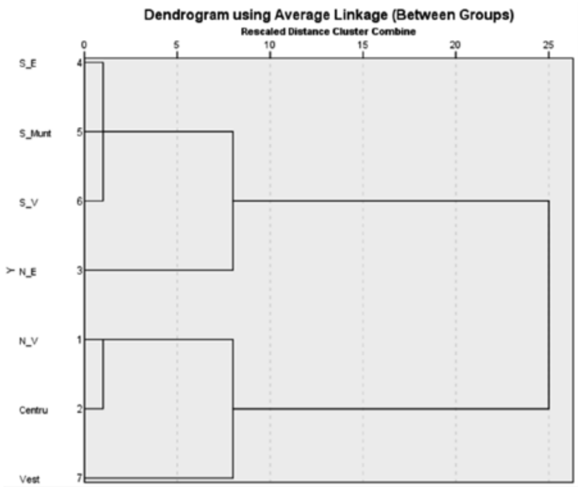
Figure 2 presents the clustering of all the eight development regions in 2007. The results indicate the existence of two clusters. One is represented by the Bucharest-Ilfov region, and the second is consisting of the other seven development regions.

Figure 2. Dendrogram clustering all regions in 2007



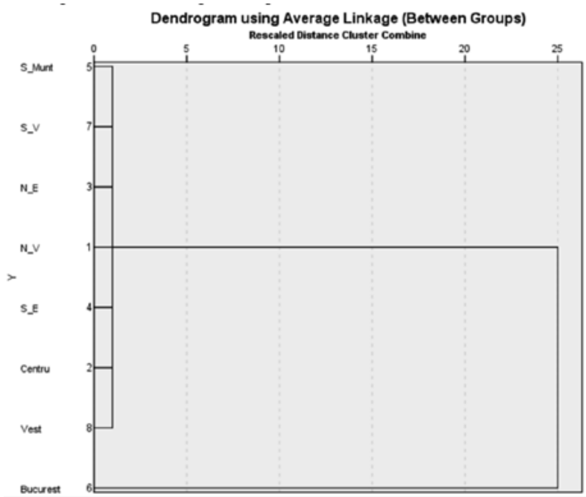
An analysis of the regions by excluding the Bucharest-Ilfov region in 2007 indicates the existence of two clusters (illustrated in Figure 3). One consists of the best-performing regions: Western, Center and North-Western regions, and the second cluster, based on the weakest regions: North-Eastern, SoutWestern, South-Muntenia, and South-Eastern regions.

Figure 3. Dendrogram clustering all regions, except for Bucharest-Ilfov in 2007



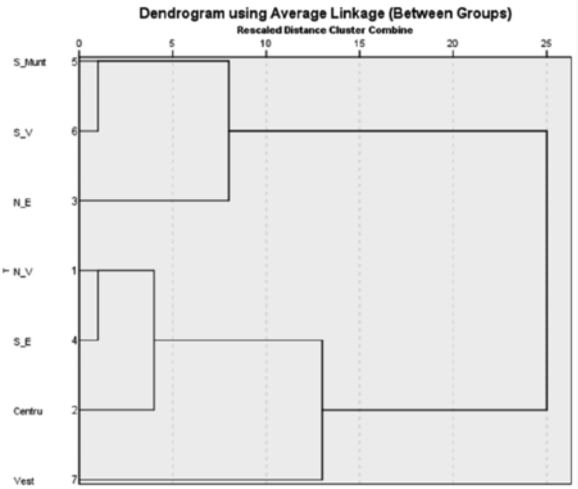
Repeating the analysis in 2012 we do not identify significant changes in the grouping of the eight development regions in Romania. Once again, the Bucharest-Ilfov region forms an independent cluster while all the other regions form the second cluster (Figure 4).

Figure 4. Dendrogram clustering all regions in 2012



In the year 2012, we notice a small change compared to 2007 in the grouping of regions, with the exception of the Bucharest-Ilfov region. We observe two clusters, but the South-Eastern region becomes part of the cluster containing the best performing regions (Figure 5).

Figure 5. Dendrogram Clustering regions, except for Bucharest-Ilfov in 2012



In 2017, the distances between the Bucharest-Ilfov region are maintained. We identify the same two clusters, one representing the Bucharest-Ilfov region, and the other all the other regions (Figure 6).

Figure 6. Dendrogram clustering all regions in 2017

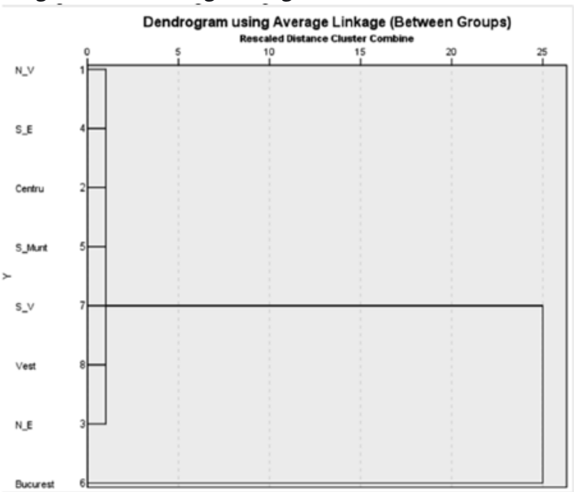
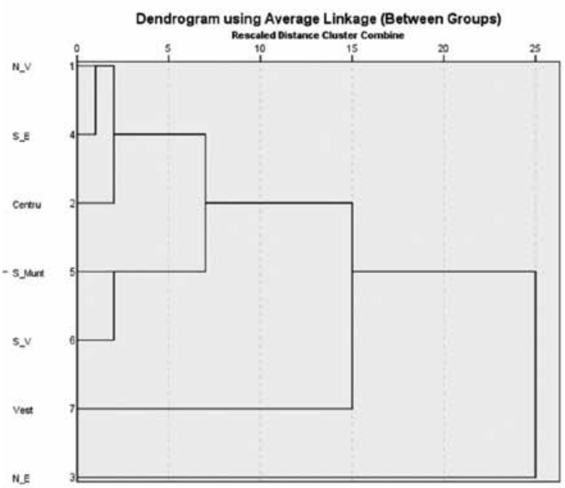


Figure 7 illustrates the existence of three clusters in the analysis, realized after the exclusion of the Bucharest-Ilfov region. A cluster is based on the Western region, which has the best results, the second one is consisting of the North-Eastern region, with the worst result, and the third cluster gathers all the other regions.

Figure 7. Dendrogram clustering all regions, except for Bucharest-Ilfov in 2017



5. CONCLUSIONS

This paper aimed to analyze the level and evolution of regional disparities in Romania. We have identified major discrepancies between the developing regions in Romania, the Bucharest-Ilfov region being the most detached from all the other seven development regions. High levels of regional disparities have been identified between the developing regions in Romania, and these are maintained throughout the analysis period.

Achieving public sector performance is a difficult task involving multiple areas and areas of activity. A condition for an efficient public sector is the consolidation of regional disparities in line with the EU Cohesion Policy. First, we identified from the rich literature on the analysis of regional disparities various methods of quantifying them. After considering them and the data available, we selected two well-established and relevant methods for studying disparities: the relative distance method and the cluster analysis. These methods allowed us to classify the regions, as well as to group them into clusters. The process of reducing regional disparities is a difficult one, involving time and sustained efforts from both, national authorities and European institutions. This paper is of interest to decision-makers at the national level, for academia, and also for Romanian citizens, setting up the basis for future research on regional disparities.

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COMPETITIVENESS OF THE WINE SECTOR IN EU COUNTRIES

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Abstract

To achieve a competitive advantage in the EU and the local wine market, wine producers must constantly look for new opportunities and evolving market needs. The growth of competition, partly fuelled by the emergence of New World countries in the global wine market, is forcing incumbent producers to seek innovation in production technology and develop new market approaches. In these attempts, producers often lack a broader understanding of the interconnectedness of factors that shape the competitive arena.

This paper aims to analyze the orientation of national wine sectors in 15 EU Member States (EU15) towards a foreign trade or domestic consumption, based on factors such as the value of export, production capacity, consumption, and average wine prices. The data used are obtained from official statistics: Eurostat statistics (COMEXT database), COMTRADE database (UN), national statistics from 2005 to 2018; as well as some data presented by previous research. The goal is to present the current state of the 15 EU countries' wine sector competitiveness and discuss approaches aimed at improving their competitiveness. The results will provide useful information for wine producers *and policymakers in charge of regulating the wine sector at the national and EU level.*

Keywords: *competitiveness, wine sector, EU countries, export, import*

JEL Classification: L66

1. INTRODUCTION

This paper provides a comparison between the wine sectors in 15 EU Member State countries (EU15): Bulgaria, the Czech Republic, Germany, Greece, Spain, France, Croatia, Italy, Cyprus, Hungary, Austria, Portugal, Romania, Slovenia, and Slovakia, to recognize the adequate indicators relevant for improving the competitive advantage of the wine industry. The countries in the sample include those with a developed wine industry.

The European Union is the biggest producer of wine in the world, with an average annual production of about 167 million hectolitres, which is about 65% of world production (ec.europa.eu). Through the Common Agricultural Policy (CAP) and the Common Market Organization (CMO) Regulation on agricultural products, the European Union encourages the development of the wine sector by making EU wine producers more competitive, by making market-management rules simpler, clearer and more effective and by preserving the tradition of making wine.

In the last 20 years, the global wine market has experienced rapid globalization, exports have doubled (Alonso et al., 2017), New World countries (Chile, Australia, South Africa, Argentina) have emerged on the world wine scene, consumer expectations have changed and the quality of wine has significantly risen. New World countries and the United States base their production on drastically larger average plantation sizes than EU producers and, consequently, incur lower production costs. Even though the EU measures are designed to keep the European wine production competitive and recognized in quality, the effects of these measures are doubtful, especially for smaller producers.

The competitive economies are the ones that have recognized the factors driving the improvement of productivity and have built the country's prosperity on them. Competitiveness can be defined and measured in many ways. The World Economic Forum (WEF 2018) defines competitiveness as *"a set of institutions, policies, and factors that determine the level of productivity of a country"* and it ranks the competitiveness of about 140 countries through the Global Competitiveness Index (GCI). The European Union defines a competitive economy as an *"economy with a sustained high rate of productivity growth"* (eur-lex.europa.eu). Boosting competitiveness within EU countries is one of the EU's key political priorities. But, according to Porter (1990), the basic unit of analysis for the understanding competition is the industry. Firms are the ones that compete in the international market. Encouraging innovations and the use of new technologies leads to a more competitive business environment and long-run growth (Sener, Saridogan, 2011). One of the six focuses of the EU Enterprise Policy is *"encouraging business to embrace information and communications technologies"* to create more competitive enterprises.

To be competitive in a certain market, a business entity should be able to minimize long-run average cost. However, firms of a quite different size within an industry, which is usually connected with costs (economies of scale), are often able to compete in the long run. Firms of different sizes can survive in competitive markets if they can produce at similar levels of marginal costs. This situation can be the result of significant variations in the accessibility and price of the main inputs such as labor, agricultural land energy, etc. For example, to be cost-effective, the European wine producers have to reach output levels that would enable them to introduce cost-saving technologies both in vineyards and wine cellars. Depending on the availability of resources i.e. depending on the degree of specialization, there is more than one level at which a wine producer can achieve maximal price efficiency. Europe's main competitors, especially from South America, grow wine grapes on vastly bigger plantations and at lower prices of accessible labor and are thus able to reach significant cost advantages over most European producers. However, small European wine producers can "make use" of the wine production tradition and enhance the reputation of their brand, and, based on it, achieve higher prices for smaller volume production. Considering that a significant part of wine-producing countries in Europe is also popular tourist destinations (Italy, Spain, Portugal, France, Greek, Croatia), the wine producers in these countries, especially smaller ones, can sell their products to tourists for a premium price as a part of a wider tourist offer giving tourists a "bite" of authenticity (private hotels, restaurant offering "craft" wine, etc.). As we find the specificity of the wine sector often country related, the emphasis in this research is on countries rather than on particular firms. Even in a "wider picture", a typical wine consumer tends to recognize the reputation of a wine sort or wine-producing country better than the reputation of a particular wine producer. Therefore, to understand the competitiveness of a wine-producing country, we chose to analyze the main indicators of wine business: production, consumption, values of export at a country level and the average price of a still wine at the country level.

The research idea behind this paper is to assess the orientation of the EU wine sector towards exports at the country level. We used pooled OLS method to see how production, consumption and average price influence the export of wine, and thus the competitiveness of the EU wine sector.

The paper is structured as follows. After a brief introduction, we present the trends in production, consumption, import, and export of wine in the 15 observed EU countries. The third part of the paper presents the key results of the empirical analysis. The paper ends with a discussion on the findings and concluding remarks.

2. LITERATURE REVIEW

All EU Member States are part of the Common Agricultural Policy (CAP), which aims to support agriculture by stimulating quality production and increasing competitiveness. The CAP is the most integrated of all EU policies. Since its creation in 1962, the CAP has undergone several adjustments and reforms. Although the share of the budget has been steadily decreasing, from 75% of the total EU budget in 1985 to 43.5% in the 2007-2013 period, and 37.8% in the period 2014-2020, the largest part of the EU budget is still allocated for CAP (Ugaglia et al., 2019).

According to the European Commission's Evaluation of the CAP Measures Applicable to the Wine Sector report from 2018, between 2000 and 2012, the wine production and consumption and area under vines in the EU decreased especially in the leading countries, Spain and Italy by 17% and France by 13%. During the same period, the New World countries (especially Argentina and Chile), China and the USA increased in wine areas and volume of production. This trend is still present. The average prices are increasing and as well as the export of bottled wine (Mariani et al., 2014) suggesting that the EU has specialized in the production and exports of higher quality, bottled wines. Although the Old World countries have a long tradition in wine production and high-quality standards, the New World countries have worked hard in building the wine industry, their infrastructure, and reputation. After the globalization of the wine industry, the New World countries have responded well to new consumer expectations. Mora (2007) singled out price competitiveness and brand power as an explanation of the success of the New World countries.

The aim of the 2013 CAP reform, was to have a more global and integrated approach with the goal to be more efficient, targeted and coherent to enable competitiveness and sustainability of the agricultural sector. To achieve long-term goals, the reform focuses on enhanced competitiveness, improved sustainability, and greater effectiveness. Increasing competitiveness is desired to be achieved directly by changes to market mechanisms, particularly through the removal of production constraints. All the restrictions on production volumes ended with the 2013 reform. The 2014-2020 reform continues to strengthen the policy of moving away from the product towards the producer. The agricultural sector is faced with an aging farmer population, which is why young farmers entering the sector, have the opportunity the get additional first pillar payment (CAP; direct payments to farmers). The challenge of the new reform is to score the right balance between effectiveness and efficiency and to keep the rules as simple as possible. The second pillar of the CAP, the rural development policy, is designed to support rural areas in the EU and meet a wide range of economic, environmental and territorial challenges of the 21st century. Given that the new 2014-2020 CAP reform was adopted in 2013, the effects will be visible in the years to come. The new reform puts a greater focus on competitiveness, innovation, and climate change.

Although the CMO reform adopted in 2008 was aimed at boosting the competitiveness of the wine sector, Balogh and Jambor (2017) concluded that the reform weakened the international competitiveness of the European winemakers and that the European Union had not responded well to new global challenges (emergence of New World countries in the wine scene, climate changes, etc.). They suggested that the CMO should be revised. Papadopoulos (2015) also concluded that the CAP continued to be inefficient in lowering the social inequalities of rural areas. Although the CAP has undergone several reforms from 1962, especially in the last two decades, where it faced numerous challenges relating to production capacities, environmental concern, food safety, and quality, uneven agricultural and socio-economic structure of EU member states, etc., it seems that it did not overcome all the challenges faced by EU agriculture. The old and new EU member states have differently developed agricultural sectors - it is considered to be better developed in the old member states. The share of small farms is higher in the Mediterranean and eastern European countries and the share of large farms in northern and western European countries (Papadopoulos, 2015). The "economic size" of EU farms is also significantly different between the old and the new EU member states (Eurostat statistics). Considering the diversity of 28 EU member states, it is a great challenge to address the needs of all Member States through a common policy.

Among previous research analyzing determinants of wine production at the country level and making conclusions regarding the competitiveness of the wine sector those made by Bentzen & Smith (2009) and Vlachos (2017) should be mentioned, especially as the latter of the two used similar methodological approach.

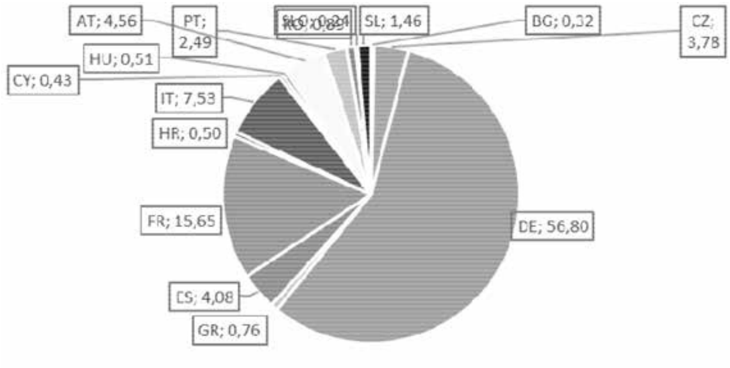
3. THE EUROPEAN WINE SECTOR

The European Union is the leader in the world production of wine and is the biggest exporter of wine. Italy, Spain, and France are the countries with the largest single wine production. Together they account for 51% of the world wine production and 55% of the world wine export. However, the fast changes in technology, consumer habits and needs, climate changes and the arrival of the New World countries on the world wine market, dictate a rapid adaptation of policies and rules for further survival and development of the wine sector. Due to the rapid development of the wine sector in New World countries, the EU wine producers face many challenges in the EU market resulting in lower performance in the global wine market. The number of farms, specialist vineyards, has dropped by 22.5% from 2005 (573.760 farms) to 2016 (444.270 farms) in the countries observed in this paper[1] (http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do) i.e. in 12 of them with the exclusion of Romania and Slovenia. The utilized agriculture area has also decreased, but only by 3.3%, which indicates that smaller farms were closed.

In the following section, we will show the share of individual countries in the total imports and exports of the examined sample (EU15) and their trends in terms of production, consumption and average price of still wine, in the period from 2005 to. 2018.

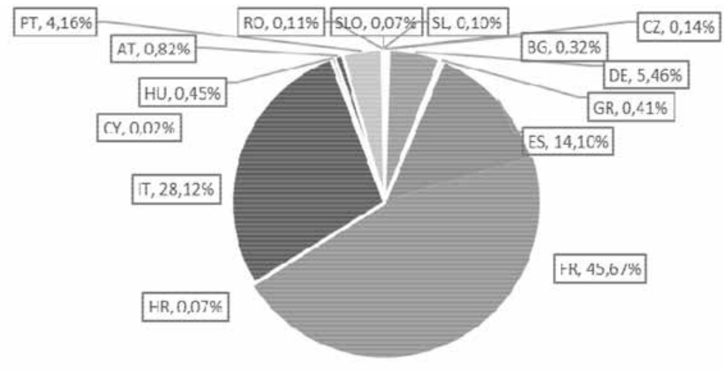
1 Croatia is not included because it was not a EU member state until 2013

Graph 1. Import of wine 2005-2018



Source: authors

Graph 2. Export of wine 2005-2018



Source: authors

The imports and exports of wine in the entire EU, during the 14 observed years, recorded a constant increase, however, the exports grew at faster rates. In that period, the imports increased by 42%, while the exports by 87%. In 2005, exports were 28% higher than imports, and in 2018 it was even 69% higher.

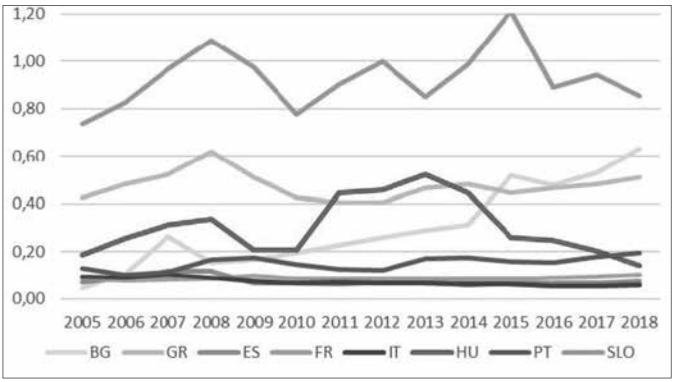
In the same period, the imports in the 15 observed countries increased by 59% and exports by 80%. Of the 15 countries observed in this paper, the largest importer was Germany, which has a traditional culture of wine consumption but has lower production since a significant part of the country is not suitable for wine production.

The EU is the largest exporter of wine in the world. In 2018, the exports were four times higher than imports. The EU15 imported 35% of total wine imports and exported 94% of total wine exports of all EU Member States. In the 14 years, the exports to non-EU countries increased by 135%; in 2009 the export to non-EU countries was 39% of total EU15 exports, and in 2018, it accounted for over 50%. This was caused primarily by a significant increase in wine consumption in Asian markets, primarily in China, which is not a significant wine producer and where wines produced in the EU, especially in France and Italy, have a great reputation and high price. The wine is imported mainly from the Member States (nearly 90%).

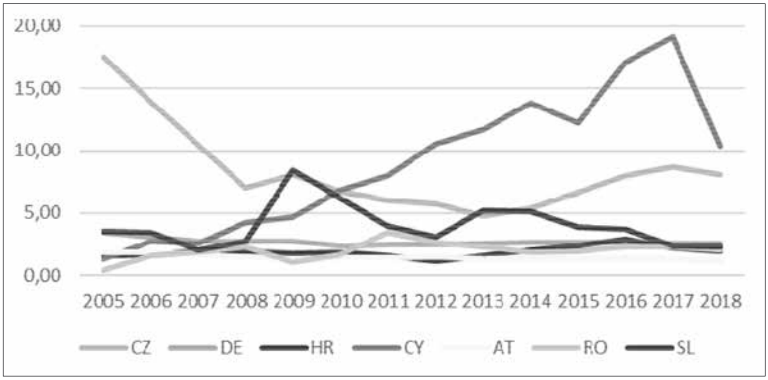
Given that the average vineyard area in the EU is far smaller than in the New World countries, the EU producers cannot compete in the world market with cheap wines. As a result, the EU policy is aimed at increasing the wine quality and profiling EU wine producers as producers of high quality, more expensive wines. This is in line with the CAP policy of restructuring and converting intra-EU vineyards planted in less suitable locations, and encouraging vineyard planting in good locations. As expected, the largest exporters of wine from the observed countries are France, Italy and Spain (together they export 88% of wine exported from the observed countries) and Portugal, which exports 4% of the wine exported from 15 observed countries (which is significant, considering the size of Portugal).

The next graph shows the import/export ration (I/E ratio). Countries are divided into two images. The first image shows countries that export more than they import so their import/export ration is less than 1 in most observed years. The second image shows countries that import more than they export so the I/E ratio is more than 1.

Graph 3. Import/Export ratio



Source: authors

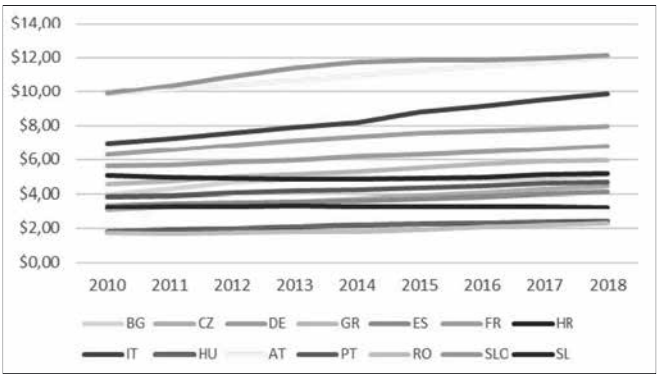


Source: authors

Half of the 15 observed countries export more than they import (Graph 3, first image). These countries are traditional wine countries or traditional wine regions (like the Black Sea region in Bulgaria). Within the other observed countries, the import/export ratio (I/E ratio) is also related to consumption trends. Significant progress, in terms of wine production and consumption and a decrease in imports, is evident in the Czech Republic (in the period from 2005 to 2018, consumption increased by 75%, production by 58%, and the I/E ratio decreased by 55%) and Slovakia (in the period from 2005 to 2018, consumption increased by 16%, production by 28%, and the I/E ratio decreased by 30%).

The next graph shows the average price movement, expressed in US$, in the period from 2010 until 2018.

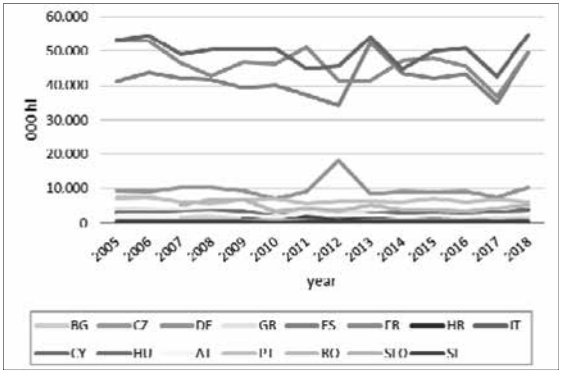
Graph 4. The average price for still wine 2010-2018 (in US$)



Source: authors

Almost all the observed countries recorded an increase in the price of still wine, from 20 to 40 percent in the period from 2010 to 2018. The exemption was Slovakia, which significantly increased production, and Croatia, where the economic crisis lasted longer than in other countries and where wine producers were reluctant to raise their prices.

Graph 5. Average production (000 hl)



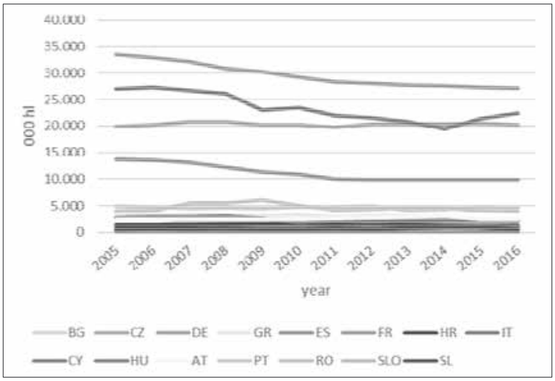
Source: authors

Trends in wine production in Italy, France, and Spain, as traditional wine countries, are positioned at the top part of the Graph (5). Production in these three countries was stable over the observed period, while annual fluctuations amounted to up to 20 percent depending on the good/bad harvest (climate and weather conditions).[2] Although production was stable, the area under vineyards was reduced by over 10% in all three countries, which leads to the conclusion that they used the EU funds for the restructuring of vineyards and focused on the production of quality wines, which led to an increase in the average price of quality wines.

In all other analyzed countries, except Germany, the area under vineyards was also reduced. The production, as well, remained stable except Cyprus that reported a decrease both in vineyard areas and in production by about 50%.

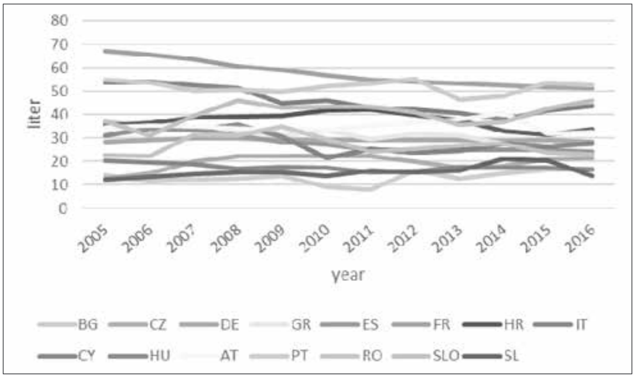
[2] Average yield in Croatia is between 11 and 12 t/ha for quality wines (Pravilnik o proizvodnji vina, NN 96/03)

Graph 6. Consumption (000 hl)



Source: authors

Graph 7. Consumption (l per capita)



Source: authors

In most of the observed countries, we register a decline in wine consumption and wine consumption per capita (Graph 7), except in Bulgaria, the Czech Republic, Slovenia, and Slovakia. This phenomenon requires further research, but we speculate that this could be attributed to consumer trends.

4. DATA, METHODOLOGY, MODEL DEVELOPMENT AND RESULTS OF EMPIRICAL ANALYSIS

The research was conducted to get a better understanding of factors that influence wine production and wine export in the 15 observed EU countries with a developed wine sector.

The data used in the empirical analysis are panel data for the 2005-2018 period. The variables used in the econometric analysis are presented in Table 1.

Table 1. Definition of variables

Variable	Acronym	Definition	Data sources
AVERAGE PRODUCTION	AVPROD	Average production includes vinified (P. D. O. wines, P. G. I. wines, Varietal and other wines) and non-vinified wines. Average production is expressed in thousands of hl.	Eurostat statistics (ec. europa.ru)
CONSUMPTION	CONS	Consumption is calculated with the population data from the United Nation Population Division and refers to the adult population, 15 years and older. Consumption is expressed in liters per capita.	International Organisation of Vine and Wine (www. oiv.int)
EXPORT	EXP	Export data include export outside and inside the EU. Export is expressed in euros.	Eurostat statistics (ec. europa.ru)
AVERAGE PRICE OF STILL WINE	AVGPC	Data on the average price of still wine is expressed in US dollars.	Statista (www.statista.com)

Source: authors

The pooled OLS method was used to see how production, consumption and average price influence the export of wine, and thus the competitiveness of the EU wine sector. Vlachos (2017) previously used the pooled OLS method to explore the economic factors that influence wine production.

After descriptive statistics final model is formed.

Table 2. Descriptive Statistics

Variable	Variable	Obs	Mean	Std.Dev.	Min	Max
Export	EXP	210	1.070e+09	2.110e+09	1.244e+06	9.350e+09
Average production	AVGPROD	196	1.100e+07	1.720e+07	79000	5.480e+07
Consumption (l/capita)	CONS	180	31.78	13.18	7.9	67.10
Average price of still wine	AVGPC	126	5.584	2.895	1.7	12.11

The model which will be tested is:

$$\mathbf{lnEXP = \beta_0 + \beta_1 lnAVGPROD + \beta_2 lnCONS + \beta_3 lnAVGPC} + \Gamma tyearlyFE + \mathbf{u_{it}}$$

A logarithmic transformation of the model was performed, making the estimated model, log-log model.

Table 3. Estimation results of exports as a function of production, consumption per capita and the average price of still wine

	(1)
	lnEXP
lnAVGPROD	1.339***
	(0.0539)
lnCONS	-0.549*
	(0.266)
lnAVGPC	0.767***
	(0.221)
Yearly FE	Yes
_cons	-0.715
	(0.879)
N	98
R^2	0.871

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The estimated equation of the Model 1 is:

lnEXP = -0.715 + 1.339 lnAVGPROD - 0.549 lnCONS + 0.767 lnAVGPC

The model is estimated using the OLS estimator. According to the interpretation of the results obtained an increase in the average production of wine by 1 percent leads to an increase of export by 1.34 percent. An increase in consumption per capita by 1 percent leads to a decrease in export by 0.55 percent. An increase in the average price of still wine by 1 percent leads to an increase in export by 0.77 percent.

5. DISCUSSION AND CONCLUSION

Changes in production and consumer trends and the arrival of the New World countries on the world wine market led to the need for an EU CAP policy reform to preserve the competitiveness of traditional EU wine countries. The conducted research and the interpretation of the obtained model lead to the conclusion that the competitiveness of the EU wine sector is increasing and that the CAP policy contributed to an increase in EU wine exports. Given the increase in the average price of still wine and the increase in exports, we conclude that the EU wine producers have focused on exports, on producing higher quality and more expensive wines.

The increase in the size of the vineyards enables producers to achieve technologically driven economies of scale both on plantations and in cellars. In parts of the world with higher availability and lower price of labor, some of the technology can be substituted by engaging more workers on the plantation. New World countries became the growing force in the wine industry by using size advantages mostly combined with lower labor costs. The European wine producers typically have limited options to increase plantation size and are confronted with high prices and low availability of labor. Moreover, the European wine production industry can be considered as above averagely regulated and under the dominant influence of a few big member states, especially France. As France together with Spain and Italy, makes *the big three* of the EU wine production and export, wine policies in the EU are pushing technological progress and enhancement of both quality and prices of produced wine. As a simple example, we can mention that the incentives which wine producers can get through wine envelope programs are encouraging not only investment in technology but also the abandonment of old, lower-quality wine plantations. This policy suits well the big producers and exporters that can build recognizable brands on their own but is also one of the reasons why the surface area under vineyards is getting smaller in most countries analyzed in our sample.

The New World countries have the size advantage, and consequently, cost advantage over the traditional wine producers from Europe. The European answer to that challenge is, as previously explained, in focusing on the production of quality wines that can be sold at higher or even premium prices. Due to their tradition, and production volume sufficient to export outside the EU, wine products from France, Italy, and Spain have built a worldwide reputation. However, the smaller wine-producing countries in the EU cannot rely on these advantages as they have smaller volumes produced by numerous small wineries. They rely on selling a majority of their production on domestic markets to tourists and their citizens.

The OLS model in our analysis supports the conclusion that the EU strategy to increase the share of high/er quality wines are successful because an increase in average price leads to an increase in export.

As numerous small producers from the EU can sell their products for a significantly higher price than that of their low-cost competitors from the New World, it seems that the retail markets for quality wines recognize reputation, tradition and other intangibles. Consequently, even producers form smaller countries with limited marketing budgets that invest in technology and quality can differentiate themselves from foreign competition and survive by selling their products at a higher price.

In this paper, all European viticulture countries are analyzed without taking into account their specificities. Future research should be focused on in-depth analysis of individual country specificities and needs. That would enable the analysis of the impact of unique EU policies on the development and competitiveness of the wine sector in individual countries, and on reaching production and technological standards in countries with less wine tradition and lower level of development. Also, future research should focus on analyzing the impact of new technologies and innovations on the EU wine sector competitiveness and on reducing the gap between EU countries. The thesis that automation and application of new technologies lead to a reduction in production costs and an increase in the operational efficiency of individual companies, depending on the used technology, the availability of the workforce and the size of the plantation, should be tested in the wine sector. Also, given that the conclusion that an increase in average price leads to the increase in export is inconsistent with the theoretical assumption, it should be investigated in future research. The authors assume that the increase in price is caused by an increase in wine quality and that the export market better accepts higher quality wines. To make a conclusion it is necessary to analyze in which markets the increased exports are achieved (inside or outside EU).

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DIGITALIZATION OF PUBLIC ADMINISTRATION WITH A COMPREHENSIVE OVERVIEW OF LOCAL AND REGIONAL SELF-GOVERNMENT UNITS

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Abstract

The paper provides an overview of the development of digitization processes in the public administration in the Republic of Croatia with an emphasis on local and regional self-government units in the Republic of Croatia. Given that there are currently 576 units of local and regional self-government in the Republic of Croatia, it is interesting to observe their path of digitalization, as in most EU countries it has been noted that less developed and smaller units are more difficult to adapt to digitalization. Throughout the long years of work, the Government of the Republic of Croatia has invested a lot of resources and efforts on many of today's remarks and praise of applications that have helped in the digitalization of society as a whole, such as e-counseling, e-infants, and *e-citizens. All of these applications have contributed to greater citizen access to information, facilitating faster and easier access to government services, and saving time and money, which is also the underlying goal of the digitalization process itself. The authors show through questionnaire and they found out that little sample of respondents use digitalization. In some parts of the Republic of Croatia is needed for IT-educated staff and also need for IT structure for digitalization. The paper will try to show whether and to what extent the units carried out digitization, but also their opinion as well as the problems they face in the process itself.*

Keywords: *digitization, development, public administration, regional government and local authority, development of applications*

JEL Classification: H83

1. INTRODUCTION

What is digitalization, do we need it, and if so, to what extent? These are just some of the issues that have been a current and important topic of state and local politics for the last ten years, but also of society as a whole. The very digitization of public administration in the Republic of Croatia in its true meaning has been implemented for the last five to ten years. For a relatively short period, it is one of the areas in which Croatia has done well, but the question is whether sufficient progress has been made and whether citizens, as end-users, actually know and use the services available to them in an even easier way. The initial idea of implementing digitalization was to enable every person, wherever he was, to provide fast service and save him money and time. The Croatian country is divided into many smaller territorial units, given the size of the total territory, and it is a difficult task for all citizens to have equal access to information regardless of the local unit in which it is located. The challenges of implementing the digitalization itself are some of its basic conditions and principles, namely: accessibility to the entire territorial area, equipping every household with a personal computer, and basic IT literacy of civil servants working on providing e-services to citizens, as well as the most important factor, and IT literacy present to end-users. For digitalization to be fully successful, users and service providers must first and foremost have to deal with old habits and learn a new way of doing things, which is not easy in itself. Today, the largest number of services available to citizens, especially simple ones, is available in electronic form, but according to the analysis it is found that there is still an insufficient number of users, although the Republic of Croatia is not far behind in the importance of many developed EU countries. The paper provides a detailed analysis of the available public authority services and the number of users of them and attempts to identify the causes of underuse of the same as well as the equality of all local and regional (regional) units in the use of the services themselves.

2. THE DIGITALIZATION AND AVAILABLE E-SERVICES IN THE REPUBLIC OF CROATIA

First of all, we need to start with the very definition of digitization. Digitization is a term for which there is no single definition, but it is most commonly defined as a process by which, over a short period, a large amount of information can be passed from one area to another, facilitating communication of what needs to be passed and communication itself to those who are this information is needed. The EU countries have decided to embark on the digitalization process by developing a joint strategic plan for the development of digitization, namely the Digital Agenda for Europe (DEA), which is the first of seven key strategic ideas envisaged by the Europe 2020 Strategy.

The task of the Digital Agenda for Europe was to create the so-called Digital Single Market, whose task is to increase internet traffic within the Member States, to unify online payment for all, and to provide adequate consumer protection in the digital environment, especially when concluding distance contracts, like the purchase of products and services on the Internet. (Europskifondovi.eu)

Citizens of the Republic of Croatia, like the rest of the EU population, are also increasingly affected by the trend but also by the need for digitization. Due to the accelerated way of life, citizens have less and less time to use traditional public services, which is often characterized by waiting in lines, for these reasons digitalization is a great challenge for the state administration, which, to be efficient and expected by citizens, must take full advantage of the opportunities provided by digitization. (Uprava.gov.hr).

At its session of 12 June 2015, the Croatian Parliament adopted the Strategy for the Development of Public Administration in the Republic of Croatia for the period 2015 - 2020 (hereinafter referred to as the Strategy of Public

Administration), which is intended as a key document for the development of public administration as a whole by which the Republic Croatia needs to reach European level of quality of digital service delivery (uprava.gov.hr, 2015) (Europski-fondovi.eu).

The fundamental objective of the Public Administration Strategy is to professionalize public services, to adopt the principles of the European legal environment, to create a more efficient and modern public administration. The strategy is designed to introduce and implement digitized services. The intention was to create a safe environment for citizens to enable them to consume state services more often while saving them more time and money. In this way, it would create an environment in which citizens would be restored to trust in institutions, but certainly, the attitude of citizens towards public administration institutions would be better. Also, the process of digitization itself needs to standardize the process itself, following the established principle of other Member States and with similar models, to make the procedure for the state more economical and easier to implement, but also to eliminate unnecessary procedures (European funds. EU, 2015) (uprava.gov.hr).

In the Republic of Croatia, a total of 555 local self-government units were established, 428 municipalities, 127 cities, and 20 regional self-government units.

The City of Zagreb, as the capital of the Republic of Croatia, has a special status of the city, so that there are 576 units of local and regional self-government in the Republic of Croatia (uprava.gov.hr).

The Republic of Croatia implements the digitalization of public administration following the established and similar principle of the other Member States of the European Union, in the way that first of all it creates applications accessible to citizens with basic IT equipment and knowledge. Such applications should significantly save citizens money and time and should directly link public administration bodies with citizens. For this mode, several applications have been created: e-counseling, e-citizens, e-newborns, etc.

E-services can be classified according to several criteria, for example, according to the end-user criterion and according to services depending on whether they use the NIAS system (uprava.gov.hr).

Currently, 78 e-services are available in the Republic of Croatia, which does not use the national system for identification and authentication.

The most important e-service is the e-Citizens system, which was established to modernize, simplify and accelerating communication between citizens and the public sector, and increasing transparency of public services.

Services in e-Citizens and Personal Inbox can be accessed if you have a credential on the Accepted Credentials list.

A National Identification and Authentication System (NIAS) has been put in place to make access to credentials easier and more accessible for all. NIAS manages electronic identities in the national end-user authentication system for public sector e-services.

NIAS mediates between users, service providers, and credential issuers. A single identifier is sufficient to distinguish NIAS users, and each citizen's identification number is used as a unique identifier, which then distinguishes him from other users in the system (uprava.gov.hr).

To link cooperation between local and state authorities, and to enable citizens to participate directly in the process of creating laws and other acts of the central government, and e-counseling service was designed. The process of standardizing the consultation process in the Republic of Croatia began in 2009 when the Government of the Republic of Croatia adopted a Code of Consultation with Interested Publics in the Process of Adopting Laws, Other Regulations and Acts (Official Gazzete 140/09).

The Office for Associations of the Government of the Republic of Croatia has developed guidelines for the implementation of the said Code. The training of coordinators for the implementation of the codes was first and foremost appointed in the public administration bodies. The idea of such a flow was to keep the person in charge of key information always present and to be a link in communication between government bodies and the interested public. Following the adoption of the Code, standards have been set in the Republic of Croatia for communication between state bodies and the interested public when creating laws and other regulations and measures (savjetovanja.gov.hr).

In addition to the Law on the Right of Access to Information, the public consultation procedure is also defined by specific laws (eg. the Environmental Protection Act or the Physical Planning Act), as well as by special regulations regarding the procedure for assessing the effect of regulations. Conducting counseling under a special regulation that provides for a procedure that is not following the procedure for consulting the public under the Right to Access to Information Act must, in addition to special procedures, include online consultation by Article 11 of the Right to Information Act.

With the Decision on launching e-Citizens projects (Official Gazette 52/2013, 31/2014, 44/2016), the Government of the Republic of Croatia has started a project to enable citizens to communicate with the public sector in one place via the Internet. The e-Citizens project was launched on June 10, 2014 and represents secure and advanced electronic communication with the public administration.

The use of the e-Citizens system is prescribed by the Law on State Information Infrastructure (Official Gazette 92/2014) and the Decree on Organizational and Technical Standards for Connecting to State Information Infrastructure (Official Gazette 60/2017). The prerequisite is the existence of a central interoperability system: which means a meta-register to integrate data of the underlying and other registry systems, and a distributed e-Services architecture. The e-Citizens system is part of the national information infrastructure, which consists of the central state portal system, the national system for identification and authentication and the system of the personal user box (uprava.gov.hr)

For the time being, e-Citizens has 49 available services, broken down by topic and institution (s) required.

The total number of applications to the e-Citizens system is 14,125,560, and the most frequently used services are: personal user mailbox (5,266,715 applications), e-Log (1,370,147), e-Tax (1,089,525), HZMO user pages (1,059,598) and e-Nuts (953,369). In total, 767,698 users are used by the e-Citizens system, of which 527,283 are unique users.

Despite a large number of e-services available, when comparing the Republic of Croatia with other EU countries, it is clear that digitalization in the territory of the Republic of Croatia has not been developed in line with the European average. Specifically, the Digital Economy and Society Index (DESI Index) is used as a monitoring measure of EU Member States in the development of digitalization. According to the DESI index survey, the Republic of Croatia is ranked 22nd, according to which it belongs to the less developed Member States.

Citizens of the Republic of Croatia are among the citizens of other Member States in terms of Internet usage. Croatia is the worst (27th) in terms of network connectivity. Rural areas are generally less covered by the network, while internet speed is a problem in other parts of the country. Another fundamental problem is the price of the Internet, which is among the highest in Europe (www.hst.hr). Concerning digital public administration services, Croatia is also at a very poor 25th place. It retained 25th place despite the increase in e-services due to the lack of quality of service delivery. The best results so far have been achieved by eHealth services.

Croatia's results in the area of household coverage by fixed broadband (99%) are better than the EU average (97%), and this year saw the biggest improvement in this category last year. However, poor coverage of high-speed and ultrafast broadband is still reported. Broadband is available nationwide, but despite its relatively wide availability (67%), the demand for fast broadband is low (14%). (www.hst.hr).

Concerning citizens' preferences for using Internet services, Croatia has continued to make good progress over the past year, jumping from 14th to 11th. It is still the category in which Croatia is performing best, well above the EU average. Croatian Internet users read the news on the Internet (91%, ranked 2nd in Europe), listen to music, watch videos, play games, watch movies and make video calls. They use social networks and online banking and shop online.

In the area of open data, Croatia continued to make significant progress last year and is still slightly above the European average. In the field of e-Health services, Croatia has a good track record and ranks 10th among the EU Member States in terms of people using healthcare and care services available on the Internet and not needing to go to a hospital or doctor's office (such as downloading a recipe or consulting online). The e-Citizens Platform, which began operations in 2014, had 43 different e-services available in 2017, and the platform continues to be developed and enriched with new elements. More than 1.5 million citizens have an electronic ID card with identification and signature certificates.

When it comes to e-Health services, Croatia is performing well. The Central Health Information System of the Republic of Croatia (CEZIH) has more than 17,000 users and a large number of information systems, which forms a good basis for the computerization of the entire health care system in Croatia. CEZIH connects all general practitioners' offices, pediatric surgeries, gynecologic surgeries, dental surgeries, pharmacies, primary care laboratories, surgeries for medical doctors (153), outpatient specialist and conciliatory health care institutions (about 800) and Croatian information systems. Health Insurance Institute.

All listed system participants submit data to and from the central database in real-time and receive advanced reports on the functioning of the healthcare system. In January 2011, Croatia introduced an e-recipe service. E-referral and telemedicine services, that is, medical services provided from a distance using ICT, are currently available at several levels of the healthcare system (ec.europa.eu, 2018).

3. DIGITALIZATION IN UNITS OF LOCAL AND REGIONAL SELF-GOVERNMENT

To gain concrete insight into the actual implementation of digitization in the entire territory of the Republic of Croatia, a brief information questionnaire was conducted, which was answered by only 32 units out of the total number of units, but some indicators became quite clear. Employees of local and regional self-government units participated in the questionnaire. Although a large number of digital services are currently available in the Republic of Croatia, it is clear from the previously stated that the average use of these services by the population is on average about 18%. Respondents were asked questions such as age, gender, how many self-government units there were, questions about the implementation of digitization, the question of the implementation of digitization, the question of the cost of digitization, whether the respondent believes that digitization is an important factor in the development of his unit, whether he considers it important for the residents of the unit to have the right of access to information, does the unit use all available measures for the implementation of digitization, does the unit have regularly updated websites with all relevant information? The question about the age of employees, in addition to which age group digitization is most present in everyday life, wanted to get information about the age range of employees in units of local and regional self-government.

As is evident, the highest number of respondents is among the youngest in the age group between 18-25 years, followed by those in the middle age group of 25-40 years, only a few respondents are between 40-60 years and older.

Therefore, it is not surprising that the majority of respondents are prone to the digitization and have responded positively to the questionnaire.

According to the number of inhabitants in a unit, it is not possible to determine exactly which unit is in question, but if we consider that units of up to 5,000 are considered small units, units of 5,000 to 10,000 belong to medium-sized units, while those with more than 10,000 residents are considered large units. The majority of small units answered the questionnaire, which indicates a positive trend in the development of digitalization in small areas, from which it can be concluded that digitalization is indeed represented and widespread in all areas of the Republic of Croatia, regardless of the size of the units. Small units follow the big ones as expected, because in all countries, even in our country, digitalization is more needed and developed in larger units.

As far as the implementation of the digitalization is concerned, most units responded that the implementation of the digitalization was following the possibilities, but not completely. The answer is not surprising, but it does offer a lot of room for progress in the future, given that it is clear that the units would carry out more digitization if they had all the necessary resources at their disposal. In the survey that we show through, mostly smaller units (units with a smaller population) participated. Out of the total number of respondents, 25% answered that they implement digitalization minimally. The fact that as many as 25% of units responded that way is not surprising. Given that the need for digitization in such units is less.

Given the previous question, it is logical to ask what the units lack to effectively carry out digitization, it is interesting that more than half of the respondents answered that this was a lack of financial resources, followed by a shortage of employees, and at least a unit considered that employees had a shortage of problems knowledge in implementing the same. Only 6% have no problems with digitalization, so we can ignore this group of respondents, while 10% of respondents say there is no need for digitization in their units. Considering that the questionnaire is anonymous, it cannot be concluded whether the answer is that there is no need for digitization of the respondent's willfulness or whether it is a unit with a very small population where the need for digitization in terms of digitization of the units themselves is questionable. Indeed, the lack of financial resources is certainly the biggest problem that smaller units, especially in smaller units, can face, because the amount of money available in smaller units is much smaller than in larger ones, and the cost of digitalization is generally the same for everyone.

It is interesting to look at the answers to this question, which shows that more than half of the respondents answered that the costs of digitization are in line with the unit budget, from which it is concluded that a large number of units are actively implementing digitization and plan. The problem is that the next largest group of respondents believe that the cost of digitalization is extremely high, which is certainly the case with smaller units with very low financial resources and available resources.

It is highly commendable that almost all employees of the units who completed the survey questionnaire considered digitization an important factor in the development of the unit, and no one considered that digitization was not an important factor, only a small number of respondents had no expressed opinion on digitization.

When asked about the right of residents to access information, respondents had the right to write down their "ideal" answers, or their opinion on the same. The majority of respondents believe that citizens, apropos residents have the right to full and effective access to information, while a small number of them believe that citizens should be provided only with necessary information. Using the option to reply in the questionnaire, one unit wrote that citizens have the right to access information, but that citizens misuse information. Two more units agreed about that statement. It follows that some units believe that citizens' access to information should be restricted, as citizens with information are not adequately used.

More than half of the units surveyed said they were using all available measures to carry out digitization, but a large number of units responded in the negative. Not taking advantage of all the available measures could be related to problems from earlier issues such as staff shortages and insufficient resources.

Websites are the first and basic form of communication of a unit with its inhabitants; on these sites, citizens are informed about the work of representative bodies, news, and events of each unit and the like. All surveyed units believe that the web site should be updated. But according to the survey, only a few units do that. While others are in lack the financial resources and human resources to successfully update their websites.

Following the research, it is indisputable that digitalization is a very important topic for local and regional self-government units. What most units consider to be the main advantage of digitalization is facilitated communication with citizens, from the aforementioned questionnaire it follows that the websites of each unit are the first and the main driver of digitization in the specific unit itself.

However, given that a small number of units participated in the questionnaire, it is only 32 difficult to say that the findings from the survey can be applied to a large number of units.

Furthermore, it is clear that each unit wants to give citizens the right to access information and see digitization in this segment as a crucial step, but it is unclear whether the units are aware of the full meaning of digitization or are nevertheless focused on its narrower segments necessary for their day-to-day functioning.

4. CONCLUSION

The analysis of the research conducted on a small sample of local and regional self-government units and theoretical research work concluded that all local self-government units carry out digitization at least in its basic form. The territorial division of the Republic of Croatia into a large number of units represents one of the problems in the implementation of digitization, but it is certainly also an issue in terms of which offers several possibilities and perspectives in the coming period. A large number of units have a problem with poor internet signal coverage, but it should be emphasized that Croatia is among the EU countries where Internet access is the most expensive, which is largely caused by a market monopolist occupying almost 90% of the market and practically arbitrarily pricing.

Examining the survey questionnaire, from respondents, apropos employees of local self-government units, it is clear that there is generally a positive attitude towards the process of digitalization. However, it is also not negligible that the employees themselves are aware that the whole process of digitization is accompanied by certain problems and that they cite the greatest shortage of employees and financial resources, although most of the units had a digitization item in their budget.

Also, in the Republic of Croatia, there are several small municipalities in rural areas with a predominantly older population that do not have sufficient knowledge, but also the basic technical means for implementing digitalization. The challenges of digitalization are best met by large cities, especially county centers with a large number of a young highly educated population, but it is precisely this population that needs digitization most needed. To solve the above problems, it is necessary to carry out the planned reform of local and regional self-government units by exploring which units can exist on their own, and which not, to possibly annex them to the more developed units, thus obtaining smaller the number of units with a larger population, which would increase the opportunities for digitalization. Likewise, local government units, regardless of their infrastructure and size, should make efforts to attract young people and invest in their IT literacy as a necessary first step in implementing digitalization. It is also important to note that it is particularly important to involve more telecommunications operators in competition in the Republic of Croatia to make the Internet price more accessible and accessible to all.

It is logical that in many smaller units the population's awareness of the many digital contents available in the communication of these units and their inhabitants is not sufficiently developed, but residents from remote and smaller towns need to increase their awareness of the use of "state" e-services to make their day-to-day operations easier and reduce the cost of going to major cities for services that are no longer needed. To truly catch up with the full implementation of digitalization, marketing and advertising of such services also need to be made so that citizens can truly become more informed about what and what services are available to them via the internet, and that such access may result in more users e-services.

Furthermore, the efforts and education of the authorities are undoubtedly invested in the development of many application solutions and the commitment to follow the trends, but to avoid this effort, it is necessary to invest additional efforts in motivating the users themselves to use the available services.

Also, it is of utmost importance, with the motivation of users and the rapid and up-to-date modernization of the system, the expansion of available services and the simplification of using them as much as possible to make virtually all public services available in digital form and have an increased number of end-users. The results of the research concluded that most units seek to provide their citizens with the necessary information, to regularly and quickly update their websites, and consider digitization as crucial to the development of modern society.

However, many units cited lack of funding and staff shortages as implementation problems. It is of utmost importance that most units anticipate the cost of digitization in their budgets and that it considers this process extremely important for the development of their unit. The above claims lead to the conclusion that despite the problems in implementation in our society, there is a strong desire and endeavor for the successful implementation of digitalization, which in the future can have extremely positive effects if the aforementioned problems can be found in inadequate time.

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MODEL FOR THE ECONOMIC IMPACT OF TOURISM DEVELOPMENT IN AFRICA FROM 2008 TO 2028

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Abstract

The purpose of this study has been the creation of the model for the influence of tourism development on Africa's economies, following the growth rates until the year 2028. An adequate combination of scientific methods has been applied, including analysis and synthesis, induction and deduction, descriptive, comparative, statistical and mathematical methods, and the method of modeling (growth matrix). Over the last decades, Africa has experienced substantial social and economic progress that has resulted in the considerable growth of the tourism industry. The international flow of tourists has been increased, making Africa the second-fastest tourism region in the world, just after the Asia Pacific region. Positive political changes and heavy investment in the tourism industry have resulted in 67 million visitors in 2018 and an average share in GDP amounting to 8.5%. The lack of statistics limited, to some extent, the scope of this research at the time it was performed. The proposal for future research would, therefore, include the analyses of individual African countries *and their tourism potentials, particularly about the political issues and the outbreaks of Ebola. Broadly speaking, tourism produces strong multiplier effects in all branches of the economy and is therefore very important for the growth of African economies. Experience of tourism on the "black continent" can certainly serve as a motive for thinking about tourism in Croatia. Africa's greatest tourism values include pristine scenery and ideal potentials for the development of adventure tourism that is very popular among young age tourists who like to leave their comfort zone for exploration or travel to remote and exotic areas.*

Keywords: *growth matrix, economy, gross domestic product, tourist arrivals, employment*

JEL Classification: Z30, Z32

1. INTRODUCTION

Recent literature shows a very noticeable lack of tourism models in general, and particularly in Africa. For this paper, the following model variables have been selected: direct contribution of travel and tourism to GDP, the total contribution of travel and tourism to GDP, the direct contribution of travel and tourism to employment, the total contribution of travel and tourism to employment and capital investment in tourism. The basic scientific hypothesis of this paper states: "Through scientific insights on the economic impact of tourism development in Africa, it is possible to propose a new model of the economic impact of tourism development in Africa in the period from 2008 to 2028."

Tourism is, in fact, the means for achieving strong economic growth and job creation (Christie et al., 2014, p. 2). According to the estimates made by the UN World Tourism Organization (Roser, 2020), in 1950 around 25 million tourist arrivals were recorded, and in 2018 the number increased to 1.4 billion international arrivals annually. This significant growth (56 times more) is of great importance for the world economy and its impact on economies. In 2018, global data indicate a 4% growth of tourist export, for the seventh consecutive year it has exceeded the goods export growth that amounts at +3%. As the second-largest touristic region in the world (after Asia Pacific region), Africa generated USD38 billion in 2018, recording at the same time arrival of 67 million tourists (World Tourism Organization, 2019, p. 3)

The purpose of this research is to design a model for tourism development in Africa in the future, based on theoretical insight into African tourism development and available statistical data on the analysis of economic impacts of tourism indicators, all with the purpose to make a comparison with other touristic regions and to monitor trends. Calculation methods for a total contribution of tourism in this paper arise primarily from available tourism statistics accessible on relevant online sources. All of the above mentioned shall create preconditions for quantification of variables and mathematical structure of the African tourism model.

2. THEORETIC BACKGROUND OF THE ECONOMIC IMPACT OF TOURISM

Numerous studies examine the economic impacts of tourism, and methods used to estimate the economic contribution of tourism to the economy almost exclusively are quantitative methods (Šutalo et al., 2011, p. 269). Research refers to various models of the economic impact of tourism, and several models may be pinpointed: input/output models and tourism satellite account model.

Methodologic framework for designing the tourism satellite account (according to United Nations, 2010, p. 3) proposes calculation of five indicators of size and impact of tourism on economy, two of which are related to tourist consumption (internal tourism expenditures and internal tourism consumption), and three being offer indicators (gross added value of tourism activities, the direct gross added value of tourism, the direct gross domestic product of tourism) (Šutalo et al., 2011, p. 272).

The book Africa Region Tourism Strategy: Transformation through Tourism (2011) explains how skepticism concerning potential economic and social benefits from tourism still exists. Accordingly, in the last 20 years, almost 80% of strategic documents in Africa recognized tourism as a strategy that enables escape from poverty, whereas only less than a third identified tourism as a priority, through Country Assistance Strategies. The emphasis lies in tourism as an initiator of reforms and a bright spot for business opportunities that might assist in starting SMEs and stimulating foreign investment (World Bank, 2011, p. 3). Similarly, a UN article from 2017 questions the roles that tourism can play in the process of African development, and authors agree, based on the conducted research, that the importance of tourism is immense and that this sector is of relevance in many African economies. However, a great number of countries on the black continent encounters various obstacles concerning exploiting the potential of tourism. (UNCTAD, 2017). Fayiss et al. (2007) use in their research panel data for 42 African countries for the period between 1995 and 2004 and the analyzed data show that income from the tourism industry significantly contributed to GDP and economic growth of Sub-Saharan African countries. Recommendations suggest strengthening tourism to improve the short-term economic growth of the tourism industry. On the other hand, however, not only positive impacts on the economy are shown in some research (Kumar et al., 2015, p. 407).

Concerning more recent research, a detailed overview of references on the economic impact of tourism by using quantitative bibliometric tools was presented by Comerio and Strozzi (2019) in a recent analysis. They combined the results of a comprehensive analysis to make an up-to-date technique and research directions of the current knowledge on tourism and its economic impact.

3. AFRICAN TOURISM – YESTERDAY, TODAY, TOMORROW

Tourism in Africa is currently the fastest growing industry and it holds the greatest investments. Tourism stimulates capital flow into destinations and initiates numerous investments as shown in Figure 5. Further growth of capital investment in African tourism is foreseen, as African tourism becomes an internationally recognized lucrative sector. It is for that reason that Africa is trying to position itself in the global market as a safe destination for foreign investors, which may have a dual effect. In the future, potential poor geopolitical circumstances may lead to a decline in investment, hence to a decrease in the number of tourists.

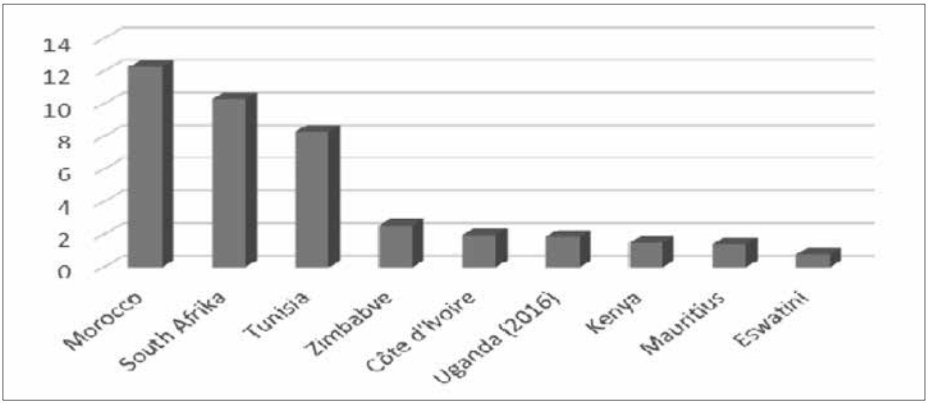
The question is to what extent have African countries seized the opportunity that tourism is offering?

3.1. Problems in Africa

Incomplete national reconciliation procedures and a sense that institutions and processes are manipulated with bear a risk of growing tension and occurrence of political violence in West Africa. At the beginning of January 2020 terroristic attacks were recorded in West Africa, and that has significantly shaken international public confidence (Modern diplomacy, 2020).

Violence increase in the whole region is unfavorable to tourism development. Planning tourism development in the future is almost impossible, but if the above-mentioned trends continue in certain parts of Africa, unfavorable outcomes will be generated for both the environment and the population, and at the same time, it will decrease the economic benefit from tourism. Contrary to that, it has been proved that the tourism industry contributed to poverty reduction, as well as improved the overall condition of countries. African countries such as Morocco, Tunisia, South Africa, and Tanzania show that tourism can be a strong development fund, and the World Bank has often played an important role in those countries (World Bank, 2011, p. 3). Chart 1 shows African countries with the greatest number of tourist arrivals in 2018. Morocco holds the first position with 12.29 million tourist arrivals. Then follow South Africa and Tunisia with 10.29, and 8.3 million arrivals respectively. Zimbabwe is lower in the list with 2.57 million arrivals. Eswantini is the country that had the least number of international tourist arrivals in 2018, namely, 0.78 million.

Chart 1 – African countries with the greatest number of international tourist arrivals in 2018 (in millions)



Source: by authors according to Statista, 2020

Air transport services in Africa (particularly in West Africa) need to be taken into consideration as well. Namely, those services are both expensive and rare. Average prices for a one-way ticket in Africa are double the price of those in Latin America, and even four times higher than domestic flights in the USA (World Bank, 2011, p.9).

Additionally, Africa is subject to disease outbreaks, which also have an impact on the tourism industry. Ebola virus disease epidemic has had greater influence than any other crisis or disease that the WTTC has investigated so far. Certain African countries recorded a decrease in tourist arrivals by as much as 50% (e.g. Sierra Leone) and they still have not managed to return to pre-crisis peaks in tourist arrivals.

The calculated loss of GDP from direct travel and tourism amounts at 0.9% and 1.6% of GDP of Guinea and Sierra Leone respectively. Guinea's GDP has decreased from an average 10-year-long rate of 7.8% to 4% in 2014. The economy in Guinea has almost come to a halt in 2013 and 2014. Other African countries that were not directly exposed to the Ebola virus disease epidemic were perceived as risky destinations (WTCC, 2018).

3.2. Growth of Africa

Africa is the second-largest continent, following Asia, and accounts for around 20% of the world's land area. Alongside its size, it is characterized by vast geographical diversity. Due to its size, Africa is commonly divided into North, South, West, East and Central Africa, where north and south parts are more developed than central. Africa's population of around 1.11 billion accounts for around 15% of the world's population, and it is characterized by a good birth rate (2.5%), which is higher than on other continents, and significantly higher than the global average (1.2%). It is expected that the population of Africa will double by the middle of this century (HGK, 2016, p. 2). However, with those shares in the world area and 15% of the world's population, Africa creates only around 3.2% of the global GDP.

Ethiopia marked the greatest tourist growth in 2018, not only in Africa but also on a global level, according to the annual review of the World Travel & Tourism Council on the economic impact and social significance of the sector. The annual report provides review results of countries worldwide for 2018. Ethiopia surprised the industry with a 48.5% growth, while South Africa saw a fall of 1.9%, Angola 2.5%, and Zimbabwe and DRC of 0.1% and 1.7% respectively (WTTC, 2019c, p. 10).

In case Africa wants to be successful in the international tourism market, excellence standards need to be introduced for all products, particularly for infrastructure, accommodation, and services. There are certain limitations, and to ensure its tourism potential, those limitations will need to be dealt with. The first type of limitation refers to certain African countries in the sense of accessibility, approach to financial investment, tourism investment, lack of security and crime rates, visas, public health, etc. Only governments can create a business environment where responsible companies do business. The government needs to assist local communities in those tourist destinations that depend on tourism income. It is of importance to create a joint vision and promote high standards of ethics, industry and civil society according to respective achievements. Tourism is a powerful tool for economic growth and job creation worldwide. In recent years, when it comes to political and economic management, a great number of countries have made significant progress in the improvement of the regulatory framework, business environment and in strengthening democratic institutions. However, in some African countries progress is still slow. Alongside slow progress, there are also riots against corruption, living cost increase, poor social conditions, terroristic activities, and organized crime. Building strong institutions provide citizens an opportunity to engage in government decisions and to provide feedback on the quality of policies. Nevertheless, progress has been achieved in the field of economic management, especially in the improvement of the new business registration process. Structural transformation is of crucial importance for the survival of the economy. The continent is abundant in natural resources that might provide a basis for economic development. To launch the economy, structural transformation is required. It understands the growth of new and development of existing production activities and increases in total productivity. Today, Africa is facing a difficult challenge of achieving better job creation, not only maintaining growth rates. There is evidence that structural transformation is in the formation phase in the majority of African countries (Christie et al., 2014, p. 50).

The tourism sector is of great importance and its development varies throughout countries in the region. One of the characteristics of international tourism in Africa is its concentration in a small number of destinations (Oxford Economic Forecasting, 2003, p. 37).

In the future the emerging markets will be facing several unfavorable developments, including growth slow-down in advanced economies and world trade dynamics; strong US dollar; tightening of financial conditions and growing political insecurity (Behravesh, 2019).

Furthermore, the potential of tourism development in Africa remains to a large extent untapped. Tourism has the potential to accelerate economic growth and to create new jobs. Despite challenges that impact African reputation, an adequate product development plan might help mitigate the problem and improve tourism experiences. However, the success of tourism products cannot be achieved without the active participation of public and private stakeholders. African continent abounds in biodiversity and numerous cultural and historical sights. Despite that, progress is still unevenly distributed, so the north and the south parts pride in a great number of tourists, while other regions record modest growth in the number of visitors.

Tourists, according to tourism market trends, have new needs that they want to satisfy during their stay in a particular destination, and Africa can offer a lot in that sense, and it has great opportunities. Those trends may include: outdoor activities, increased physical activities, exploring new destinations, and Africa can compete in that part, given the richness in animal and plant life. According to experts, Africa has great predispositions to organize selective tourism forms.

Data on African tourism are currently inadequate (NEPAD, 2004). Report on Sub-Saharan Africa from 2007 issued by the World Travel and Tourism Council (WTTC) provides data on travel and tourism aspects in 47 different African countries (WTTC, 2007). Significantly, WTTC contains a warning on "confidence in data sources and forecast limits" in 47 countries. Data are categorized into three groups, countries in whose sources the WTTC has high, moderate and low confidence – the forecasts claim that the last group is exposed to great uncertainty or limited data or both. Out of a total of 47 countries included in the WTTC analysis, 37 were classified as "poor", reflecting poor or non-existent data, nine as "moderate" and only South Africa "high"; that country managed to collect tourism data with a certain level of reliability (WTTC, 2007). It is clear that past analyses also depended on similar research limitations, i.e. inadequate statistical data that were not updated at the time of writing the paper, and refer to 2019 (Rogerson, 2007, p. 363). Additionally, the overall picture is also influenced by data which are, for some countries, available for 2018, and example for Uganda international tourist arrivals were updated for 2016, so the African international tourist arrival data are not fully relevant.

WTTC forecasts in the following ten years the increase in the tourism industry by around 30%, 3.8 million new jobs and USD33.5 billion of direct investment from the USA only. By 2035 the increase in domestic and international arrivals in Africa will increase by 4.4% (from 120 to 280 million). All of the aforesaid represents an enormous potential for returns to investment in tourism (Signé, 2018, p. 28).

For future research, the authors are of opinion that it would be beneficial to conduct a comparative analysis between tourism and other growing industries in Africa, to compare their impact on GDP, capital investment and the possibility to impact employment, due to guidelines of economic policies.

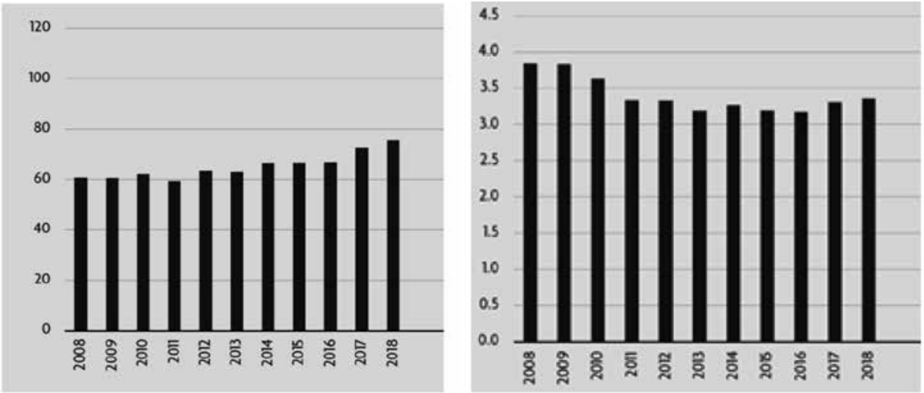
4. IMPORTANCE OF THE TOURISM SECTOR IN AFRICA

International arrivals of tourists to Africa are of utmost importance for tourism of the African continent and in the period from 2008 to 2018, they amounted to more than 2 million passengers. Following the Asia Pacific region, Africa is the fastest-growing tourist region in the world.

The development of tourism in Africa provides evidence that tourism indeed can be a driver of growth and sustainable economic development. Since the 1990s, tourism has increasingly contributed to the growth of Africa. Tourism development has an impact on numerous objectives of sustainable development, poverty, normal labor and infrastructure development. The Agenda 2063, African Union, pinpoints the importance of tourism as a driver of socio-economic development, structural transformation through job creation and stimulating women engagement in the tourism sector through employment and trade (UNCTAD, 2017, p. 2).

The direct gross added value of tourism and direct gross domestic product are benchmarks of the direct contribution of tourism to the economy (Šutalo et al. 2011, p. 272).

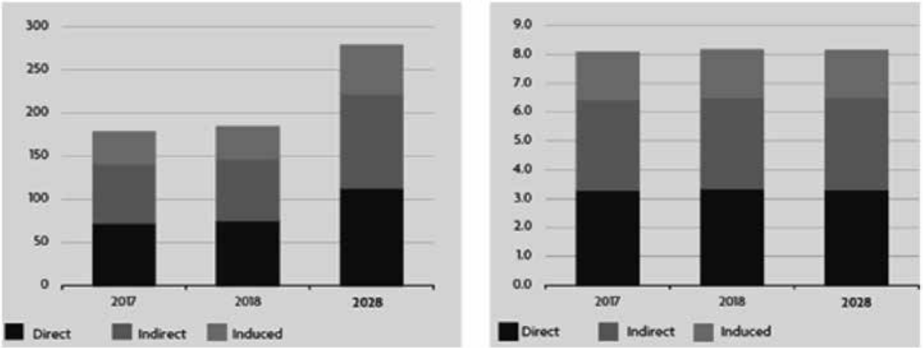
Figure 1. The direct contribution of travel and tourism to the GDP of Africa



Source: WTTC, 2019c, p. 3

Figure 1 shows the direct contribution of travel and tourism to the GDP of Africa that varied in the selected period, reaching its peak in 2018. Capital investment was at the lowest levels in 2010, after which they increased with a slight decline in 2016. Concerning the total contribution to the overall economy (figure above right), share in the percentage of the overall economy is still somewhat lower than in 2008. According to the Tourism Satellite Account: Recommended Methodological Framework, the chart showing the direct contribution of travel and tourism to GDP includes the consumption of a country on travel and tourism, both by residents and non-residents for business and other purposes, as well as "individual" government consumption that refers to government consumption for travel and services directly linked to visitors, such as cultural (e.g. museums) or recreational (e.g. national parks). The direct contribution of travel and tourism to the GDP of Africa is expressed through sectors closely connected to tourism such as hotels, airline companies, airports, travel agencies and leisure time services that tourists directly engage in. The direct contribution of travel and tourism to GDP is calculated from total internal spending by 'netting out' the purchases made by the different tourism sectors. [WTTC, 2019b, p. 2].

Figure 2. Total contribution of travel and tourism to the GDP of Africa

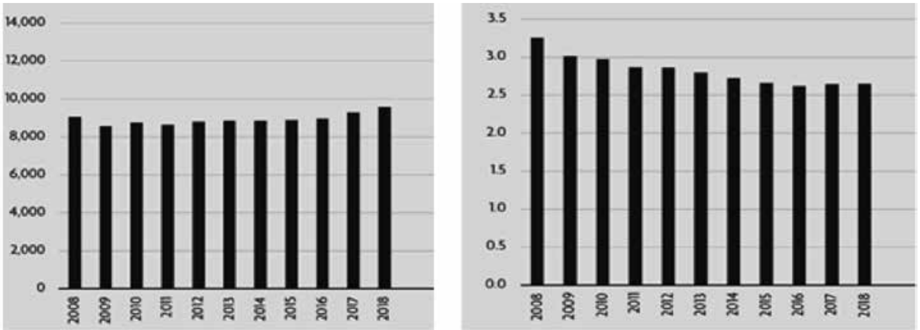


Source: WTTC, 2019c, p. 3

The total contribution of travel and tourism to GDP (including wider effects from investment, supply chain and induced income impact) amounted to USD154.4 billion in 2012 and USD184.3 billion in 2018. Thus the growth in 2012 amounted to 7.4% and 3.7% in 2018.

The total contribution of travel and tourism includes its indirect and induced impacts on the economy. Indirect contribution includes GDP and jobs supported by 1. Travel and tourism investment spending of – an important aspect of current and future activities including investment activities; such as the purchase of new aircraft or construction of new hotels; 2. Government "collective" consumption that assists travel and tourism activities in many different ways as done on behalf of the "community at large" – e.g. tourism marketing and promotion, aviation, administration, security services, resort area security services, resort area sanitation services, etc.; 3. Domestic purchases of goods and services by sectors dealing directly with tourists – including, for example, purchase of food and cleaning services by hotels, fuel and catering services by airlines, and IT services by travel agents [WTTC, 2019b, p. 3].

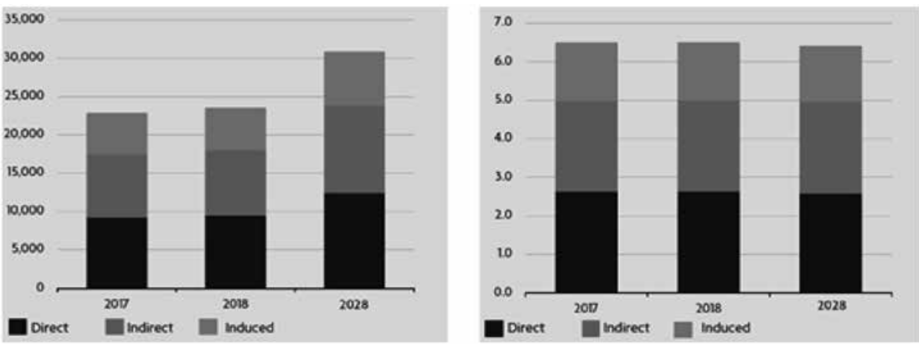
Figure 3. The direct contribution of travel and tourism to employment



Source: WTTC, 2019c, p. 4

In 2012, the travel and tourism industry in Africa produced 8,813,000 jobs, and in 2018 that number increased to 9,592.000 (Figure 3). The increase in the number of tourists in Africa will lead to an inflow of qualified labor force, which will consequently lead to investment in hospitality and catering facilities. However, the upper right picture also shows stagnation in 2018 concerning 2017 (%to the overall GDP). According to the WTCC (2019b), the direct contribution of travel and tourism to employment refers to employment in hotels, travel agencies, airline companies, and other passenger transportation companies. It also includes, for example, restaurant activities and leisure time industry directly supported by tourists.

Figure 4. The total contribution of travel and tourism to employment

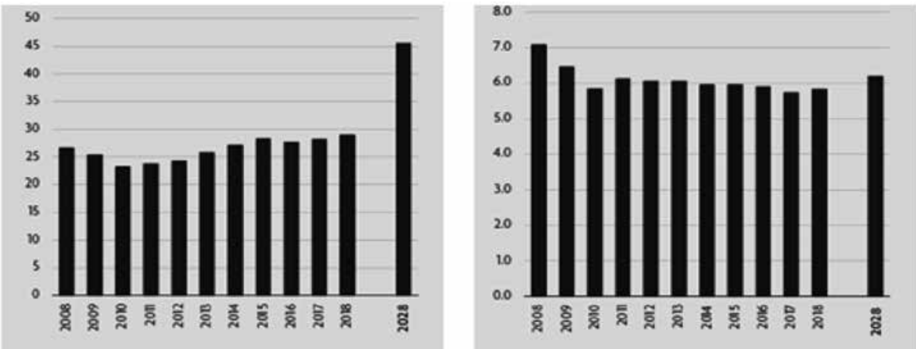


Source: WTTC, 2019c, p. 4

Figure 4 represents the total contribution of travel and tourism to employment in Africa (Figure 4), including wider impacts of investment, supply chains, and induced income. In 2017 there were 21,116,000 jobs, while in 2018 there were 23,482,000, which is also visible from the upper figure. Employment on overall economy level expressed in percentages, for 2028, foresees a slight decline of direct contribution to employment. Tourism might create millions of jobs, with economic benefits, in case it continues to develop successfully. Africa is an unusual tourist destination and is different from other destinations around the world. The perception of tourists is that it has managed to maintain its history, so it is a place where people have been living for centuries, holding on to their tradition (African studies centre, 2008, p. 1). That is the reason why the number of employees increased by over two million in six years. Concerning the African deficit in higher education, the importance of human resources development is crucial. In the last five years, on a global level, one out of five jobs was created through the travel and tourism industry, while in Africa this number amounted to 24,3 jobs (WTTC, 2019a, p. 11).

The following figure shows capital investment in African tourism in the ten years and forecasts for 2028 according to the WTTC. Forecasts are optimistic concerning the expectations of tourism in the future.

Figure 5. Capital investment in African travel and tourism



Source: WTTC, 2019c, p. 5

Figure 5 clearly shows an increase from 24.2 billion USD in 2012 to 28.9 billion USD in 2018. Capital investment in African tourism has changed during the observed ten-year period, and so the lowest investment rate was marked in 2010, and the greatest in 2018. The right figure shows capital investment in African tourism expressed as the percentage of investment in the overall economy. According to WTTC forecasts, it will amount to 6% in 2028.

5. QUANTIFICATION OF THE ECONOMIC IMPACT OF TOURISM DEVELOPMENT IN AFRICA FROM 2008 TO 2028 MODEL VARIABLES

The following are the most relevant economic impact of African development model variables: direct contribution of travel and tourism on GDP, the total contribution of travel and tourism on GDP, the direct contribution of travel and tourism on employment, the total contribution of travel and tourism on employment and capital investment in tourism.

The presumption is that each variable will be given points on index scale zero to 100, where zero is the variable value in the poorest countries in the world and 100 in the most developed countries (Vidučić, 2007). The model will quantify the average values on the continent level. Their values in 2008, 2018 and 2028 will be quantified based on mental and verbal knowledge and available statistical data on African tourism in the period 2008 – 2018 and based on scientific and theoretical aspects of model variables previously discussed in the paper.

Table 1. Quantification of model variables for the economic impact of tourism development in Africa from 2008 to 2028

Model variables for the economic impact of tourism development in Africa from 2008 to 2028		Input y			Difference (growth/fall)
		2008	2018	2028	2008/28
1.	the direct contribution of travel and tourism to GDP	21	27	33	12
2.	the total contribution of travel and tourism to GDP	18	21	29	11
3.	the direct contribution of travel and tourism to employment	27	29	40	13
4.	the total contribution of travel and tourism to employment	21	22	29	8
5.	capital investment in tourism	12	18	27	15

Source: authors

Below is the growth matrix for the economic impact of tourism development in Africa from 2008 to 2028 model by variables concerning current and future values for the period between 2008 and 2028.

Model growth vector: $\Delta Y_{2022}\begin{bmatrix}13\\23\\25\\26\\11\end{bmatrix}$;

Model reciprocal value vector: $\frac{1}{Y_{2028}} = \left(\frac{1}{33}, \frac{1}{29}, \frac{1}{40}, \frac{1}{29}, \frac{1}{27}\right)$;

Matrix calculus:

$$R_{2028}\begin{bmatrix}\frac{12}{33} & \frac{12}{29} & \frac{12}{40} & \frac{12}{29} & \frac{12}{27}\\ \frac{11}{33} & \frac{11}{29} & \frac{11}{40} & \frac{11}{29} & \frac{11}{27}\\ \frac{13}{33} & \frac{13}{29} & \frac{13}{40} & \frac{13}{29} & \frac{13}{27}\\ \frac{8}{33} & \frac{8}{29} & \frac{8}{40} & \frac{8}{29} & \frac{8}{27}\\ \frac{15}{33} & \frac{15}{29} & \frac{15}{40} & \frac{15}{29} & \frac{15}{27}\end{bmatrix}; \quad R_{2028}\begin{bmatrix}0{,}364 & 0{,}414 & 0{,}300 & 0{,}414 & 0{,}444\\ 0{,}333 & 0{,}379 & 0{,}275 & 0{,}379 & 0{,}407\\ 0{,}394 & 0{,}448 & 0{,}325 & 0{,}448 & 0{,}481\\ 0{,}242 & 0{,}276 & 0{,}200 & 0{,}276 & 0{,}296\\ 0{,}455 & 0{,}517 & 0{,}375 & 0{,}517 & 0{,}375\end{bmatrix}$$

Table 2 is derived from the matrix calculus.

Table 2. Number of points of direct model rates of the economic impact of tourism development in Africa from 2008 to 2028 on an index scale from zero to 100

Model variables	1.	2.	3.	4.	5.
1.	**36.4**	41.4	30.0	41.4	44.4
2.	33.3	**37.9**	27.5	37.9	40.7
3.	39.4	44.8	**32.5**	44.8	48.1
4.	24.2	27.6	20.0	**27.6**	29.6
5.	45.5	51.7	37.5	51.7	**37.5**

Source: authors

Table 2 shows that the point values of selected variables, direct rates of the economic impact of tourism development in Africa from 2008 to 2028 model, are put diagonally and amount from 27.6 to 37.9. Point values of indirect rates on an index scale from zero to 100 will not be discussed in the paper, due to space limitations.

Furthermore, differences in point values in the last column (differences) in Table 1 and the point values of direct model rates diagonally in Table 2 are obvious. The differences occurred due to the interaction between model variables for the selected period. The model indicates that in the future in Africa the greatest growth is expected in a total contribution of travel and tourism to GDP, amounting to 37.9%. The lowest growth is expected through the total contribution of travel and tourism to employment, 27.6%.

6. CONCLUSION

The basic scientific hypothesis: "Through scientific insights on the economic impact of tourism development in Africa, it is possible to propose a new model of the economic impact of tourism development in Africa in the period from 2008 to 2028" is established through direct growth rates of the model. The creation of the economic impact of tourism development in Africa from 2008 to 2028 was based on five selected model variables: direct contribution of travel and tourism to GDP, the total contribution of travel and tourism to GDP, the direct contribution of travel and tourism to employment, the total contribution of travel and tourism to employment and capital investment in tourism.

The research provided direct growth rates of the economic impact of tourism development in Africa from 2008 to 2028: direct contribution of travel and tourism to GDP => 36.4, the total contribution of travel and tourism to GDP => 37.9, the direct contribution of travel and tourism to employment => 32.5, the total contribution of travel and tourism to employment => 27.6 and capital investment in tourism => 37.5.

It may be concluded that direct growth rates of all model variables of the economic impact of tourism development in Africa from 2008 to 2028, taking into consideration the aforementioned, stand a realistic chance to be achieved. That means that hypothetical values of all model variables are realistically determined.

Despite the 20% share in global land area and 15% in the global population, and the greatest birth rate (double the global birth rate), Africa is still considered to be one of the least developed continents. Despite challenges regarding development, the potential of the African tourism market is enormous. Alongside current weaknesses in business such as political insecurity, undeveloped legislation, lack of traffic infrastructure and weak diplomatic connections with certain African countries, all opportunities of tourism development need to be taken into consideration, to create a greater positive economic impact on African development and wellbeing of local communities. Tourism is interdependent with other economic sectors and it is difficult to plan it, especially if we take into consideration the lack of reliable statistical data that hinders the identification of mechanisms through which African tourism generates growth, as well as its development potential. Looking for an adequate and reliable model of the economic impact on tourism in Africa continues to be challenging for researchers dealing with this segment.

It may be concluded that tourism share in African countries, just like in Croatia, significantly impacts GDP. That fact generates danger for continuous GDP growth, concerning the sensitivity of tourism to security. It is particularly important to pinpoint that at this time of great global insecurities.

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THE EU INDUSTRY - ANALYSIS OF KEY SUCCESS DRIVERS

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Abstract

The industry is acknowledged as the backbone of the European Union economy and is central to Europe's future progress and prosperity. It employs almost 35 million people and makes up more than 20% of the EU's economy. It accounts for more than 2/3 of the EU goods exports and represents 25% of the EU's GVA. To maintain the position of a global leader in many industries, especially in high value-added products, the EU industry needs to adjust to the new industrial age challenges and opportunities. Therefore, it is essential to strengthening the industry's ability to continuously adapt and innovate by fostering investment in new technologies and embracing the changes of increased digitization in all aspects of life, as well as the transition to a low-carbon and more circular economy. In 2020, the European Union published an ambitious industrial strategy to stay globally competitive. China, India, and the USA also positioned their industries at the top of its economic and political agenda. Welcoming a long-term vision for the EU's industrial future, this paper analyses the EU industry position in the world economy, its economic importance, and the significance of five key drivers to achieve the Industry 2030 vision. The *analysis points to the conclusion that the European Union needs a new type of governance to achieve set goals. Faced with mentioned challenging changes, Europe's response should be faster and navigation in these skewed times demands some rethinking on the industry in transition.*

Keywords: *industry, industrial strategy, European Union, key drivers*

JEL Classification: L60

1. INTRODUCTION

The industry is a substantial part of the European economy. After a period of significant deindustrialization, the trend reversed in 2013. More precisely, the contribution of manufacturing to European GDP decreased from 18.5 % in 2000 to 15 % in 2012, and 3.8 million jobs were lost between 2008 and 2012 in this sector, while the trend reversed ever since. The industry contributes to European prosperity through business in global and local value chains (EC, 2018, 2019d) and according to European Commission, the industry employs almost 35 million people directly and has created over 1.7 million net new jobs since 2013. It accounts for more than 2/3 of EU exports and represents 25% of the EU's GVA (EC, 2019b). At the same time, new and ever-changing geopolitical realities are having a profound effect on Europe's industry (EC, 2020a). It is undergoing a rapid technological change that will have a lasting impact on the European economy and overall human well-being because technological developments and digitization are generating new kinds of products and services fostering new types of business models in the global context (EC, 2017a).

To maintain the position of the global leader in many industries, especially in high value-added, the EU industry needs to adjust to the challenges and opportunities of the new industrial age. Therefore, it is essential to strengthening industry's ability to continuously adapt and innovate by fostering investment in new technologies and embracing the changes of increased digitization in all aspects of life, as well as the transition to a low-carbon and more circular economy (COM(2017) 479, EC, 2017b). In that context, the European Commission has provided a wide range of policies addressing key challenges for the European industry. In 2017 Commission adopted and presented an important Communication on Investing in a smart, innovative and sustainable Industry - A renewed EU Industrial Policy Strategy, bringing together all existing and new initiatives relevant for industrial policy. In this comprehensive strategy, the EU defines six pillars of industrial policy, emphasizes joint commitment and partnership within the Member States, regions, cities and the private sector. Further, to provide independent advice on future EU industrial policy action, the European Commission in 2017 established The Industry 2030 High-Level Industrial Roundtable, the group of experts to identify specific recommendations and actions on future EU industrial policy strategy towards 2030.

In 2019, the expert group launched the Final report of the Industry 2030 high-level industrial roundtable. To fulfill the vision of the European industry in 2030 as a global leader that will responsibly deliver value for society, the environment, and the economy, the report identifies specific recommendations and game-changing actions that will ensure the transformation of the European industry (*A vision for the European Industry until 2030*, EC, 2019a) contributing to the 2030 Agenda for Sustainable Development. This concerns Sustainable Development Goal 9 — Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (UNIDO, 2019a). Also in 2019, the High-Level Group on Energy Intensive Industries, advising the Commission on policies relevant to energy-intensive industries, published the Masterplan with recommendations to ensure the transformation of the EU energy-intensive industries to a climate-neutral, circular economy by 2050, while keeping the industry competitive. These recommendations aim to feed into the new EU industrial strategy and the European Green Deal (EC, 2019f). Additionally, the European Commission appointed the high-level strategy group on industrial technologies to assess, discuss, and recommend support for research and innovation in the area of key enabling technologies, also because of future research and innovation programs. In that sense, Key Enabling Technologies (KETs) are a priority for European industrial policy. The European Strategy for KETs aims to increase the exploitation of KETs in the EU to stimulate growth and jobs. KETs are instrumental in modernizing Europe's industrial base and in driving the development of entirely new industries (EC, 2020d).

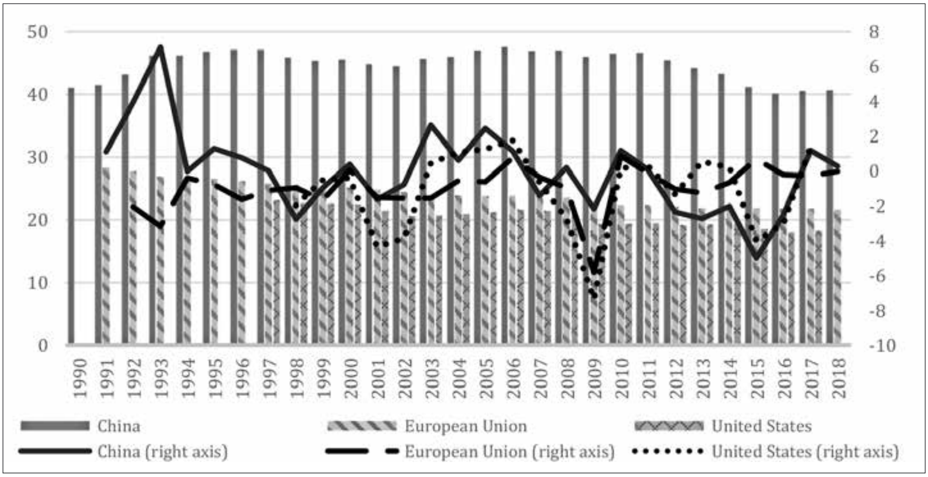
Finally, in March 2020, the European Commission has published *A new Industrial Strategy for a globally competitive, green and digital Europe* (EC, 2020a). Namely, the Commission presents a new Strategy to help Europe's industry lead the twin transitions towards climate neutrality and digital leadership. This Strategy aims to drive Europe's competitiveness and its strategic autonomy at a time of moving geopolitical plates and increasing global competition. The package of initiatives outlines a new approach to European industrial policy that is firmly rooted in European values and social market traditions. It sets out a range of actions to support all players of the European industry, including big and small companies, innovative start-ups, research centers, service providers, suppliers, and social partners.

In the wake of all these documents, strategies and communications, this paper analyses the position of the EU industry in the world economy, its economic importance and the significance of five key drivers to achieve the Industry 2030 vision. The paper consists of five chapters. After the introduction, the second chapter will explain the position of the European Union industry in the world economy. The third chapter covers the economic importance of industry in Europe, and chapter four analyses key drivers of the European Union industry. At the end comes a conclusion.

2. THE POSITION OF THE EUROPEAN UNION INDUSTRY IN THE WORLD ECONOMY

The EU industry is currently being impacted by many major transformations: a slowdown in global trade and a rise in protectionism, the emergence of new technologies, the development of global value chains (GVCs), the need for the industry to become more sustainable and emission-free, and increasingly fierce global competition for human and natural resources (Bjerkem et al., 2019). Nevertheless, the industry remains the backbone of the European economy, delivering high-quality jobs, innovation and world-class companies (Bjerkem et al., 2019). However, according to Figure 1, China took the lead in terms of share of industry value-added and is a global industry leader in recent years, despite its decline in the share of industry value-added. Industrial value-added in the EU declined from 28% in 1991 to 21 % in 2018.

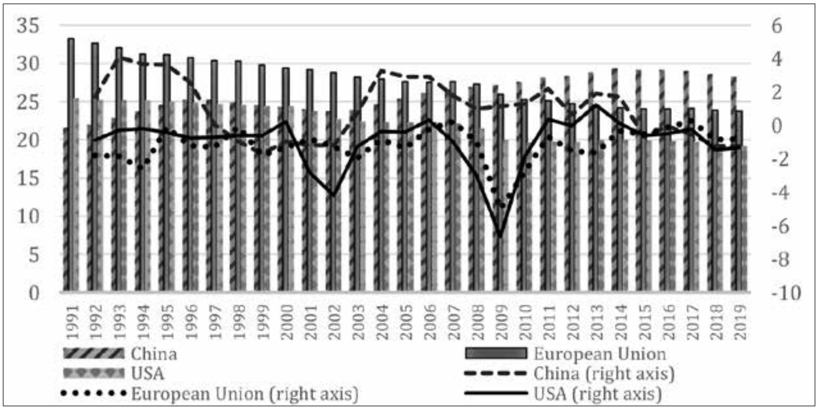
Figure 1. Industry (including construction), value added (% of GDP), 1990-2018



Source: World Development Indicators

Figure 2 shows the employment in industry as a share of total employment, for the 1991-2019 period. The past decade in the EU was characterized by a structural shift in the sectoral composition of jobs, with the greatest job destruction in manufacturing and construction (ETUI, 2019). This trend manifests in all developed countries, which is following the theory of deindustrialization saying that with economic growth the share of services employment increases, while after a certain point the share of industry employment decreases as an industry is more productive than services (agriculture share fell earlier). China is lagging regarding the process of deindustrialization, and the share of industry is still growing although the trend decreases. The share of industry employment in China rose as migration policies eased and big movement of people from villages to towns occurred especially during the 1990s. This was accompanied by economic transformation involving state enterprise industrial restructuring in the early 1990s. This, along with implemented market reforms, leads to rising in industrial productivity and the employment share shows a decreasing trend in China also.

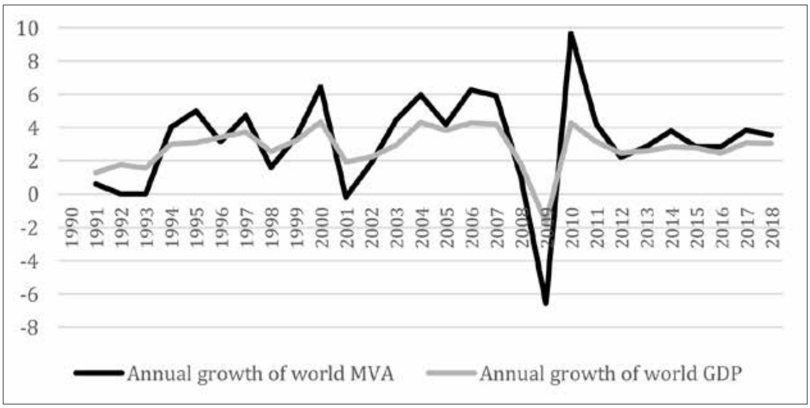
Figure 2. Employment in industry (% of total employment), 1991-2019



Source: World Development Indicators

Next, Figure 3 shows that the annual growth rate of world manufacturing value added (MVA) in the period 1991–2018, was slightly higher (3.13%), than the growth rate of gross domestic product (GDP) (2.8%). The difference suggests that the manufacturing sector was a growth engine for the world economy during that period. According to Figure 3 and Figure 4, the annual growth rate of MVA was more volatile than GDP in all observed economies. More precisely, when the GDP growth rates were increasing, MVA growth rates were increasing even higher, and when GDP growth rates were decreasing, MVA growth rates were decreasing even lower. UNIDO (2019b, p. 143) suggests that the volatility of MVA growth results from the difficulties many countries face in sustaining long periods of industrial expansion.

Figure 3. The annual growth rate of world MVA and GDP

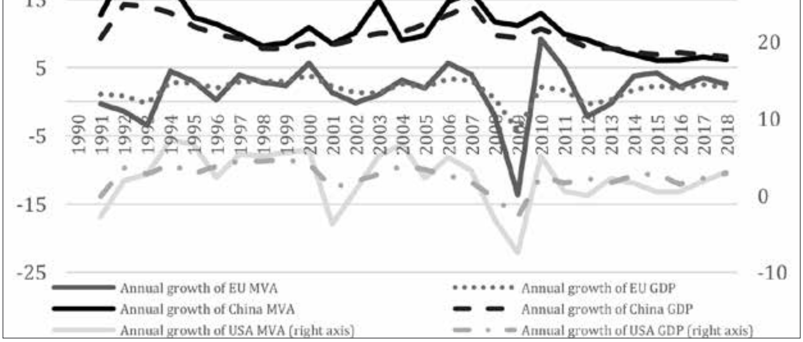


Source: Author's calculation based on the UNIDO Manufacturing Value Added database 2019 (UNIDO, 2019c)

Further, world manufacturing production reached USD 13,543 billion (at constant 2010 prices) in 2018, while the world MVA growth rate decreased from 3.8% in 2017 to 3.5% in 2018 (Figure 3). According to UNIDO (2020, p. 11), this slowdown is an outcome of the increase in trade and tariff barriers between the United States, China, and the European Union, simultaneously exposing the markets to a high level of uncertainty, limiting investments and future growth.

Figure 4 shows the USA, EU-28 and China MVA and GDP annual growth rate in the period 1990-2018. As the figure presents, long-term economic growth was unstable during the observed period. Although in the observed period three economic crises occurred (in 1990, 2001 and 2008), each crisis is followed by a period of recovery and growth. The period before the 2008 global financial crises which was followed shortly by the European debt crisis or the eurozone crisis (in 2009), has registered consistent growth, on average. More precisely, the EU annual growth rate of MVA increased from 1% in 2003 to 3.95% in 2007, followed by a constantly increasing GDP. The period after 2009 has been favorable for manufacturing in all observed countries and world manufacturing as well, dominated by China with an average growth rate of 7.9%. In the period 2015-2016, characterized by a high uncertainty in world markets, particularly in Europe because of the 2015 Greek debt crisis, the Brexit referendum and the aftermath of the refugee crisis, the EU economy showed solid growth in the manufacturing sector with 3.5% increase in 2017 (UNIDO, 2019b, p. 143, 144). But the 2018 MVA growth rate in the EU dropped by 2.5%, although an average growth rate of 3.1% since crises gives reasons for optimism.

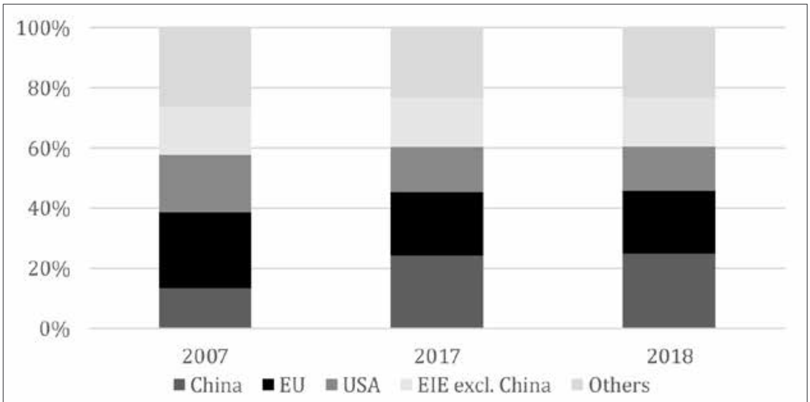
Figure 4. The annual growth rate of the USA, EU, and China MVA and GDP, 1990 – 2018, (%)



Source: Author's calculation based on the UNIDO Manufacturing Value Added database 2019 (UNIDO, 2019c)

Figure 5 shows the share of selected (group of) countries MVA in world MVA (in constant USD). As the figure presents, MVA in developed and emerging industrial economies (EIE excl. China) is dominated by China with a great increase of MVA share from 13.5% in 2007 to 24.9% in 2018. Emerging industrial economies excluding China accounted for 16.4% of world manufacturing production in 2018, while the EU slightly increased its share of MVA from 15.9% in 2007 to 16.4% in 2018. Although the industrialized economies and China represent around 80% of world manufacturing production, the change in relative share between EU and China in the period between 2007 and 2018 illustrates the relocation of manufacturing production from industrialized economies to the developing and emerging economies. This is not novel considering that China has been heading the list of the ten largest manufacturers worldwide since 2010, with a share of 24.9 percent in world MVA in 2018, followed by the EU with 20.8% and the USA with 15% in the same year (UNIDO 2020, p. 11, 12).

Figure 5. Share of countries' manufacturing value added (MVA, in constant USD) in world MVA



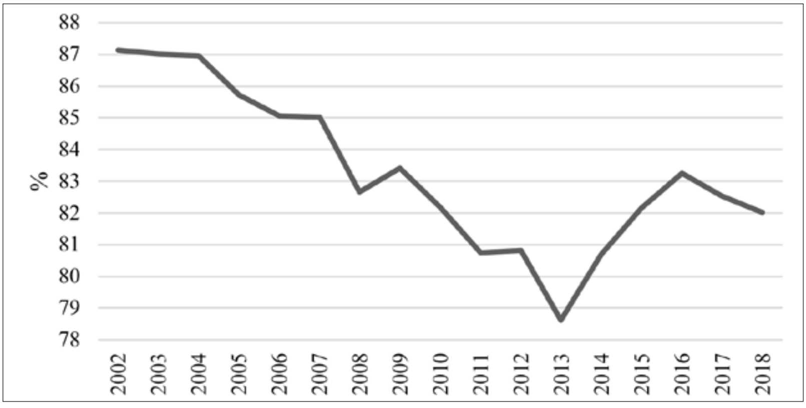
Source: Author's calculation based on the UNIDO Manufacturing Value Added database 2019 (UNIDO, 2019c)

The above analysis shows the importance of industry/manufacturing for economic growth in general. Also, China is a new force taking over the lead. If Europe wants to stay on top, it must act, and the strategies analyzed in the introduction are a good way to start. But the road is long, and the global situation can change especially in the light of current events concerning Coronavirus.

3. THE ECONOMIC IMPORTANCE OF INDUSTRY IN EUROPEAN UNION

A strong and competitive EU industry is essential to deliver value for EU citizens, the environment and the economy. The industry is very important for the overall functioning of the European economy and overall well-being, significantly contributing to economic growth, employment, and innovation. According to its multiplier effects on other sectors, industry accounts for over half of Europe's exports, around 65% of research and development investments, it provides about 62 million jobs (direct and indirect, 26.5% of total jobs in Europe), mostly high-skilled jobs with above-average pay in high economic value-added activities (Business Europe, 2019, p. 18). The industry generates strong positive spill-overs on the economy. In certain countries, industrial frontrunners generate 25% of all added value through direct and indirect effects (Business Europe, 2019, p. 18). Further, manufacturing industries buy, produce and sell services, and it is estimated that one additional job in manufacturing can create 0.5 to 2 jobs in other sectors. The share of manufactured products in exports of goods in EU-28 is over 82% (Figure 6) with a constant increase in manufacturing production (Figure 7). The industry is therefore essential to secure future jobs, growth, and innovation and develop new technologies. At the same time, industry plays a central role in the transition towards a more inclusive, sustainable, circular and climate-friendly economy to become fully climate neutral by 2050 (Bjerkem et al., 2019, p. 7).

Figure 6. Share of manufactured products in total exports of goods, EU-28, 2002-2018, (%)



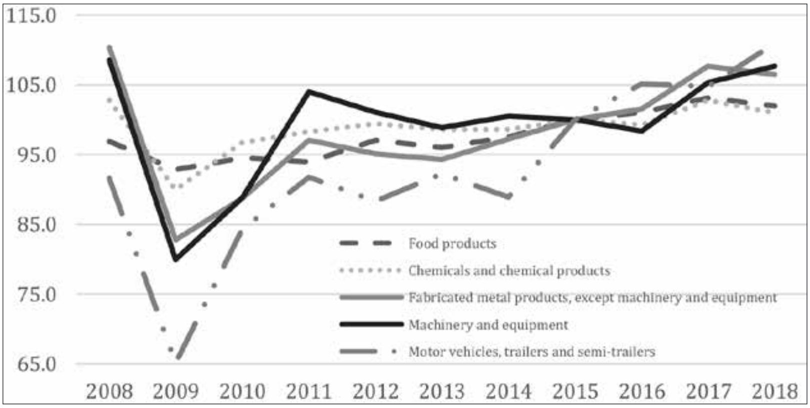
Source: Eurostat

Figure 7. Production of total industry and production of total manufacturing, EU, 2015=100, 1990-2019

Source: OECD

Industrial development, as a major driver of prosperity, delivers dynamic and competitive economic performance, generates income and employment, enables international trade and increases resource efficiency (UNIDO, 2020, p. 11). Europe is a global leader in industries that supply high-value jobs, such as automotive, aeronautics, engineering, chemicals, energy and pharmaceuticals (Business Europe, 2019, p. 18). Further, Key Enabling Technologies (KETs) have applications in many industries with the ability to tackle societal challenges. Their impact on the EU economy is already considerable: in 2013, products enabled by KET technology amounted to 953.5 billion euros or 19.2% of total EU-28 manufacturing (https://ec.europa.eu/growth/tools-databases/kets-tools/kets-observatory). Figure 8 shows the value of sold production for the five largest manufacturing activities in the EU-28, over the period 2008-2018. The trend in all activities is upward until 2009, but only two activities, food products, and motor vehicles, trailers and semi-trailers, surpassed the pre-crisis 2008 level. Also, food production is the least and motor vehicle, trailers and semi-trailers the most volatile activity among the analyzed top five manufacturing actives.

Figure 8. The value of sold production for top five manufacturing activities, EU-28, 2008–2018, (2015=100)



Source: Eurostat

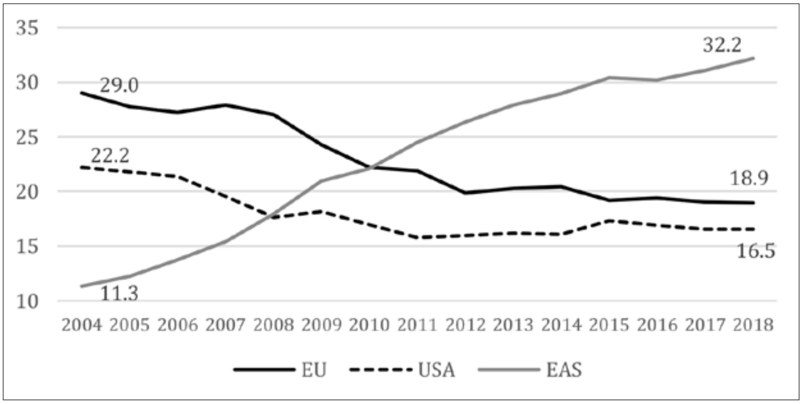
In terms of the value of sold production (Figure 8), the motor vehicles, trailers, and semi-trailers activity increased the most in 2018 compared to 2008, 21% or EUR 180 billion, while the food manufacturing activity increased by 5%. The value of sold production decreased in 2018 compared to 2008 in three activities, in machinery and equipment by 1%, in chemicals and chemical products by 2% and in fabricated metal products, except machinery and equipment by 4%.

If we look deeper, three-quarters of 77% of the EU-28 value of sold production in 2018 was generated by six EU Member States. The highest value of sold production, almost 28% of the EU-28 total was generated by Germany, followed by Italy (16%), France (12%), the United Kingdom (9%), Spain (8%) and Poland (5%). The rest of the 22 EU Member States contributed with up to 3% of sold production value in 2018.

A closer look at the best activity concerning the value of sold production in the EU in an international context reveals the EU needs to work even harder to improve the EU industry. Despite positive trends in the sold production value inactivity of motor vehicles, trailers and semi-trailers, Europe's share of worldwide manufacturing value-added decreased by almost 10% between 2004 and 2017, compared with only 5% decrease in the USA and 20% increase in the emerging economies (Figure 9). A decrease in industry employment in the EU since 2008 is in line with this data. Also, most manufacturing employment growth occurred in developing and emerging industrial economies (excluding

China), which is in line with this increase in the share of world MVA in East Asia and the Pacific (EAS).

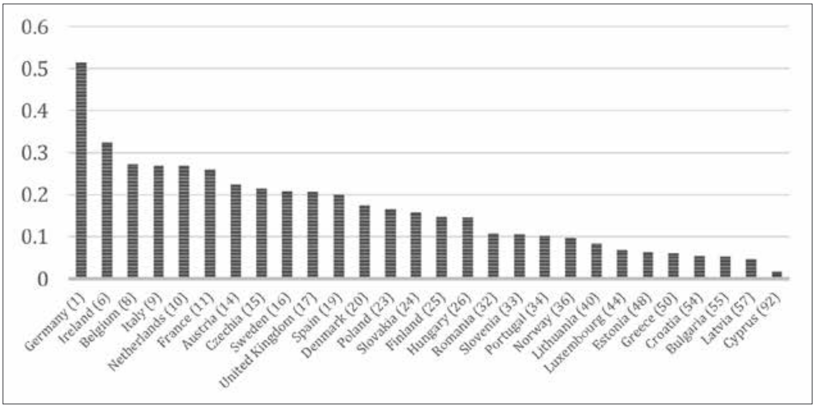
Figure 9. Share of manufacturing value added (MVA in current US$) in world MVA



Source: Author's calculation based on the World Development Indicators database

The Competitive Industrial Performance Index (CIP Index) measures how successful a country's industries are at producing and selling their goods on domestic and foreign markets, and consequently how much they contribute to structural change and development (UNIDO, 2019a, p. 16). The overall CIP ranking provides a quick indication of a country's industrial competitiveness compared with other countries (UNIDO 2020, p. 160). Figure 10 presents the distribution of the EU-28 CIP Index scores in 2017. A country at the top of the 2017 CIP ranking (but also for all years except one since 1990) among the EU-28 and on the global 2017 CIP ranking is Germany. Germany's long-range strength in international competition is largely based on the strength of its industry. German industry is highly competitive and innovatively strong. With an industry share of 23% in GDP, Germany leads all EU countries and adhere to an excellent international position (Federal Ministry for Economic Affairs and Energy, 2019). It is followed by Ireland, Belgium, Italy, Netherlands, and France, maintaining their strong position since the last ranking. If the EU wants to keep the global role in the industry, it should focus on all Member States (MS) as there are large dispersion in EU country scores ranging from 0,51 for Germany to 0,05 and 0,016 for Latvia and Cyprus. Nevertheless, a good example is set by five European Union MS, namely, Germany, Ireland, Belgium, Italy and Netherlands who occupy five places in the global top ten.

Figure 10. Scores of the Competitive Industrial Performance Index, EU-28, edition 2017.



Source: UNIDO, 2019a
Note: Numbers in parentheses show the global rank according to CIP Index in 2017.

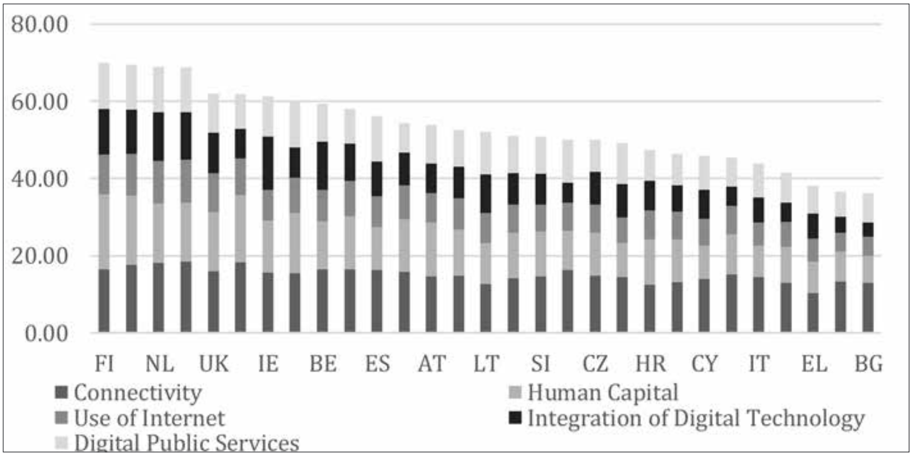
4. THE ANALYSIS OF KEY DRIVERS OF EUROPEAN UNION INDUSTRY

According to European Commission (2019g), there are five key drivers to achieve the Industry 2030 vision: a) leadership in technology, innovation, and sustainability; b) anticipating and developing skills; c) strategic value creation networks; d) a fair, competitive and agile business environment; and e) social fairness and wellbeing. Success in achieving the 2030 vision of Industry requires an integrated approach to respond to a series of specific and interconnected challenges facing our industries to implement the future European industrial model (EC, 2019a). Therefore, this section analyses some of the existing potential indicators of the identified industry drivers. Some other indicators could be used in interpreting the current situation, but the scope of this analysis is limited wherefore we picked the most important ones.

As for the first key driver, Europe's opportunity for differentiation and leadership lies at the heart of three symbiotic ingredients: technology, innovation, and sustainability. In that context, the digital scoreboard estimates the performance of the EU member states on a broad range, embracing connectivity and digital skills, digitization of businesses and public services. More precisely, Digital Economy and Society Index (DESI) is calculated as the weighted average of five main DESI dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology and Digital Public Services.

According to the DESI 2019 (Figure 11), the EU countries that have achieved the highest scores e. g. that are among the world leaders in the area of digitalization are Finland, Sweden, Netherlands, and Denmark. They are followed by the United Kingdom, Luxembourg, Ireland, Estonia, and Belgium. At the bottom of the scale are Bulgaria, Romania, Greece, Poland, and Italy. The latter is far below the EU average, and the EU needs improvement to compete on the global stage. This is why the European Commission (2020b) has published a new digital strategy *Shaping Europe's digital future*, to become a strong, independent and purposeful digital player. Namely, digitalization is the most significant vector of innovation in firms, science, and governments and if properly harnessed, digital technologies could advance science, raise living standards, help protect the natural environment and improve policymaking (OECD, 2020).

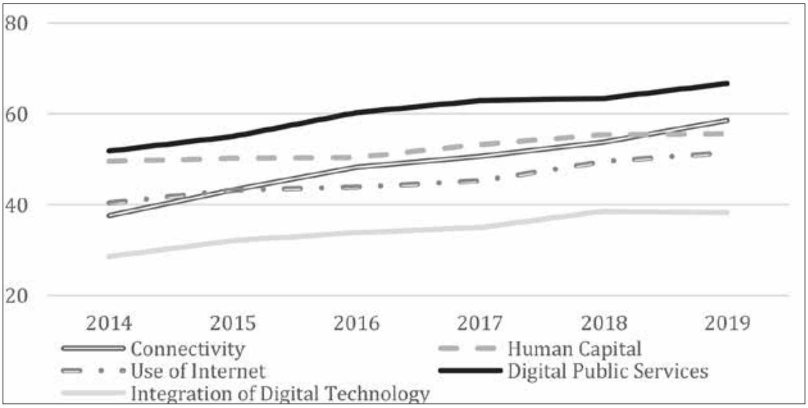
Figure 11. Digital Economy and Society Index (DESI), EU28, in 2019



Source: EC, 2020c

If we look at the movement of the DESI index over time for different modalities of the data, the EU on average improved its digital performance in the last five years.

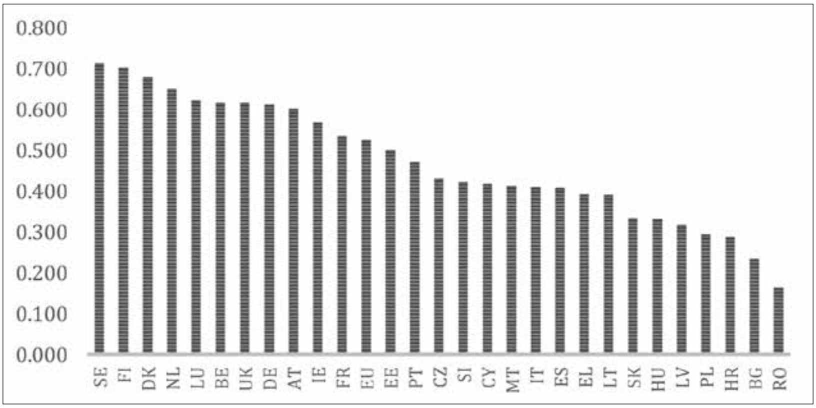
Figure 12. Digital Economy and Society Index (DESI) in EU, by five main dimensions, 2019



Source: EC, 2020c

According to the European innovation scoreboard 2019, the EU's innovation performance also continues to improve. Within the EU, innovation performance increased in 25 countries since 2011 (EC, 2019e). Sweden is the 2019 EU innovation leader, followed by Finland, Denmark, and the Netherlands. Lithuania, Greece, Latvia, Malta, the United Kingdom, Estonia, and the Netherlands are the fastest growing innovators (EC, 2019e, see Figure 13). On the other hand, based on innovation index data, Hungary, Belgium, Slovenia, Italy, and Poland are at the bottom of the scale. At the global level, the EU lags behind South Korea, Canada, Australia and Japan (EC, 2019e).

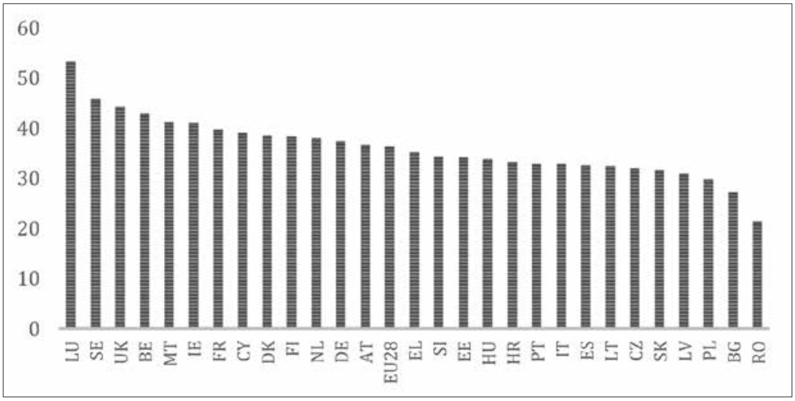
Figure 13. Summary Innovation Index according to European innovation scoreboard 2019



Source: European Innovation Scoreboard 2019 (EC, 2019e)

As for second key driver (i.e. anticipating and developing skills), European industry has the opportunity to be equipped with the right set of skills, professional and transversal, for addressing the challenges posed by exponential technologies, digitization and the shift to sustainable production and consumption (European Commission, 2019g). Those skills should come from policies and systems that ease the generation and transfer of knowledge and place-based ecosystems that spread innovation (European Commission, 2019g). Observing trends of employment in Knowledge Intensive Activities (KIA) - both manufacturing and services - as a share of total employment, the EU Member States show very unequal values (Figure 14). According to this indicator, Luxembourg, Sweden, and the UK are leading, while Bulgaria, Romania, and Poland are at the bottom. More EU action is needed.

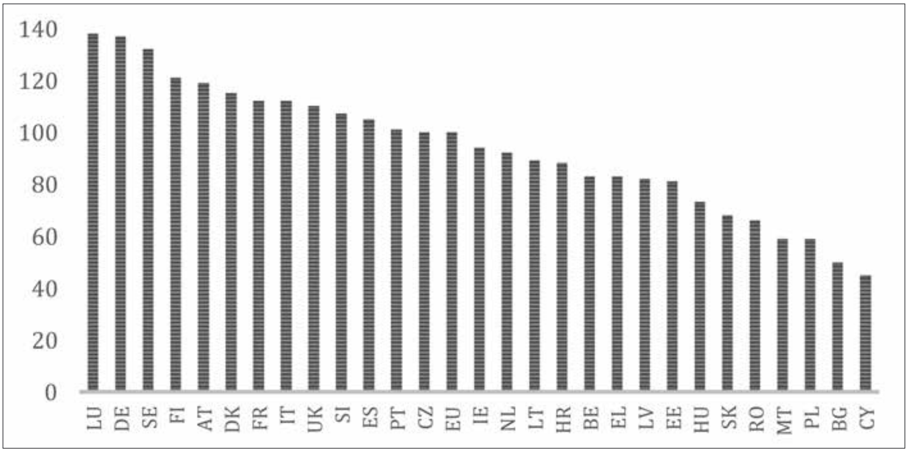
Figure 14. Employment in Knowledge Intensive Activities (KIA) as % of total employment, 2018



Source: Eurostat - Statistical Office of the European Union

Focus on strategic value chains and value creation networks is the third key driver. Strategic values chains (SVCs) are of systemic importance and make a clear contribution to growth, jobs, and competitiveness. They are characterized by the following three dimensions: technological innovativeness, economic and market potential, and societal and political importance for Europe. One of the indicators analyzed here is the Eco-Innovation Index which shows "how well individual Member States perform in different dimensions of eco-innovation compared to the EU average and presents their strengths and weaknesses". Luxembourg, Germany, and Sweden are leading on this list, while Poland, Bulgaria, and Cyprus are at the back of the ladder.

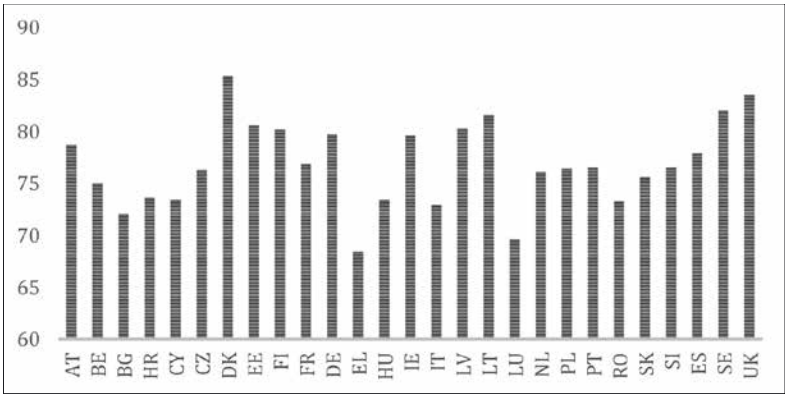
Figure 15. Eco-innovation index in EU28, in 2018



Source: European Eco-Innovation Scoreboard 2018

The fourth key driver – fair, competitive and agile business environment – means that "industrial policy needs to be predictable, stable, reliable, coherent and apt to adapt to and with its environment" (European Commission, 2019g). We analyze this key driver based on Doing Business report conclusions which presents "quantitative indicators on business regulations and the protection of property rights that can be compared across 190 economies and over time" (World Bank, 2020). Figure 16 implicates that Denmark, UK, and Sweden are top three, while Greece, Luxembourg, and Bulgaria are at the bottom in the context of quantitative indicators on business regulations and the protection of property rights (according to the Doing Business report).

Figure 16. Ease of doing the business score, EU-28



Source: Doing Business, 2020
Note: The Ease of doing business score is the simple average of the scores for each of the Doing Business topics: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. The score is computed based on the methodology in the DB17-20 studies for topics that underwent methodology updates.

Social fairness and wellbeing are the fifth key driver and the evidence from the Social Scoreboard point to continuing positive labor market and social trends in the EU, although not all indicators are improving (EC, 2019c). According to Joint Employment Report 2020, looking at average values for the EU-27, 9 out of 14 headline indicators recorded an improvement over the last available year (i.e. 2018 or 2017 depending on data availability). In comparative terms, (overall and long-term) unemployment rates recorded the most significant progress, reflecting positive developments in the labor market. Yet, some other indicators remained stable compared to the previous year or even slightly worsened (i.e. early leavers from education or training, gender employment gap, income quintile share ratio, the impact of social transfers on poverty reduction and self-reported unmet needs for medical care) (EC, 2019c).

Finally, our analysis shows that the same EU Member States are at the top of different rankings, regardless of the five key drivers for the future of the European industry. These are mostly Sweden, Finland, and Denmark. On the other side of the scale are mostly the Eastern European states such as Bulgaria, Romania, and Poland. This points to the conclusion that the level of development is unequal and there is ample scope for progress and improvement across all analyzed key drivers.

5. CONCLUSION

As shown above, the industry plays a pivotal role in the EU's economy and growth model. At the same time, it may well be at an important crossroads as it is increasingly affected and shaped by new disruptive forces, ranging from the rise of new technologies to changing geopolitical circumstances (European Parliament, 2019b). Namely, the EU needs an industry that is becoming greener, more circular and increasingly digital, but at the same time maintaining its competitiveness globally. However, the analysis points to the fact that the share of EU industry in the world is declining (according to value-added as a % of GDP, employment in industry as a % of total employment and annual growth rate of MVA and GDP) and that the throne is being taken over by China and other advanced economies.

Our analysis of five key drivers to achieve the Industry 2030 vision (leadership in technology, innovation and sustainability, anticipating and developing skills, strategic value creation networks, a fair, competitive and agile business environment and social fairness and wellbeing) points to the conclusion that the same countries are always on the top (Sweden, Finland, and Denmark) or at the bottom (Bulgaria, Romania, and Poland). The analysis was conducted on different indicators and/or competitiveness scales, for example, Digital Economy and Society Index, European innovation scoreboard, employment in Knowledge Intensive Activities, Eco-innovation index and Ease of doing business score. Finally, while the importance of industry in the EU is beyond question, our analysis of the drivers crucial for the future of the European industry indicates a very uneven level of development within the EU. It also indicates the differences between traditionally backward member states and is a result of various industrial policy pathways despite common fundamental goals. Therefore, one of the conclusions is there is a lot of room for growth and improvement. This must be viewed in the light of fact that the EU economy has just begun to recover from the global financial crisis and already a new destabilization factor has emerged in the form of an uncertain coronavirus pandemic.

In words of McKinsey Global Institute (2020): "Near-term survival is the only agenda item" for some countries at the moment. "In this unprecedented new reality, we will witness a dramatic restructuring of the economic and social order in which business and society have traditionally operated" (McKinsey Global Institute, 2020). Therefore, "according to the new emerging paradigm of industrial policy, the question about industrial policy is no longer whether or what to do, but rather how; how individual countries can design industrial policies in support of the political objectives set as well as how their respective public sectors can implement such policies efficiently and effectively" (European Parliament, 2019a).

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THE CONNECTION BETWEEN INVESTING IN EDUCATION AND ECONOMIC DEVELOPMENT

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Abstract

Investing in education i.e. the development of human capital and developing a quality education system is a prerequisite for the growth and development of any country. Education, as one of the most important factors in economic growth, and the correlation between economic growth and education are some of the most important areas in economic research. The question this paper asks is – can investments into education start economic growth and see a positive correlation between investing in education and economic growth.

This paper aims to show the correlation between economic growth and a percentage investment of GDP into education, as well as to compare the differences between investing in education in more and less developed countries of the European Union. The research was done on the EU-27 member-states, with a special emphasis being put on the Republic of Croatia, as well as the *investment into education according to education levels. The human development index (HDI) and the Gross Domestic Product per capita (GDP p.c.) were taken into account when measuring the development of a country. This research aimed to show whether there is a positive correlation between investments in education and economic growth.*

Keywords: *Economic development, GDP p.c., Human development index (HDI)*

JEL Classification: I25, O10

1. INTRODUCTORY CONSIDERATIONS

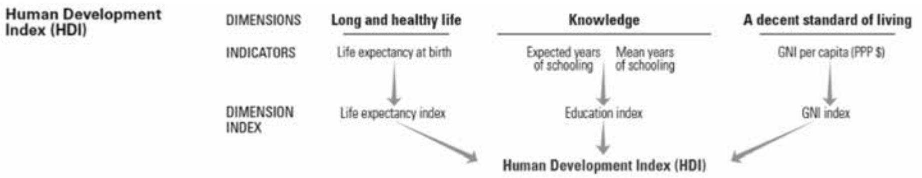
Gross domestic product (GDP) is an indicator showing the value of final goods and services produced in a country during a year and has always been thought of as one of the key indicators of economic growth and the ultimate indicator of the strength of an economy and the quality of life. As a general indicator of development in Europe, according to Aksentijevic et. Al (2019) the GDP per capita is used (GDP p.c.), while the USA used GNI. The realization of economic growth assumed an increase in the volume of production signified by an increase in GDP.

To be able to compare economic growth between multiple different countries, one needs to equate the prices between individual countries. GDP p.c., according to PPP, presents the gross domestic product transformed into American dollars using the parity of purchase power (PPP) used when analyzing the living standard of the population in different countries.

Up until the middle of the 20th century, it was considered that growth and development were identical categories. However, today we have numerous indicators determining economic development. Economic development, apart from the GDP growth, includes a whole series of efforts by carriers of economic policy focused on increasing living standards, human capital, important infrastructure, regional competitiveness, social inclusion, the health status of the population and their literacy. According to Todaro and Smith (2006) GDP is used as a very good indicator of the general image of an economy because it correlates very well with other indicators, such as the HDI.

HDI (Human Development Index), is a formula using which poverty, literacy, education, life expectancy and other factors in countries worldwide are measured. Using HDI, countries are categorized into developed countries (first-order countries), countries in development (second-order countries), and third-order countries. The UN program for development, HDI, has been in use since 1993 and produces an annual report on the changes happening in countries according to the aforementioned factors. The human development index was created to highlight the fact that people and their abilities should be the ultimate criterion in rating the development of a country, not only its economic growth. Apart from that, the index can be used to compare countries i.e. question national policies by asking questions about how two countries with equal GDP p.c. can have a different result of human development (Human Development Report, 2020). According to the HDI, Bhutan is the 132nd country in the world, which categorizes it into the company of countries such as Moldavia, Turkmenistan, Ghana, Namibia, etc. It is no wonder they do not wish to accept objective and measurable criteria such as GDP and HDI and wish to replace them with the far more subjective index of gross national happiness. The HDI is most used, combining the average income per citizen, expected life duration at birth and years of schooling, all to personalize the measurement of success of an economy according to objective criteria connected with more individual indicators than general measures of production, expenditure, and investments. (Perković, 2018)

Figure 1 - Dimensions of Human Development Index (HDI)



Source: Human development reports (2020)

As was shown in Figure 1, HDI measures the average accomplishments in countries according to three basic things in human development: (1) a long and happy life, measured according to the life expectancy of birth (2) knowledge, measured according to literacy, taking into consideration primary and secondary education and rates of enrollment; (3) life standard, measured according to GDP p.c., the parity of purchase power in American dollars.

In the majority of human development analyses, one of the most important factors is the degree of education of a population. When estimating the degree of development and quality of education, the level of literacy, the average degree of education, percentage of completed primary and secondary school educations, and the expected years of schooling of enrolled students are taken into consideration. The HDI is calculated and published by the UN in the Human Development Report ranked on a scale of 0 (lowest) to 1 (highest). Countries are ranked into 4 groups:

- 0,000 - 0,549 countries with a low HDI,
- 0,550 – 0,699 countries with a medium HDI,
- 0,700 – 0,799 countries with a high HDI,
- 0,800 – 1,00 countries with an extremely high HDI.

As is visible in Figure 1, one of the most basic components in human development is knowledge i.e. education and it also extends through history as a development indicator. According to Obadić (2017), education is considered to be an infrastructural good and is shown as an input of development through a growing number of educated individuals or through the effects it generates on the level of an individual and society. Education has always attracted the interests of economists, researchers, and policy creators all over the world as the main channel of improving human capital. The economic aspect of human capital, in the last few decades, especially intrigued multiple scientists. Today, there is more and more talk about the concept of human capital, which presents a complex content of the basic characteristics of individuals: formal and informal education, mobility, health status, family legacy (Tica and Obadić, 2017).

According to OECD (2001), human capital assumes knowledge, skills, competences, and traits embodied in individuals which make creating personal, social, and economic welfare easier.

The Economic Commission of the UN for Europe states that the production processes of human capital should contain the following

- Formal education services, which individuals pay for themselves or are financed by the country;
- Training, given by or paid for by the employer;
- Other expenses such as, for instance, school books and other material expenses;
- Time spent learning at home (UNECE, 2016).

Human capital is formed in a formal and non-formal system of education. The informal system encompasses familial education, but also the possibilities at the disposal for informal education (media, newspapers, television, public gatherings, availability of public libraries, public workshops, public campaigns, gatherings, etc.).

The notion of human capital appeared throughout history, and its importance was emphasized by Schultz (1961) among the first, who defined human capital as "acquired skills and knowledge" to make a difference between qualified and non-qualified workers. Schultz's papers brought to a series of growth studies that pointed to the benefit of education for economic growth in developed economies. Schultz (1961) and Becker (1962 and 1964) conclude that investing in education contributes to an increase and productivity of the workforce and the growth of national income. Schultz (1961) also advises more developed countries to achieve economic growth by investing in people. Becker (1994) states that investing in education and training are the two most important investments in human capital. He also emphasizes that high school and faculty education influence future income, as was also concluded by many pieces of research that followed his. Blundell et. al (1999) state that human capital consists of three main components: (1) working ability, (2) qualification and knowledge acquired by formal education; (3) competence and expertise acquired through training at work.

2. METHODOLOGY

The methodology which was used in the paper is in line with the aim, purpose, and structure of the paper. The first part of the paper will deal with the theoretical basis with the existing scientific cognitions on GDP and HDI and human capital and the main characteristics of growth and development will be defined, as well as the characteristics of development measures.

The second part of the paper will analyze investments into education as important characteristics of human capital and one of the measures of the social development index and the level of GDP investments into education by EU member-states will be compared.

This paper applies statistical methods by using the IBM SPSS software to process and analyze the data gathered. The statistical method used in the paper is the correlation analysis between the GDP p.c. and the HDI between EU member-states. Studying the topic of the paper itself, the authors made the following hypotheses:

H1: There is a positive correlation between investing in education (% GDP) and economic growth (GDP p.c.)

H2: There is a positive correlation between investing in education and human development (HDI)

H3: There is a positive correlation between GDP p.c. and HDI.

A correlation coefficient is a number quantifying the type of correlation and dependence, signifying a statistical connection between two or more values. A high value approaching +1 means a strong positive correlation, while a low negative one approaches -1. The values close to 0 signify a weak connection between the variables. The data used in the paper was taken from Eurostat, World Bank, and HDR.

3. EDUCATION IN CROATIA

According to a report by the European Commission (2019), the Croatian educational system provides educational services at the levels of preschool, primary school, secondary school, and high education, as well as the education of adults. It is stated that education in the Republic of Croatia is available for everyone, according to equal standards and in line with their abilities. The governing body taking care of the system of education in Croatia is the Ministry of Science, Education, and Sports.

Table 1. Division of responsibilities in the educational system of the Republic of Croatia

Sectors	Country	Counties	Cities/municipalities
Preschool education			Building and maintaining objects and gathering input (personnel etc.)
Primary school education	Norms, curriculum, salary payment and managing the teaching staff, supervision of norms	Building and maintaining school objects and gathering didactic materials (this function was taken by counties from the municipalities)	Building and maintaining school objects and gathering didactic materials
Secondary school education	Norms, curriculum, salary payment and managing the teaching staff, supervision of norms	Building and maintaining school objects and gathering didactic materials	
High education	Full responsibility		

Source: EU CARDS Projekt fiskalne decentralizacije u Hrvatskoj - Financiranje regionalne i lokalne samouprave u Hrvatskoj: Predloženi model reforme, 2007.

At the level of preschool and primary school education, the institutions of local government and educational institutions have legal authorities and responsibilities to take part in naming the principle and hiring other employees of the institutions. At the level of high education, certain educational institutions (universities, faculties) have full autonomy to name the governing personnel (deans, vice deans, rectors, etc.). The ministry and the agencies accredit and supervise the enforcement of educational programs on all levels. The ministry also ensures the funds for the teaching staff's salaries – which is the greatest portion of the total budget for education – for all levels of education, apart from the lowest one (preschool education) which is provided from the funds of local government. At the level of secondary school education, the regional government and education institutions have legal authorities and responsibilities to take part in naming the principle and employing other workers in institutions.

Preschool education in Croatia encompasses education and care for children of preschool age and it makes the first level of the educational system and is not mandatory for all children of preschool age. On the other hand, primary school education is mandatory, and it lasts for eight years and includes children ages six to fifteen. Secondary school education is enabled for all students after the completion of primary school and, depending on the type of educational programs, there are grammar schools, vocational schools, and art schools. The kindergarten, which was founded by the unit of the local and regional government, charges the parents-users for its services, in compliance with the measures determined by the representing body of that unit, apart from the preschool program, which is free. The units of local and regional governments are to ensure the number of funds for preschool education at least in the amount determined by the representative body of the county with its measurements. A part of the funds for public need programs in the area of preschool education is ensured in the budget.

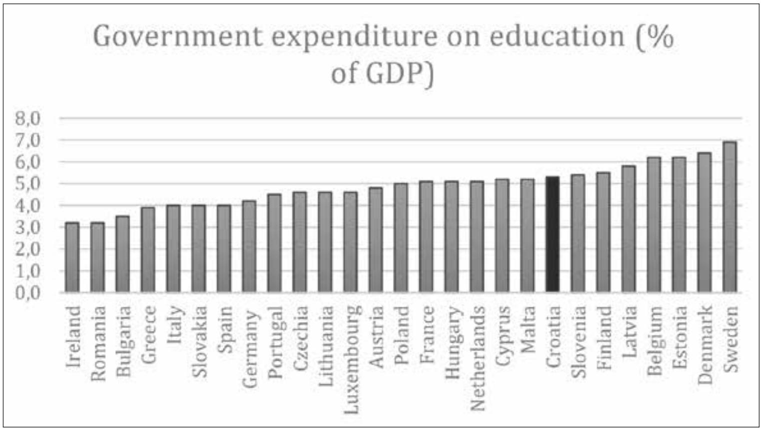
Secondary education ends with taking the state exams, and secondary schools with vocational and artistic programs end with creating and defending a final paper, organized by the school. The means to fund public needs in the activities of primary and secondary education are ensured by the following: the state budget, local and regional government budgets, founder budgets when the founder is another physical person (for instance, the Catholic Church which founded the dioceses, and there are 12 Catholic primary and 12 grammar schools functioning in Croatia today).

The high education system is made by the university and professional education programs. University study programs enable students to perform jobs in science and high education, economy, state, public, and private sectors. Professional study programs offer students a level of knowledge and skills enabling them to perform professional trades and enable them to get included in the work process. To create a European space of high education, Croatia and 48 other European countries, performed a reform of high education known as the Bologna process. All study programs were synchronized with the demands of the Bologna process in 2005, and all students who finish Bologna studies in the Republic of Croatia receive ECTS points and have a right to an additional document on their studies. Colleges, institutes, and other scientific organizations are financed from the founder's budgets, the state budget of Croatia, county, city and municipality budgets, tuition fees, scientific, research, artistic, and professional project income, scientific and expert studies and expertise, foundations, donations and aid, income from publishing, income made on the market, income from property, a portion in trade associations, income made from the universities and faculties and artistic academies, as well as the income from investments done by physical and legal persons, and other sources. Universities, polytechnics, colleges, and public scientific institutes can only be funded from those sources which do not affect their independence and dignity. Personal income can only be made by those actions which do not harm the realization of the basic tasks of the university, polytechnic, college, and public scientific institutes.

4. INVESTMENTS INTO EDUCATION (EU-27)

Hanushek and Wößmann (2007) stress that quality of education, measured by real knowledge the pupil gets during formal education, is more important than the quantity of education for economic growth. According to Hanushek and Wößmann (2010), three theoretical models stress different mechanisms using which education can influence economic growth. The first one is that education can be accumulated i.e. that it increases human capital, which brings about an increase in productivity of labor and results in a higher balance level of output. An increase in human capital, measured by an increase in cognitive skills I sone of the important elements in increasing the long-term welfare of an economy. In another model it was highlighted that education can increase innovations in the economy and newly acquired knowledge on new technologies, products and processes increase economic growth, while the third model states that education promotes knowledge to understand and implement new technologies, which will ultimately lead to an increase in economic growth. Human capital, simply put, presents all the knowledge, skills, competences, and attributes built into an individual based on which that individual can increase his or her welfare, and investment into education in most countries of the world is mostly publicly financed. Investment in education in a percentage of GDP is the main indicator of financing education and it relates to teacher salaries, material expenses of schooling, amortization, investment in new equipment for schools and school and additional objects, etc., relates to all expenses the country has which are tied into the educational system (Leko, Požega, 2016).

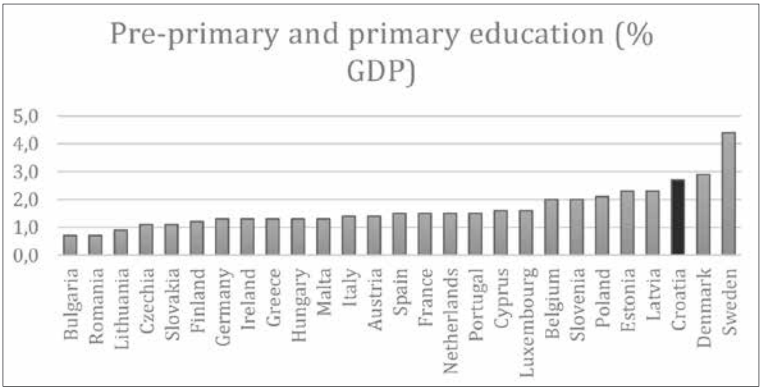
Graph 1. A presentation of public investments into education EU-27 (% GDP)



Source: Author-made according to Eurostat (2020)

As was previously stated, investment in education is one of the key indicators of economic financing of education. Graph 1 showed public investments in education as a percentage of GDP for all the EU member-states in 2018. The graph shows that, in 2018, Sweden took out the largest portion of GDP for investments in high education, a total of 6,9% of its total GDP. The closest one to Sweden is Denmark with 6,4% public investments in education, followed by Belgium and Estonia with 6,2%. On the other hand, European Union member-states investing the smallest amount of public funds in education are Ireland and Romania with 3,2% and Bulgaria with 3,5%. The average percentage of public investments in the education of EU member-states is 4,9%, and it could be emphasized that Croatia invests 5,3% GDP in education.

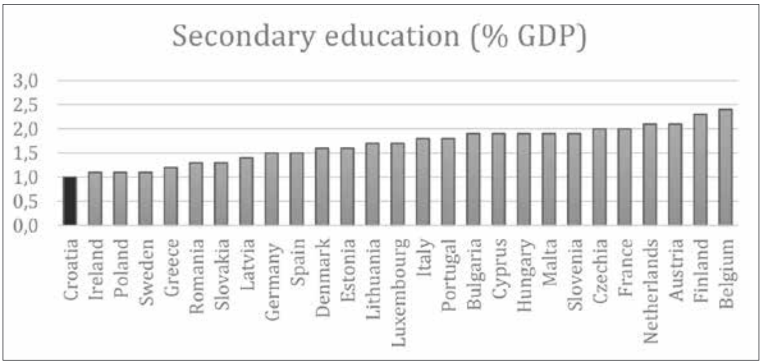
Graph 2. Public investments for pre-primary and primary education by EU member-states in 2018



Source: author-made according to Eurostat data (2020)

Graph 2 shows public investments in preschool and primary education in EU countries in 2018. The graph shows that Sweden invests significantly more than others in preschool and primary education (4,4% GDP), followed by Denmark with 2,9% GDP. Croatia is in third place, with 2,7% GDP. On the other hand, Bulgaria and Romania invest the least in preschool and primary education with 0,7% GDP. On average, in EU countries, 1,7% of GDP is invested in preschool and primary education and it can be concluded that Croatia is focused on investing in preschool and primary education.

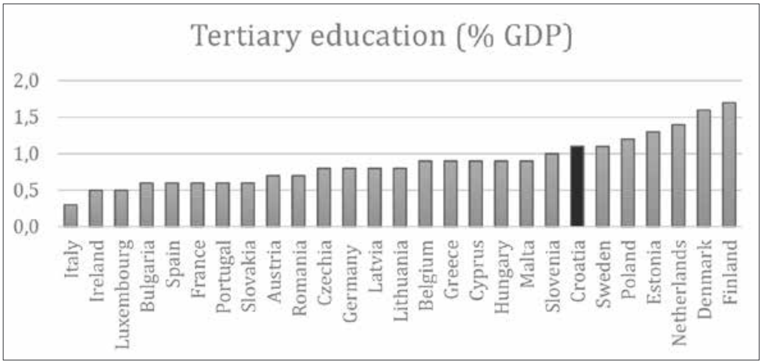
Graph 3. Public investments in secondary school education by EU member states in 2018



Source: author-made according to Eurostat data (2020)

Graph 3 shows public investments of GDP in secondary school education in EU member states. By observing Graph 3, one can notice the fact that public investments in GDP in secondary school education in the majority of countries are larger than the investment in preschool and primary school education. Croatia, unlike in investments in preschool and primary school education (where it was among the better-ranked countries in the EU) is the worst-ranked EU member-state with only 1% GPD public investments. The best-ranked states are Belgium with 2,4%, or Finland with 2,3% GDP public investments into secondary school education.

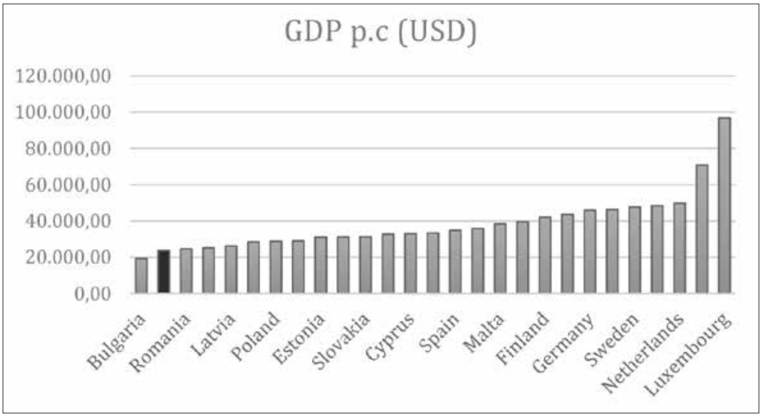
Graph 4. Public investments in high education by EU member-states in 2018



Source: author-made according to Eurostat data (2020)

Graph 4 shows public investments of GDP in high education. Unlike the previous graph where Croatia was last according to public investments into secondary school education among the EU member-states, public investment in high education is 1,1% GDP, which is not significantly more than the investment in secondary school education. However, when compared to other EU member-states, the difference is visible because the investment in high education, about other levels, is lowest. The countries which lead the percentage of public investment in high education are Finland with 1,7% and Denmark with 1,6%, and the worst are Italy with 0,3% and Ireland and Luxemburg with 0,5%. In the following graphs, the authors will show the EU member-states ranked by GDP p.c. and the HDI.

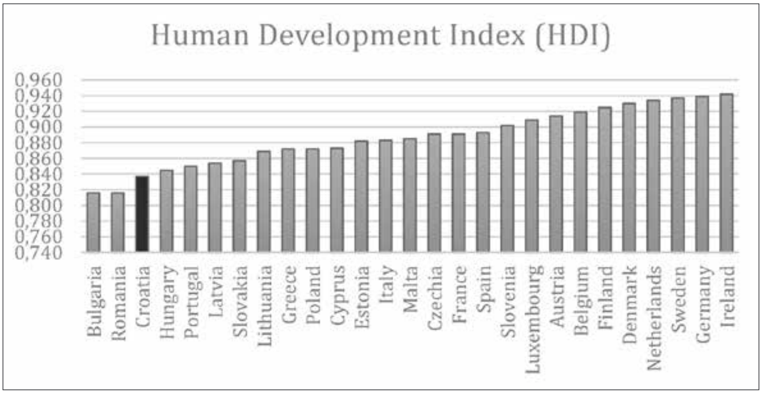
Graph 5. GDP p.c. of EU-27 member-states



Source: author-made according to the World Bank data (2020)

Graph 5 shows that Croatia is the 26th out of the 27 ranked countries, with a GDP p.c. of 23.664,15 USD, and the only worse ranked country among the EU-27 is Bulgaria with GDP p.c. 19.320,75 USD. The most developed countries, according to GDP p.c., are Luxemburg (96.792,60 USD), Ireland (70.855,33 USD) and the Netherlands (49.787,07 USD).

Graph 6. Human development index of EU-27 member-states



Source: author-made according to the Human Development Report (2020)

In Graph 6, according to the HDI, it is visible that Croatia is the 25th out of 27 ranked countries, with an index of 0,837, and the worst-ranked countries in EU-27 are Bulgaria and Romania with an index of 0,816. The most developed countries, according to the HDI, are Ireland with an index of 0,942, Germany with an index of 0,939 and Sweden with an index of 0,937.

Table 2. A comparison of countries according to the HDI, government expenditure on education (% of GDP and GDP p.c.

COUNTRY	GDP p.c	HDI	% of GDP invested in education
Luxembourg	96.792,60	0,909	4,6
Ireland	70.855,33	0,942	3,2
Netherlands	49.787,07	0,934	5,1
Denmark	48.419,44	0,930	6,4
Sweden	47.717,66	0,937	6,9
Austria	46.260,38	0,914	4,8
Germany	45.936,18	0,939	4,2
Belgium	43.582,13	0,919	6,2
Finland	42.060,80	0,925	5,5
France	39.555,54	0,891	5,1
Malta	38.388,06	0,885	5,2
Italy	35.828,49	0,883	4,0
Spain	34.830,54	0,893	4,0
Czechia	33.435,51	0,891	4,6
Cyprus	33.047,55	0,873	5,2
Slovenia	32.728,40	0,902	5,4
Slovakia	31.226,45	0,857	4,0
Lithuania	31.177,58	0,869	4,6
Estonia	31.035,39	0,882	6,2
Portugal	28.999,37	0,850	4,5
Poland	28.785,54	0,872	5,0
Hungary	28.464,56	0,845	5,1
Latvia	26.219,31	0,854	5,8
Greece	25.140,70	0,872	3,9
Romania	24.538,08	0,816	3,2
Croatia	**23.664,15**	**0,837**	**5,3**
Bulgaria	19.320,75	0,816	3,5

Source: author-made according to the World Bank (2020), Human Development Report (2020), Eurostat (2020)

The data from Table 2 shows the member-states of the EU, ranked according to the general indicator of development in Europe, GDP p.c. However, apart from that, the table also shows the HDI which was stated earlier to have a very good correlation with GDP p.c. and, in the last column, the % of public investments of GDP in education for each member-state is shown for 2018. The data in the table shows that a group of nine best-ranked member-states of the EU according to GDP p.c. has an average rate of investment into the education of GDP 5,2%, a group of the following nine have an average rate of investment into the education of GDP 4,7%, and the group of worst ranked EU member-states according to GDP p.c. has an average rate of investment into the education of GDP 4,7%. The author's assumption after an overview of data from the table is that developed countries i.e. those with a higher GDP p.c. and HDI also have a higher degree of public investment in GDP percentage i.e. that there is a positive correlation between the variables. On the other hand, the assumption is that less developed countries i.e. those with a lower GDP p.c. and a lower HDI also have a lower rate of investment into education in their GDP percentage.

5. THE CORRELATION RELATIONSHIP BETWEEN GDP P.C., HDI AND THE PERCENTAGE OF PUBLIC INVESTMENT O FGDP INTO EDUCATION

To verify the aforementioned assumptions, the authors performed a correlation analysis between GDP p.c. and HDI among the EU member-states for the period from 2010 to 2018.

The correlation coefficient, marked with 'r', measures the strength of a linear connection between two variables. The well-known correlation coefficient is often misused because its assumption, the linearity assumption, is not verified. The correlation coefficient may assume any value in the interval between +1 or -1. The following points are accepted guidelines for interpretation of the correlation coefficient:

1. 0 – marks that there is no relationship between the variables,
2. +1 marks a perfect linear relationship i.e. if one variable increases its value, the other one does the same,
3. -1 marks a perfect negative linear relationship i.e. if one variable increases its value, the other one lowers it,
4. The values between 0 and 0,3 (0 and -0,3) point to a weak positive (or negative) relationship between the variables,

5. The values between 0,3 and 0,7 (-0.3 and -0,7) point to a moderate/good positive (or negative) relationship between the variables,
6. The values between 0,7 and 1 (-0,7 and -1) point to a very good/excellent positive (or negative) relationship.

The following tables show the results of a correlation analysis that decides on the set hypotheses. The data were analyzed from 2010 to 2018 for the EU-27 member-states. The authors, while deciding on the three-set hypotheses, observed the statistical results received for each year and the final decision to reject or not to reject the hypotheses was made based on the total analysis of all the years observed.

Table 3. GDP p.c. and public investment of the GDP percentage into education

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Correlation results	P=0,240	P= 0,137	P = 0,044*	P =0,18	P=0,333	P= 0,924	P=0,873	P=0,711	P=0,830
	r=0,264	r= 0,294	r=0,390	r= 0,266	r=0,194	r=-,019	r=0,032	r =0,075	r=0,044
Statistical significance	-	-	+	-	-	-	-	-	-

Source: author-made according to the World Bank (2020), Human Development Report (2020)

According to the data from Table 3, it was statistically proven that the GDP p.c. moderately positively influenced the public investment of the GDP % in education only in 2012 (P<0,05, r=0,390). In the other observed years, there is no statistically significant influence between GDP p.c. and the public investment of the GDP % in education.

The H1 hypothesis is rejected, given the fact that a positive correlation between the variables observed was proven for only one out of the 9 years.

Even though according to Table 3, there was no positive correlation shown between the GDP p.c. and public investment of the GDP percentage in education, that does not mean that the relationship between the aforementioned variables is non-existent, just that it is not statistically relevant.

Table 4. Public investment of the GDP percentage in education and the HDI

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Correlation results	P=0,058	P= 0,018*	P = 0,003*	P =0,003*	P=0,009*	P= 0,200	P=0,128	P=0,063	P=0,076
	r=0,369	r= 0,450	r=0,552	r= 0,549	r=0,494	r=0,254	r=0,301	r =0,363	r=0,347
Statistical significance	-	+	+	+	+	-	-	-	-

Source: author-made according to the World Bank (2020), Human Development Report (2020), Eurostat (2020)

According to the data from Table 4, it was statistically proven that for 4 out of the 9 years observed, there was a positive correlation between the percentage of GDP investment in education and the HDI for the years 2011 ($P<0{,}05$, $r=0{,}450$), 2012 ($P<0{,}05$, $r=0{,}552$), 2013 ($P<0{,}05$, $r=0{,}549$) and 2014 ($P=0{,}05$, $r=0{,}494$.). On the other hand, for 2010, and the period from 2015 to 2018, there is no statistically significant positive correlation between the aforementioned variables.

The H2 hypothesis is partially rejected because of the positive connection between the variables observed was proven for four out of the nine observed years.

Even though Table 3 shows that the H2 hypothesis is partially rejected and that mostly there is no positive correlation between the public investment of the GDP percentage in education and the HDI, that does not mean that there is no relationship between the aforementioned variables, only that it is not statistically significant.

Table 5. GDP p.c. and the HDI

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Correlation results	P=0,000* r=0,712	P= 0,000* r= 0,702	P = 0,000* r=0,706	P =0,000* r= 0,672	P=0,000* r=0,668	P= 0,000* r=0,677	P=0,000* r=0,680	P=0,000* r =0,688	P=0,000* r=0,680
Statistical significance	+	+	+	+	+	+	+	+	+

Source: author-made according to the World Bank (2020), Human Development Report (2020)

According to the data from Table 5, it was statistically proven that, for all the observed years, there is a positive relationship between the GDP p.c. and the HDI for the period from 2010 to 2018, and a significant positive correlation between observed variables.

The H3 hypothesis is not completely rejected given the fact that there is a positive correlation between the observed variables of the Gross domestic product per capita and the human development index.

6. CONCLUSION

Through the paper, the importance of education for the development of every country was identified. Numerous authors throughout history stressed the importance of investing in training and education in their research as the two most important investments in human capital, as well as the fact that it is formed in the formal and non-formal system of education. When writing the paper, the authors wanted to stress the importance of investing in education and to analyze its connection with economic growth and development. In this paper, the relationship between the public investment of the GDP percentage in education and the GDP p.c. and the human development index were researched. The research showed that economically more advanced countries with a higher GDP p.c. and a higher human development index, on average, invest more percentages of their GDP in education from the less developed countries. As far as the Republic of Croatia goes, by analyzing the data it was concluded that, even though it is not among the more developed countries of the European Union (judging by the GDP p.c. and HDI), it is in a group of countries which invest significantly more into their education than other countries analyzed. By performing the research on the correlation between the percentage of GDP investment into education and the GDP and HDI, it has been determined that there is a connection between those variables. However, it is not statistically significant. On the other hand, as was stated in theory, there is an expected statistically significant positive relationship between the GDP p.c. and the HDI.

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Urban, Rural, and Regional Economics

EXPLOITATION OF MINERAL RESOURCES AND PROTECTION OF DRINKING WATER RESERVOIRS VARAŽDIN COUNTY

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Abstract

Unlike other types of development activities, mineral resources can only be produced where they exist. Therefore, exploitation sites depend on the geological composition of the area. Acceptance of a particular space as the potential for mineral exploitation depends on a number of factors, from economic to environmental. Mineral resources are non-renewable resources and are therefore considered a national treasure without which life would be unthinkable and significantly difficult.

One of the main goals of the spatial development and development of the County of Varaždin is the protection and conservation of the area with two bases - the protection of the high biological and landscape diversity of the County and the basis for the protection of drinking water. Therefore, the requirements for the exploration and exploitation of mineral resources are harmonized with the requirements of nature, environment and cultural and historical heritage, with the highest priority being the protection of drinking water reservoirs.

This paper presents the existing exploitation fields located in the zones of sanitary protection of springs on the Varaždin aquifer. The aim of this paper is to outline activities carried out for the purpose of reservoir protection, in order *to minimize the possible negative impact of mineral resource exploitation on groundwater and the environment in a broader sense.*

Keywords: *mineral resources, exploitation, protection of drinking water reservoirs, water protection zones, environment.*

JEL Classification: Q01, Q57

1. INTRODUCTION

The legal status of waters, water resources and water structures and the management of water quality and quantity, protection against harmful effects of water, amelioration drainage and irrigation, public water supply, and public drainage activities and other issues related to water and water goods are regulated by special water regulations and strategic documents adopted based on them (Water Management Strategy, Construction Programs, etc.)

According to these laws, water management covers all activities related to groundwater and surface water, with the exception of mineral and thermal waters in the context of their exploitation as mineral resources and waters of the territorial sea and coastal waters, except in the part of their protection. The water protection system is part of the environmental and nature protection system, especially in maintaining biodiversity and preserving ecosystems.

Water measures, water use, and protection are primarily based on the principles of precaution, prevention and elimination of damage caused to the aquatic environment, and must comply with specific environmental and nature protection regulations.

One of the basic goals of the spatial development and development of the County of Varaždin is the protection and conservation of the premises with two bases - the protection of the high biological (landscape) diversity of the County's premises and the basis for the protection of drinking water. Therefore, the requirements for exploration and exploitation of mineral resources are harmonized with the requirements of nature, environment protection, with the highest priority being the protection of drinking water beds.

Mineral resources management is based on the Mineral Resources Management Strategy of the Republic of Croatia (2008), which has not yet been adopted in the Parliament of the Republic of Croatia and is regulated by the Mining Act, and other by-laws.

According to the data from the Report on the situation in the area of Varaždin County for the period from 2010 to 2015 ("Official Gazette of Varaždin County" 9/16) in the area of Varaždin County 17 active exploitation fields (7 technical - building stone, 7 construction sand and gravel and 3 brick clays) and 5 exploration areas of construction sand and gravel were recorded. It should be noted here that the data on the number of exploitation fields and exploration areas change from year to year because in some fields the concession ceases to apply, the authorized personnel change, the fields are deleted from the Register of exploitation fields/exploration areas, new fields are opened, therefore the most relevant information is stored with the competent public authorities dealing with this resource.

Pursuant to the Mining Act, the County of Varaždin has prepared a new Mining and Geological Study of the County of Varaždin (Official Gazette of the County of Varaždin 29/16). This Study is the starting point for planning and approval activities for the exploration and exploitation of mineral resources in Varaždin County and for the rehabilitation of abandoned and closed mines and exploitation fields. The study for the entire County analyzed the needs and potentials of mineral resources and determined a way of rational and sustainable management of mineral resources, both economically and spatially.

2. BASIC DATA ON THE COUNTY OF VARAŽDIN

According to the data from the Environmental Report of the County of Varaždin for the period 2014-2017 ("Official Gazette of the County of Varaždin" 78/18), the County of Varaždin is one of the smaller counties in the Republic of Croatia with its surface (1. 261, 49 km^2) (only 2.2% of the total territory of the Republic of Croatia) covers 28 territorial units (Figure 1): 6 cities and 22 municipalities (number of settlements: 302). According to the 2011 population Census, the County of Varaždin has 175, 961 inhabitants, data from the State Report on the Varaždin County Area 2010-2015. ("Official Gazette of Varaždin County" 9/16).

Figure 1. Territorial-administrative structure of Varaždin County

Source: Situation Report of Varaždin County for years 2010-2015., (2016).

In hydrographic terms, and in terms of water management relations, the area of Varaždin County consists of two basic parts: a larger one belonging to the Drava river basin and a smaller one belonging to the Sava river basin. These parts are separated from each other by the mountain range of Ivančica and the Kalnik mountains. To the north of this series is a more extensive Podravina part, which is predominantly lowland with hills to the south and west.

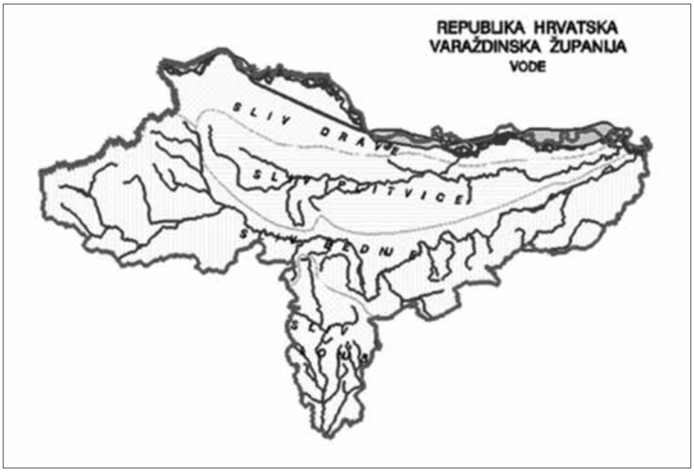
Geographically, the borders run north along the Drava River and reservoir lakes, in the west the Macelj Hill and in the eastern Haloze, in the southeast mainly by the ridge of the Kalnik Mountains and in the southwest by the Ivančica Heights.

The basic natural resources of the Varaždin County are primarily water resources (groundwater and fluids), agricultural land and mineral resources.

3. WATER RESOURCES OF VARAŽDIN COUNTY

Varaždin County has a well-developed river network and is a significant hydrographic hub in Croatia. Hydrogeologically, all fluids in the County belong to the Danube River Basin and are divided into the Drava River Basin (Plitvice and Bednja Rivers with tributaries) and the Sava River Basin (Lonja River with tributaries). The main watercourse is the river Drava, with rivers Bednja and Plitvica flowing in at its right. The flow direction of the river Drava west-east has determined the longitudinal orientation of the whole network. Plitvice and Bednja are located from the source to the mouth in the County, so the responsibility for their biological and ecological status, water quality and the results of water management activities lie with the entities within the County (Figure 2).

Figure 2. Water resources of Varaždin County



Source: Spatial Plan of Varaždin County (8/00, 29/06, 16/09.)

According to the hydrogeological characteristics described by the Water Protection Study of Varaždin County (AT-Consult, 2007), the County can be divided into the area of the Quaternary deposit of the Drava valley (Varaždin aquifer as the main source for water supply) and the karst of Croatian Zagorje (composed mainly of Thracian carbonate rock).

In Varaždin County there are watercourses (rivers and streams), lakes (reservoirs, lakes created by the exploitation of gravel and others), groundwater in the Drava alluvium aquifer and sources of the Ivančica, Ravna Gora and Kalnik mountain ranges.

River Drava

According to the data from the Spatial Plan of Varaždin County ("Official Gazette of Varaždin County" 8/00, 29/06 and 16/09), the river Drava is the largest watercourse in the County. It has a fluvioglacial water regime with the lowest flow in January and February and highest in May and June. Rivers Bednja and Plitvica flow into the Drava at its right.

Through the wide alluvial valley from Maribor to the mouth of Mura, about 125 km long, the Drava has a relative drop of close to 0.1%. The energy use of the Drava hasn't begun until this century. Up to now, a total of 23 water stairs have been built throughout the river Drava, and in Croatia, from the planned 8, 3 have been constructed (Varaždin, Čakovec and Dubrava).

Due to the existing characteristics of the water regime, Drava is favourable for hydro-energy use because it is well complemented by hydroelectric resources of the Dinaric karst. Erosion of the coast, sandbars, islands and swamps are a regular occurrence in this part of the Drava so that its bank has been replaced significantly over a long period of time. Because of the change in the riverbed, floods have sometimes been devastating for agricultural crops and have endangered nearby settlements and populations (Srpak & Zeman, 2017).

River Plitvica

The River Plitvica springs in the northeast hills of Maceljsko Gorje, at the foot of Vinica hills, which only slightly exceed 300m above sea level. After about 65km of a watercourse, it flows into the distributary of the Drava near Veliki Bukovec

The Plitvica and Drava ridgeline are also fairly unclear. It can be said that the area of Plitvice and the immediate Drava basin is actually a unique area. Almost the whole valley of the Plitvica is made up of the Drava deposit (gravel and sand) that covers a fairly thin layer of humus.

According to the data from the Water Protection Study of Varaždin County (AT-Consult, 2007), the Plitvice River length, which was planned for construction, totals in its lower part downstream of the Varaždin-Lepoglava road to 51,67 km. The uphill part of this line from the 26.7 km to the 51.67 km is already furnished, and a part of the downstream section (about 1 km on the road Varaždin - Ludbreg and approx. 8 km at the mouth of Plitvica into the Drava). At 31 km, the river Plitvica is connected by a drainage channel with the Drava so that the great waters of the Plitvica upstream from the 31 km are drained by a canal directly into the Drava and thereby dissipate the downstream part of the river (Srpak & Zeman, 2017).

River Bednja

The river Bednja is the largest watercourse after the Drava River in Varaždin County. It springs in the western part of the County below Brezova Gora, and after passing through the Trakošćan Lake flows in the general west-east direction and affects the river Drava near the village of Mali Bukovec. The surface area of the basin area of the Bednja River is about 65,100 ha, of which 12,500 ha is in the floodplain. The length of the watercourse is about 106 km.

A very disadvantageous form of the basin area, which has been expanded in an fanlike manner in the upper part with an unfavorable precipitation distribution (the largest precipitation is precisely on the fanlike expanded part of the basin) and unfavorable runoff conditions (sudden flooding of precipitation into the bed from the slopes of Ivančica, Ravna Gora and Kalničko Gorje) are the main characteristics of the river Bednja regime (Srpak & Zeman, 2017).

River Lonja

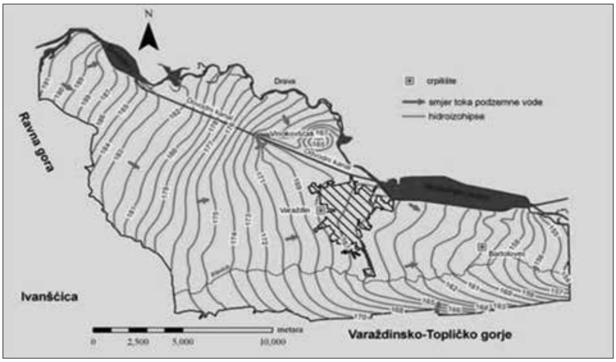
The river Lonja basin only affects the southern part of the territory of the County (Novi Marof area). The bed of the Lonja River in our area has not yet been regulated. A study is being prepared to provide a watercourse solution with longitudinal falls, cross-sectional profiles, and structures, as well as possible accumulations (retentions) that would serve as fishponds. The length from the spring to Bisag is approximately 18 km. There is a number of tributaries in this area. The left tributaries of Kračevec, Visoka and Sudovec are mostly regulated, as well as the right bank of Breznica with Manjevac and Trstenik. All other streams are not yet regulated and should be with regard to the damage they cause. They do not run directly through settlements, so there are damages mostly to agricultural crops (Srpak & Zeman, 2017).

4. VARAŽDIN AQUIFER

Varaždin County is one of the few counties in Croatia with rich and abundant groundwater resources. According to the Spatial Development Strategy of the Republic of Croatia, the groundwater aquifer of the Varaždin County is of strategic importance for the wider region of northwestern Croatia.

The Varaždin aquifer is located in the far western part of the heterogeneous Quaternary deposits of the Drava valley and represents the marginal part of the aquifer system in which the natural groundwater regime is disturbed by the construction of flowing hydropower facilities and the exploitation of groundwater for water supply (Hlevnjak et al., 2015). The aquifer is located in the lowland area, which is bounded on the north by the hills of upper Međimurje, in the west by Vinica vineyards, and in the south by the northern slopes of the Varaždin - Toplica mountains. The Varaždin aquifer is in direct hydraulic connection with surface water - the Drava River, reservoirs, and the Plitvice River. Groundwater is in some places drained into surface water and in some places surface water is fed by the aquifer (Brkić et al., 2012).

Figure 3: Map of groundwater potential distribution

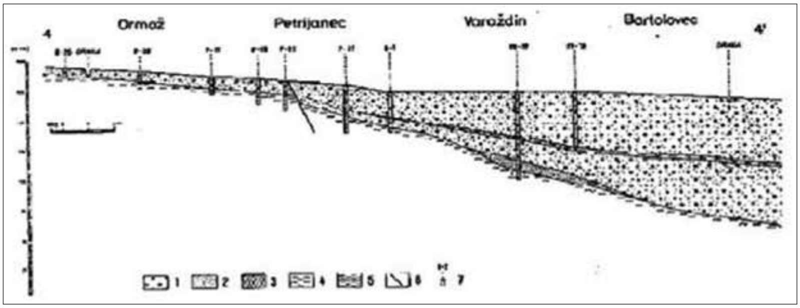


Source: Ekološko stanje vodonosnika, (Brkić, 2012.)

The Varaždin aquifer is made of gravel and sand of Quaternary age. The oldest deposits on the surface area located in the southern highlands, around Vinica and Voća. These are Mesozoic-Triassic sandstones, shales, marls, limestones, dolomites and dolomitic breccias. The Miocene deposits were deposited directly on them, most of which are conglomerates, sandstones, limestones, marls, marl limestones, sometimes tuffs and volcanic breccias. The deposits are concordantly deposited, at deeper intervals marls with sandstone and sand layers, and in shallower sand and sandstone. During the Quaternary, sedimentation takes place in the marshy environment with the constant introduction of fluvial material (Urumović et al., 1990).

The aquifer is elongated parallel to the Drava River and its thickness increases from west to east (Figure 4). Its thickness is the smallest between Križovljan and Ormož. Along the northern boundary (at the Ormož Bridge), it is 5 m thick and grows up to 15 m along the southern edge towards the south. To the east, the thickness is gradually increasing and at Svibovac (HE Varaždin) it is about 30 m, at Nedelišće about 40 m, to the northwest of Varaždin it is about 60 m, to the southeast of Čakovec it is 112 m, and to the south of Prelog, it is 150 m. Then the thickness downstream of St. Mary's (HE Dubrava) is reduced to 60 m, at Legrad threshold is 50 m, and along the northern edge at today's Legrad bed, it is 14 m, while at Đelekovec it is 12 m (Bačani & Posavec, 2013).

Figure 4. Longitudinal lithological profile of the Varaždin aquifer. Marker Interpretation: 1. gravel, 2. sand, 3. powder, 4. clay, 5. marl, 6. fault, 7. well



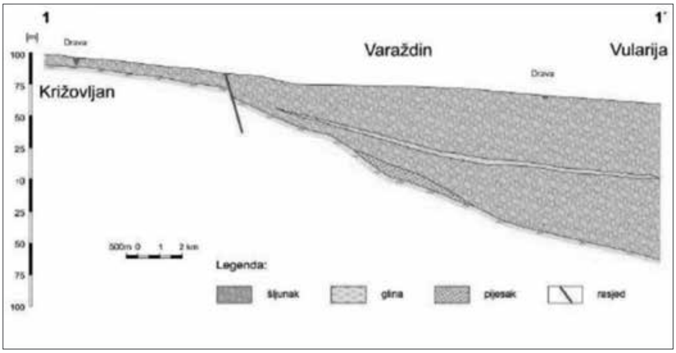
Source: Hidrogeološki uvjeti Varaždinskog vodonosnika, (Urumović, 1990.)

The Varaždin aquifer is divided by a layer of finer-grained material made of clay and powder, in place of dusty sand and peat on two gravel layers.

The mentioned interlayer occurs at a depth of 22 m near Svibovec, at 55 m between Zamlaka and Orehovica and about 30 m near St. Mary's. Its thickness is generally from 2 to 5 m. The maximum thickness is determined on the southeastern outskirts of Varaždin, where it is 6.9 m (Grđan & Hudoletnjak, 2002). West of the Varaždin and Svibovec pumping areas and along the southern boundary area it is projecting out. The low-permeability interlayer plays an important hydraulic role because it divides the Varaždin aquifer into two aquifers: the first (upper) and the second (lower) (Figure 5).

The first aquifer is mostly open type. It is only in the vicinity of Bartolovec that the site is under pressure (Larva, 2008). Groundwater restoration is done by infiltration of rainfall through a non-saturated zone and drainage of water from reservoirs of hydroelectric power plants and the old riverbed of the Drava River. The second aquifer is of semi-enclosed type and groundwater restoration is effluent by draining from the first aquifer through the poorly permeable interlayer and in the area where it drains (Kovač et al., 2017).

Figure 5. Schematic longitudinal lithological profile along the Varaždin aquifer along the Križovljan-Varaždin-Vularija route



Source: Hidrogeološki uvjeti pojave glinenog proslojka unutar Varaždinskog vodonosnika, (Hlevnjak, 2015.)

Any pollution in this area, either on the ground or in watercourses, ends up in groundwater. Prior to the construction of hydropower plants, groundwater runoff in the Drava was predominant for most of the year (Urumović, et al., 1990). After filling the reservoir lakes, the hydroelectric levels of groundwater in their shoreline are permanently increased, while in the shoreline of the drainage channel, which is uncoated and executed in the notch, they are permanently lowered. In this way, the directions of groundwater flow were altered so that drainage of the aquifer takes place through the drainage from the lake and drains it (Grdjan et al., 1991). Based on the current knowledge, results, and analyses of the chemical composition of groundwater from the Varaždin area, the sources of nitrates, their impact and measures for improvement have been located (Grdjan et al., 2006).

The derivation channel between HE Varaždin and restitution caused a change in the inflow area of the Varaždin pumping station when it was operating at full capacity. Namely, due to the reduction of the inflow area and the decrease in the traceability of the aquifers north of the pumping station, the inflow area extended to the urban area of Varaždin, thus including a large number of potential pollutants (Grdjan et al. 1991).

The Ivančica and Ravna gora hills are also resources for groundwater that is contained in carbonate massifs. Ivanščica is built of quaternary rocks of secondary crack porosity with affected sources of higher capacity that never dry (Bistrica, Beli zdenci, Žgano vino, and Šumi).

The groundwater of the Drava Valley is mostly used for the water supply of the County and to a lesser extent the sources of the Ivančica and Ravna Gora aquifers. In terms of quantity, water supplies meet current and future needs, but water quality cannot be considered satisfactory and equal everywhere (Varaždin County Environmental Report 2010-2013 "Official Gazette of Varaždin County 29/14).

The general state of groundwater quality in the Drava aquifer is conditioned by the manner of sedimentation of the deposits and the thickness of the poorly permeable cover deposits above the aquifer. In the far west (area of the Varaždin aquifer), the aquifer is covered with relatively thin dusty clay deposits, typically less than 5 m (and often only humus), which results in the high natural vulnerability of the aquifer. Due to the relatively thin cover soil in the first aquifer, in certain areas, the nitrate concentration is increased, as a consequence of anthropogenic influence.

The potential source of groundwater pollution in the County is also represented by all roads, in particular transit, where accidents may occur during the transport of dangerous goods. With regard to agricultural production in the Varaždin County, in order to adequately protect the most important natural resource - water, which also has great economic value, the nitrate directive applies. Therefore, through various programs and projects, the County of Varaždin seeks to make it easier for family farms to adapt to the implementation of the Nitrate Directive in practice (Vincek & Ernoić, 2010).

5. SOURCE PROTECTION ZONES

The entire aquifer of Varaždin County is, in the long term and strategically speaking, considered as an area of potential groundwater reserves for the wider region, so new users and facilities in this area need to be introduced with special attention and with environmental measures. In addition to administrative measures for water protection measures must be taken to preserve and improve it. water quality including ban on construction in areas where the water quality of the springs is endangered, ban on construction or restriction of construction in specially protected areas, limitation of construction on small watercourses, increase of receiver capacity by construction of additional water structures (Varaždin County Spatial Plan Official Gazette of Varaždin County 8/00, 29/06, 16/09). The water supply of the Varaždin County is based on the abstraction of groundwater of the Varaždin aquifer.

In order to protect the reservoirs of potable groundwater and in accordance with the Regulation on the Conditions for Establishing the Sanitary Protection Zone of the Water Source (Official Gazette 66/11, 47/13), the Decision on Protection of Water Sources Varaždin, Bartolovec and Vinokoščak (Official Gazette of Varaždin County 6/14) and Program for the implementation of protection and rehabilitation measures in the zones of Bartolovec, Vinokoščak, and Varaždin (Official Gazette of Varaždin County 7/17).

A new Decision has been given on the Protection of the Belski Dol Spring (Official Gazette of Varaždin County 42/16, 60/16) and the Program for Implementation of Protection and Remediation Measures in the Zones of the Spring Belski Dol (Official Gazette of Varaždin County 49/18).

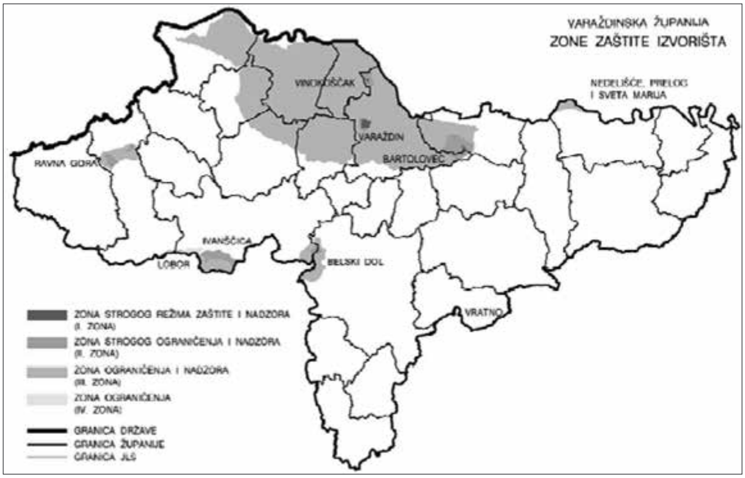
The new Decision on the protection of Ivanščica and Ravna gora springs is under development on the basis of which the conditions and protection measures will be updated, and until then the earlier decisions made are still in use on sanitary protection zones of the Bistrica, Beli Zdenci, Žgano wine and Forests (Official Gazette of Varaždin County No. 4/98) and Decision on Protection of Ravna Gora and Sutinska Sources (Official Gazette of Varaždin County No. 9/98).

In the meantime, new decisions have been made on the protection of the water sources in the area of neighboring counties, whose zones also extend to the area of our County: for the Koprivnica-Križevci County the Decision on Protection of the Water Well Vratno was issued ("Official Gazette of Koprivnica-

Križevci County" 2/10 and "Official Gazette of Varaždin County" 6/10 - Decision on Accepting the Decision on Protection of the Water Well Vratno), for the Krapina-Zagorje County the Decision on Protection of the Water Source Lobor was issued ("Official Gazette of Krapina - Zagorje County" 15/14 and Official Gazette of Varaždin County 42/14), and the Decision on Protection of the Water Source Nedelišće, Prelog and Sveta Marija ("Official Gazette of Međimurje County" 8/14) was issued for the area of Međimurje County.

In 2011, the Decision on Protection of the Ivanščak Water Source in the Koprivnica-Križevci County ("Official Gazette of Koprivnica-Križevci County" 6/11) was issued and according to which the part of Zone II of sanitary protection area was extended to the area of Varaždin County (eastern part), so the County Assembly of Varaždin County passed the Decision on Accepting the Decision on Protection of Water Source Ivanščak ("Official Gazette of Varaždin County" 18/11). In 2014, the County Assembly of the Koprivnica-Križevci County passed the Decision on Protection of the Water Source Ivanščak ("Official Gazette of Koprivničko- Križevci County" 15/14), which amended the earlier Decision, and the sanitary protection zones of this source no longer extend to the area of Varaždin County. The display of the water source protection zone is shown in Figure 6.

Figure 6. Decisions on Protection of Water Sources in the Varaždin County Area



Source: Situation Report of Varaždin County for years 2010-2015 years (2016.)

6. EXPLOITATION OF RAW MINERAL RESOURCES IN THE AREA OF VARAŽDIN COUNTY

The Mining and Geological Survey of the Varaždin County shows the exploitation fields, exploration areas at the time of its creation (2016) for certain locations, but it does not specifically specify the areas for expansion, prohibition of expansion of certain exploitation fields or formation of new exploration areas and exploitation fields, the geological potential for exploitation of mineral resources has already been determined, namely: geological potentiality in the zones of convenience (with a protective zone of 50 m and 100 m on construction sites) and higher geological potentiality in the zones of convenience and conflict zones, and in principle their reserves.

Mining-geological study is used in the procedures of drawing up the spatial plans of the JLS in such a way that the requirements for the exploration and exploitation of mineral resources are harmonized with the requirements of the protection of nature, environment, cultural and historical heritage, with the highest priority being the protection of drinking water beds determined special decisions and safeguards. Determining locations for future exploration and exploitation of mineral resources cannot be ensured everywhere in the area because there are prohibitions, restrictions and special conditions that affect the selection of potential sites and their size. When planning the use of space, existing approved exploitation fields should be respected, and the necessary distances and appropriate conditions for smooth operation of the approved exploitation should be respected, and their extension can only be planned in the areas of convenience provided that they are in accordance with the interests of the local community and are not in non-compliance with the special conditions that would result from a change in regulation.

The use of mineral resources depends on the needs of the market and production depends on the natural potential. In the area of Varaždin County, raw mineral resources with exclusive use in construction are exploited: exploitation and processing of technical building stone, construction sand and gravel, and brick clay, according to the following data from the Register of approved exploration areas and the Register of identified mineral exploitation fields.

Table 1: Exploitation fields and exploration areas of building sand and gravel no. in ha JLS years of solution

Br.	Exploitation field	Area in ha	Municipality/ City	Solution year	Authorized	Status	Book/ sheet
1.	Trstika	32,9	Veliki Bukovec	2000.	Obrt Smontara Veliki Bukovec	concession	XI/27
2.	Jamičak	42,9	Sveti Đurđ	2001.	Bagerkop Roberto d.o.o., N. Marof	concession	XI/24
3.	Lešće	19,8	Sveti Đurđ	2003.	Cesta Mineral d.o.o	delete	XI/30
4.	Molve	24,0	Petrijanec	2005.	Obrt Niskogradnja Huđek Petrijanec.	concession	XI/25
5.	Turnišće	8,61	Sračinec	2006.	Galdi minerali d.o.o. V.Toplice	concession	XI/28
6.	Škareški lug	16,0	Veliki Bukovec	2007.	LTK d.o.o. Mali Bukovec	concession	XI/26
7.	Brezina	4,5	Cestica	2007.	Cesta Mineral d.o.o	delete	XI/33
8.	Krtinje	9,5	Mali Bukovec	2008.	Kamenolom Žakanje d.o.o. Ribnik	additional research	XI/29
9.	Prudnica 2	8,4	Mali Bukovec	2010.	Prudnica d.o.o., M. Bukovec	additional research	XI/31
10.	Hrastovljan	46,4	D. Martijanec	2011.	Colas Mineral d.o.o., Varaždin	concession	XI/23
11.	Dolenšćak	50,4	Sveti Đurđ	2012.	Smontara d.o.o. V.Bukovec	Obtaining a concession	XI/32
13.	Motičnjak*	55,5	T.rnovec Bartolovečki	1978.	Cesta - Mineral d.o.o., Varaždin		
14.	Hrastovljan I		D. Martijanec		Colas Mineral d.o.o., Varaždin	actively	IX/19

Source: Izvješće o stanju okoliša Varaždinske županije za razdoblje od 2014. do 2017. (2018.)

Technical building stone:

Table 2: Exploitation fields of technical building stone

Br.	Exploitation field	Area in ha	Municipality/ City	Solution year	Authorized	Status	Book/ sheet
1.	Očura	20,34	Lepoglava		Holcim Mineralni Agregati d.o.o. Očura	delete	VII/21
2.	Vinica	22,61	Vinica		RH	inactive	III/85
3.	Belski dol	3,9	N. Marof	1987.	Vodogradnja Varaždin	delete	VII/18
4.	Hruškovec IV-Jazvina	15,7	Ljubešćica	1989.	Kaming d.d. Ljubešćica	delete	VII/20
5.	Hruškovec	54,2	Ljubešćica		Kaming d.d. Ljubešćica	concession	VII/13
6.	Špica	46,8	Ljubešćica	1993.	Kaming d.d. Ljubešćica	concession	VII/16
7.	Marčan	2,23	Vinica	1995.	Zagorje – Kamen d.o.o. Marčan	Rješenje za radove	III/76
8.	Podevčevo	6,3	N. Marof	1995.	Obrt Graditelj, Puškadija, N.Marof	concession	VII/15
9.	Čanjevo	7,0	Visoko	1998.		delete	VII/19
10.	Črlena zemlja	1,3	B. Hum	2004.	Mežnar d.o.o. Karlovac	concession	VII/12
11.	Očura II	17,2	Lepoglava	2010.	Holcim d.o.o. Koromačno	obtaining a concession	VII/14
12.	Lojnica (Lonjica) -	2,93	Breznički Hum	RH	neactively		
13.	Jerovec	21,1	Ivanec		IGM Pješčara Jerovec		
14.	Tiglin-Horvacka	42,0	Ivanec		reactively		

Source: Izvješće o stanju okoliša Varaždinske županije za razdoblje od 2014. do 2017. (2018.)

Clay bricks

Table 3: Exploitation fields of brick clay

Br.	Exploitation field	Area in ha	Municipality/ City	Solution year	Authorized	Status	Book/ sheet
1.	Cerje Tužno	54,4	Maruševec	2011.	Ciglana C. Tužno d.o.o	concession	IX/19
2.	Cukavec	13,2	G. Kneginec		RH	inactive y	IX/21
3.	Lukavec	32,8	Ivanec			delete	IX/23
4.	Cukavec II	7,4	G. Kneginec	2013.	Leier-Leitl d.o.o.Turčin	concession	IX/20
5.	Ludbr. vinogrradi	8,84	Ludbreg	2001.	Ciglana Kovačić d.o.o.	delete	IX/24
6.	Čret	27,1	Lepoglava			delete	
7.	Podrute	10	Novi Marof		Ciglana Podrute	delete	

Source: Izvješće o stanju okoliša Varaždinske županije za razdoblje od 2014. do 2017. (2018.)

Geothermal water

Table 4: Exploitation fields Geothermal water

Br.	Exploitation field	Municipality/ City	Authorized
1.	Varaždinske Toplice	V. Toplice	Specijalna bolnica V. Toplice
2.	Lunjkovec	Mali Bukovec	INA d.d. Zagreb
3.	Topličica	Novi Marof	

Source: Izvješće o stanju okoliša Varaždinske županije za razdoblje od 2014. do 2017. (2018.)

The JLS's spatial plans include exploitation fields and exploration areas as an existing economic purpose - areas for exploration and exploitation of mineral resources. For the exploitation fields the final purpose is defined by the spatial purpose plans (sports-recreational, economic - production, tourist, biological rehabilitation, etc.) and it is of great importance that after completion of exploitation or a particular phase of exploitation, the area is actually rehabilitated and the intended final purpose is realized space (Srpak & Zeman, 2018).

There are some problems with the exploration and exploitation of mineral resources since the exploitation of mineral resources inevitably means a major change in space compared to its original state, and the image of the space is permanently changed, and the possibilities of using the space after exploitation are often limited, especially after the exploitation of gravel, sand (due to the presence of groundwater) and rock.

7. EXPLOITATION OF RAW MATERIAL RESOURCES AND PROTECTION OF INTER-MEDIUM AQUIFERS

The Ordinance on the definition of sanitary protection zones of springs prescribes the conditions and manner of determining the areas of sanitary protection, measures for protection of springs from pollution or other influences that may adversely affect their abundance, quality and sanitary correctness, guidelines for determining the special charge and the system of public wastewater treatment in the area of the zones and the procedure for the adoption of the Decision on the Protection of the Source. In theory, the basic assumptions of effective groundwater protection are (Meaški, 2017): characterization of groundwater resources; protection of springs and water resources and spatial planning.

The protection of springs used for public water supply is carried out on the basis of the measures prescribed by the decision on the protection of the springs. For the planned sources for public water supply, a reservation is made in the spatial planning document, based on the zoning study

Source protection zones, sanitary and other conditions for zone maintenance, and protective measures in the zone area are determined on the basis of previous water survey works, which determine the existence, distribution, quantity, quality and mobility of groundwater in a certain area. The boundaries of individual zones of the source are determined on the basis of hydrogeological and hydrological characteristics of the affected aquifer, and depend on the type of aquifer (thickness and permeability of the reservoir), the model and size of the aquifer supply, the rate of groundwater flow to the source and the capacity of the reservoir and aquifer. Sanitary protection zones are defined according to the type of aquifers for: sources with groundwater abstraction, namely: from aquifers with intergranular porosity and from aquifers with cracks and fissures and cavernous porosity, as well as wells with the abstraction of surface waters, as follows: from reservoirs, lakes and from open watercourses. Within the boundaries of the zones established by the aforementioned Decision, passive and active protection of springs shall be implemented

Passive protection of springs consists of measures to prohibit the construction and placement of certain buildings and to perform certain activities within a particular zone. Active protection of the springs consists of regular monitoring of the water quality of the inflow area of the spring and taking measures for its improvement, in particular construction of water structures for public water supply and wastewater drainage, introduction of clean production, organization of organic agricultural production, installation of tanks with additional multiple protection that contain dangerous and pollutant substances, and other measures that improve water status.

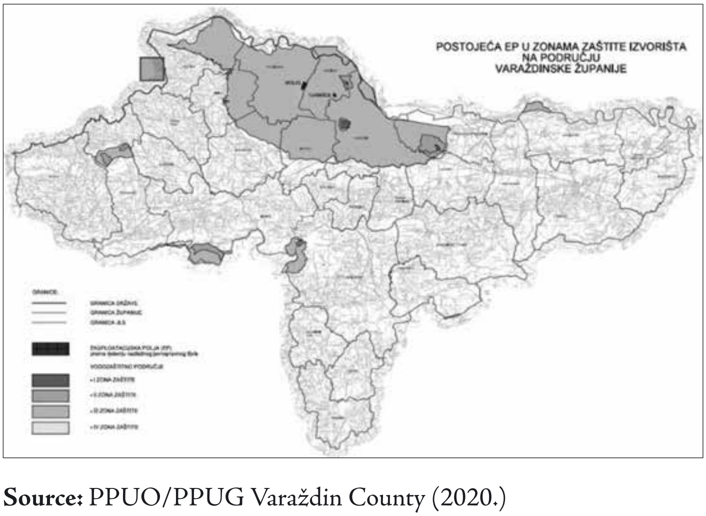
Based on the Decision on the protection of the Bartolovec, Vinokoščak and Varaždin wells, protection zones have been determined on the basis of previous water survey works, which are contained in the Study of Protective Zones of the Varaždin, Bartolovec and Vinkovščak water abstractions. Also, open water aquifers with intergranular porosity have been identified for which the following protection zones are defined:

I. ZONE - zone of a strict regime of protection and surveillance

II. ZONE - zone of strict restriction and surveillance

III. ZONE - restriction and surveillance zone

Figures 7. Exploitation fields and exploration areas on the Varaždin aquifer



Source: PPUO/PPUG Varaždin County (2020.)

Restriction and Control Zone (Zone III)

The subject zone is established to reduce the risk of groundwater pollution from heavily biodegradable hazardous substances and pollutants. It covers an area beyond the boundaries of Zone II up to the boundary of the supply area for the minimum water retention time in the underground for a period of 25 years of horizontal flow before entering the water intake building. In Zone III the following is prohibited: discharge of untreated wastewater, storage, and disposal of waste, construction of waste landfills other than remediation of existing ones for the purpose of its closure, waste management facilities including waste incinerators and facilities for processing, recovery and disposal of hazardous waste, construction of chemical industrial installations of hazardous substances and pollutants of water and water environment, construction of gas stations with no double-walled tank, automatic detection and leak detection device and protective structure (bund wall), underground and surface exploitation of mineral raw materials except geothermal and mineral water, construction of roads, airports, parking lots and other traffic and manipulative surfaces without controlled drainage and the appropriate purification of contaminated rainwater before the discharge into the natural receiver. It should also be noted that in Zone III of sanitary protection of water sources with the abstraction of water from the aquifer with intergranular porosity, it is permissible to build a waste management center, in accordance with specific waste regulations, under the following conditions (Srpak & Zeman, 2017).

According to the valid Decision, for all local self-government units of Varaždin County, on whose territory extends 3 zones of protection of springs, i.e. zones of restriction and control, activities are prohibited. Within zone 3 of Art 18 Decisions inter alia prohibit underground and surface exploitation of mineral resources other than geothermal and mineral waters. However, by way of derogation from the said prohibition, Article 20 of the Decision provides for the possibility of certain interventions in the area, i.e. of certain activities in accordance with Article 36 of the Ordinance on the conditions for the establishment of zones for sanitary protection of springs. This means that certain interventions and/or specific activities will be extremely possible if they can prove their harmlessness in the micro-zone through the prescribed procedures.

Figure 7 shows the existing exploitation fields and exploration areas on the Varaždin aquifer. As can be seen on the intergranular aquifer, only two existing gravel and sand exploitation fields were recorded: the exploitation field "Molve" in the municipality of Petrijanec and the exploitation field "Turnišče" in the municipality of Sračinec. The micro zoning survey actually proved their harmlessness in space and enabled the sustainable management of mineral resources.

8. CONCLUSION

Groundwater from the Varaždin aquifer is a strategic resource for the County, as well as for the Republic of Croatia. In the area of Varaždin County, there are water abstraction sites and springs whose normative protection is implemented on the basis of ordinances and decisions on the establishment of sanitary protection zones. Water supplies are satisfactory, but water quality is threatened by the penetration of pollution from the surface (unresolved drainage of settlements and animal farms, excessive treatment of agricultural land with mineral fertilizers and plant protection products, illegal disposal of waste). Determination of locations for future exploration and exploitation of mineral resources has been determined by the Mining and Geology Study, which is used in the procedures for the development of spatial plans of the JLS, in such a way that the requirements for exploration and exploitation of mineral resources are harmonized with the requirements of nature and environmental protection. Considering that the basic natural resources of Varaždin County are primarily water resources (groundwater and liquids) and mineral resources, the County Assembly concluded that the protection of drinking water must be of the highest priority in the exploration and exploitation of mineral water, which must be determined by special decisions and protection measures.

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Odluka o zaštiti izvorišta Belski dol (Službeni vjesnik Varaždinske županije 42/16 i 60/16)

Odluke o sanitarnim zonama zaštite izvorišta „Bistrica", Beli zdenci", „Žgano vino" i „Šumi" („Službeni vjesnik Varaždinske županije" 4/98)

Odluka o zaštiti izvorišta „Ravna gora" i „Sutinska" („Službeni vjesnik Varaždinske županije" 9/98)

Odluka o zaštiti izvorišta Vratno („Službeni vjesnik Koprivničko-Križevačke županije" 2/10 i „Službeni vjesnik Varaždinske županije" 6/10 - Odluka o prihvaćanju Odluke o zaštiti izvorišta Vratno)

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Zakon o vodama (NN 66/19)

ENTREPRENEURIAL MOTIVATION AND ACTIVITY: RESEARCH IN RURAL TOURISM OF CROATIA

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Abstract

Starting an entrepreneurial activity is related to entrepreneurial motivation and represents the subject of this research. The underlying purpose and goal of this research are to determine the impact of entrepreneurial motivation on starting an entrepreneurial activity. By using the TEA index, an overview of entry into entrepreneurship as measured by an entrepreneurial opportunity (TEA Opp) and entrepreneurial necessity (TEA Nec) is provided.

For the paper, a survey was conducted to identify the key entrepreneurial motivations for starting a business. The interview method with a questionnaire was used to survey the views of 200 entrepreneurs operating in the rural areas of Croatia. Likert scales, ranging from 1 to 5, were used to rate key motivations that led entrepreneurs to start a business as well as personal views regarding entrepreneurial intention.

The results indicate that the share of entrepreneurs who started a business based on perceived opportunity is lower than the share that started entrepreneurial activity out of necessity. The most important motivations for starting a business are "Economic necessity – the need to earn a living" and "Finding a business opportunity", a result consistent with previous research on entrepreneurial motivation.

An applicative conclusion that emerges from the literature review and conducted research indicates the need for making the results of this and similar research available to all levels of management. The benefits of the results of the conducted research are related to the proactive development of entrepreneurship which will ensure the well-being of the local population and market competitiveness. Based on the results of this research, it is recommended to continue future research, especially in monitoring the development of entrepreneurs in tourism in rural areas to help enhance their competitiveness.

Keywords: *entrepreneurial motivation; entrepreneurial activity; TEA index; rural tourism; Croatia*

JEL Classification: L83, Z32

1. INTRODUCTION

The role and primary contribution of entrepreneurship and entrepreneurial behavior are boosting employment and enhancing economic prosperity. Enabling entrepreneurial activity is the backbone of national programs in many countries (Adrić et al., 2018, 9). The development of small and medium-sized enterprises is one of the most important strategic commitments of the European Union (EU), translated into clear objectives in umbrella documents, in particular in strategic sectorial documents. To this end, the EU has identified the key drivers in achieving its vision of development by 2030. These are 1) leadership in technology, innovation, and sustainability, 2) anticipating and developing skills, 3) strategic value creation networks, 4) a fair, competitive and agile business environment and 5) social fairness and wellbeing (European Commission, 2019, 14). Adherence to the EU's system of fostering entrepreneurship is an imperative of Croatia (Širola & Iskra, 2014, 139).

Entrepreneurship is a specific economic activity and a vital engine of economic growth (Bračun, 2015, 195). Attributes such as growth and innovativeness are linked to entrepreneurship (Martinović & Veselinović, 2018, 9). Entrepreneurship fosters job creation and economic growth is of crucial importance to competitiveness and helps to develop personal potential and general social interests (Škrtić & Mikić, 2006, 200-202). In most cases, entrepreneurship is linked to a person – an entrepreneur – and the traits, he or she possesses and can be defined as the ability and willingness of an individual to perceive new economic opportunities and introduce their ways of exploiting such opportunities under uncertainty (Bjørnskov & Foss, 2008, 7; Kirzner, 1997, 62).

An entrepreneur is a person who starts their own business and possesses specific characteristics enabling them to recognize and make the most of opportunities. These characteristics include self-confidence, courage, dedication, resolve, creativity, diligence, endurance, optimism, modesty, a great need for achievement, independence, communication skills and vision (Timmons, 1989, 8). Entrepreneurs are said to be risk-takers to a considerable degree, innovative, resourceful, flexible (Martinović & Veselinović, 2018, 9), to have an internal locus of control and to be tolerant towards uncertainty and risk-taking as well as being competitive and ambitious (Sisan, 2000, 80). Entrepreneurs are people who design, launch and control an entrepreneurial venture in a profession they know very well (Bračun, 2015, 195).

Many experts and scholars agree that entrepreneurs think differently from non-entrepreneurs, traditional managers in particular (Hisrich et al., 2011, 29-33). Entering into the world of entrepreneurship implies being able to take into consideration all advantages and disadvantages that starting up an entrepreneurial activity entails (Lupić, 2017, 71; Škrtić & Mikić, 2011, 75). The launch of entrepreneurial activity is linked to entrepreneurial motivation and is the research subject of this paper.

A person's intention to engage in entrepreneurial behavior is considered crucial to the launch of entrepreneurial activity (Bird, 1988, 443; Krueger et al., 2000, 414). The motivation to engage in entrepreneurial activity is an important link between intention and action (Carsrud & Brannback, 2011, 12; Gimmon et al., 2019, 212).

Entrepreneurs need to be aware of the importance of the survival motivation in entrepreneurship and should strive to improve their overall entrepreneurial ability, transform their entrepreneurial behavior into entrepreneurial practice and improve the entrepreneurial success rate (Zhen & Bing, 2019, 778). The motivation to start entrepreneurial activities depends on many factors, among others the time needed to start up a new enterprise and the cost of such activities (Bilar, 2010, 87).

Entrepreneurial motivation, as a motivational factor for entrepreneurs willing to start a new enterprise regardless of the risk, is driven by an entrepreneurial mindset. The authors' previous studies confirm that entrepreneurial motivation has a significantly positive effect on entrepreneurial performance and that entrepreneurial ability mediates the effect of survival motivation on entrepreneurial performance and partially mediates the effect of opportunity motivation on entrepreneurial performance (Zhen & Bing, 2019, 778)

In the hospitality and tourism industry, the prevailing entrepreneurial activities are those that involve entrepreneurs in social practices most often through family interactions between guests and hosts (Peters & Kallmuenzer, 2018, 1).

The primary purpose and aim of this paper are to determine the effect of entrepreneurial motivation on starting entrepreneurial activities. The indicators of entrepreneurial opportunity activity (TEA Opp) and entrepreneurial necessity activity (TEA Nec) are used to this end to obtain a clearer picture of entrepreneurial activity and motivation. Special emphasis is placed on the empirical part of the paper exploring entrepreneurial activity and motivation in rural regions of Croatia.

2. ENTREPRENEURIAL ACTIVITY

The factors of entrepreneurial activity are numerous and complex and represent conditions that can either enable or constrain entrepreneurship, thus affecting economic growth. The nature of entrepreneurship focuses on the ability of entrepreneurs to create new value, based on their creativity, innovativeness, and flexibility. The nature of entrepreneurship is also linked to the traits of entrepreneurs and is influenced by many factors, among others (Martinović & Veselinović, 2018, 16):

1. Human capital and knowledge,
2. Entrepreneurial motivation and
3. The nature and traits of entrepreneurs.

Entrepreneurial activity is measured by the Global Entrepreneurship Monitor (GEM), the largest international research project focused on entrepreneurship, established in 1999 by Babson College and the London Business School. Croatia has been part of the GEM study since 2002 (GEM, 2020). The GEM study aims to measure the differences in entrepreneurial activity levels in various countries, thus mapping factors and identifying policies that affect and/or encourage entrepreneurial activity.

The GEM study (Reynolds et al., 2001, 57) clearly shows that the level of entrepreneurial activity varies from country to country (Dimovski et al., 2006, 16).

The "Total early-stage entrepreneurial activity" index (TEA index) is the most important indicator of the overall level of early-stage entrepreneurial activity of a country, expressed in the percentage of the adult population, and shows the number of persons trying to start a business by themselves or with others, trying to become self-employed or who are the owners of enterprises/crafts or trades that are 3 – 42 months old.

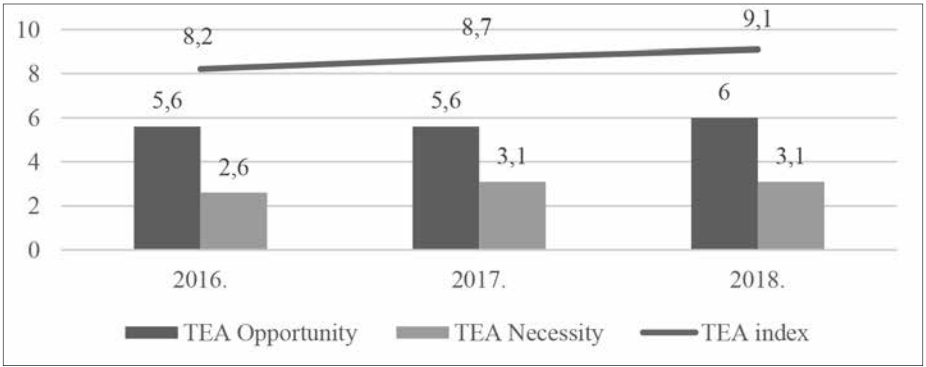
The ratio of the "Total entrepreneurial opportunity" (TEA Opp), representing the ratio of the number of new entrepreneurs, who have recognized a business opportunity, and the adult population and the "Total entrepreneurial necessity" (TEA Nec), representing the ratio of the number of new entrepreneurs, who have been compelled to engage in entrepreneurial activity by the situation they are in, and the adult population provides a clearer picture of a country's entrepreneurial activity and entrepreneurial motivation (GEM Hrvatska 2018, 2019, 10).

The following section looks at the basic motivational characteristics of opportunity entrepreneurs and necessity entrepreneurs.

3. OVERVIEW OF ENTREPRENEURIAL ACTIVITY IN CROATIA

The many years of Croatia's involvement in the GEM study since 2002 make it possible to perceive trends and patterns in entrepreneurial activity. The below section provides an overview of entrepreneurial activity in Croatia based on data in the GEM database. Data are presented for opportunity-driven entrepreneurial activity, necessity-driven entrepreneurial activity and the motivational index in the period 2016 – 2018. (Figure 1).

Figure 1. Overview of entrepreneurial activity in Croatia (2016 – 2018)



Source: by the authors, after GEM Hrvatska 2018 (2019). p. 27-28

A slight increase in entrepreneurial activity in Croatia can be seen in the observed period 2016 – 2018, concerning both opportunity and necessity. The following section provides an overview and comparison of necessity-driven entrepreneurial activity in Croatia and the EU.

Table 1. Starting entrepreneurial activity out of necessity – comparison between Croatia and the EU (2016 - 2018)

YEAR	CROATIA	EUROPEAN UNION (average of countries)
2016	2.6	1.7
2017	3.1	1.6
2018	3.1	1.4

Source: by the authors, after GEM Hrvatska 2018 (2019). p. 29

In the observed period, shown in Table 1, starting entrepreneurial activity out of necessity is in decline in the EU, while in Croatia it experiences slight growth. Concerning this, it is interesting to note that Russia has the most necessity entrepreneurs (39.8%), followed by Croatia (32.3%). The largest number of opportunity entrepreneurs can be found in Poland (90.9%) and Switzerland (87.1%) (Rebernik et al., 2019, 17; GEM Slovenija 2018, 2019, 59), indicating that Croatian entrepreneurs tend to start business ventures out of necessity.

The overview of the motivational index (TEA Opp and TEA Nec ratio) in Table 2 provides a more complete picture of entrepreneurial motivation.

Table 2. Motivational index (2016 – 2018)

YEAR	CROATIA	EUROPEAN UNION (average of countries)
2016	2.2	5.3
2017	1.8	5.0
2018	1.9	5.3

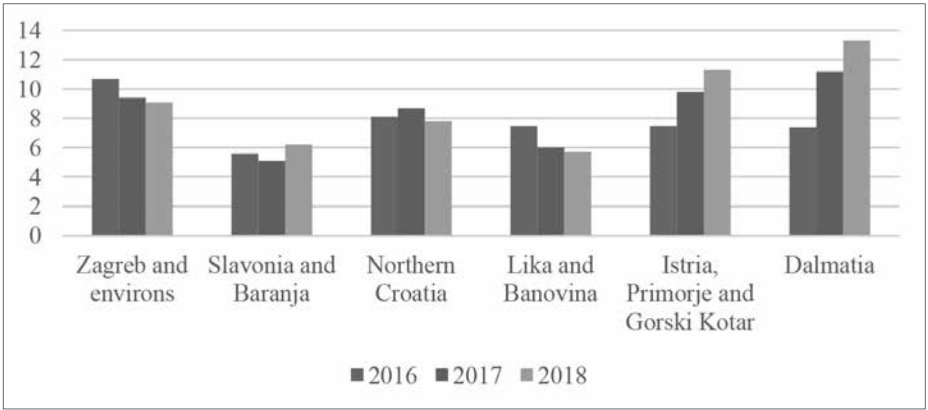
Source: by the authors, after GEM Hrvatska 2018 (2019). p. 28

Croatia's motivational index is lower than that of the EU and shows an obvious drop in value relative to the unchanged value in the EU in the observed period. The significance of the motivational index in estimating the capacity of entrepreneurial activity is evident from the comparison of 2018 values. The EU has an average motivational index of 5.3, meaning that in the EU there are on average 5.3 times more people starting entrepreneurial activity due to perceived opportunities than out of necessity while in Croatia there are only 1.9 times as many (GEM Hrvatska 2018, 2019, 10). According to motivational index, Croatia is among the last five European countries with the lowest motivational indexes (GEM Slovenija 2018, 2019, 61)

The percentage of Croatian entrepreneurs starting a business venture out of necessity is considerably higher than the average for EU countries (for example, in 2018, this index was 3.1% for Croatia relative to 1.4% as the average for EU countries). When motivation is linked to "economic necessity", business owners can find it difficult to be committed to either the business or entrepreneurial career. Before being motivated for growth and actively seeking growth, business owners first need to gain commitment to the business and their careers (Olomi, 2001, 107).

To provide a more comprehensive picture, the below section, Figure 2, presents an overview by region of entrepreneurial activity in Croatia based on the TEA index for the period 2016 – 2018.

Figure 2. Regional differences in starting a business venture in Croatia (2016 – 2018)



Source: by the authors, after GEM Hrvatska 2018 (2019). p. 52

A drop in entrepreneurial activity in starting business ventures is evident in the Zagreb region and environs as well as in Lika and Banovina, while an increase is visible in Istria, Primorje and Gorski Kotar, and in Dalmatia.

Table 3. Level of entrepreneurial motivation, by region in Croatia – Motivational index (2016 – 2018)

YEAR	ZAGREB AND ENVIRONS	SLAVONIA AND BARANJA	NORTHERN CROATIA	LIKA AND BANOVINA	ISTRIA, PRIMORJE AND GORSKI KOTAR	DALMATIA
2016	3.3	1.8	1.5	0.7	6.5	1.6
2017	2.6	0.9	1.4	0.9	4.8	1.5
2018	3.1	1.7	0.4	1.2	1.7	2.9

Source: by the authors, after GEM Hrvatska 2018 (2019). p. 54

Regional differences are evident in motivational indexes and in identifying opportunities shown in Table 3, factors that affect entrepreneurial activity, suggesting the need for developing adequate support in all regions. To reduce differences in regional development it will be necessary to harmonize entrepreneurial activities across regions and to boost the motivational index by striving to increase the number of entrepreneurial ventures starting due to perceived opportunity rather than out of necessity (GEM Hrvatska 2018, 2019, 109).

4. METHODOLOGY

Following the paper's primary objectives, research was conducted on the attitudes of entrepreneurs, whose entrepreneurial activity is linked to rural tourism in Croatia.

For the needs of empirical research, a structured questionnaire was designed, divided into seven groups. The first group of questions focused on the socio-demographic profile of entrepreneurs in rural tourism. The second group of questions examined the economic parameters of business operations and the third group consisted of rating-scale questions to analyze the respondents' psychological profile, educational level, and work experience. The fourth group of questions centered on the key motivations for starting entrepreneurial activity specific to rural tourism. The fifth group asked respondents to use a scale to self-assess their competence in selected key business segments. The sixth group analyzed the willingness of respondents to acquire new knowledge and undergo professional training, and the last, seventh, group investigated the respondents' level of satisfaction with overall business operations. For this paper, groups of questions about the research topic and area of study have been used.

The survey was conducted using the interview method on a sample of 200 entrepreneurs in rural areas in Croatia. The responses of the participants to interview questions were entered into the questionnaire. The data was processed using descriptive statistics.

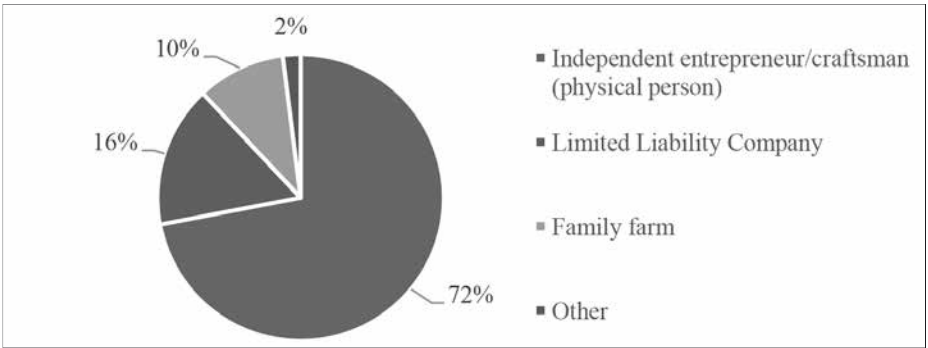
5. RESEARCH RESULTS

This section presents the sample characteristics and socio-demographic profile of respondents based on an analysis of entrepreneurs concerning the type of enterprise registered and to the socio-demographic characteristics of respondents. The key entrepreneurial motivations for starting a business and the personal attitudes of entrepreneurs concerning entrepreneurial activity are explored through entrepreneurial motivations for starting a business venture and attitudes towards entrepreneurial activity.

5.1. Sample characteristics and respondents' socio-demographic profile

Concerning the type of enterprise shown in Figure 3, entrepreneurs in rural tourism can be registered as physical persons – craftsmen (72%) most often engaged in renting rooms and holiday flats, as a limited liability company (16%) or as a family farm (10%).

Figure 3. Entrepreneurs by type of enterprise registered



Source: Authors' research

Data on the gender, age and educational levels of entrepreneurs in rural tourism in Croatia were gathered by studying the respondents' socio-demographic characteristics (Table 4.).

Table 4. Socio-demographic characteristics of entrepreneurs

SOCIO-DEMOGRAPHIC CHARACTERISTICS		(%)
GENDER	Male	42
	Female	58
AGE	20-30	11
	31-40	21
	41-50	30
	51-60	27
	60 and over	11
EDUCATION	Elementary school	2
	3-year vocational school	20
	4-year secondary school	39
	2- year college	14
	3-year and 4-year university, faculty	20
	Specialization, MSc, PhD	5

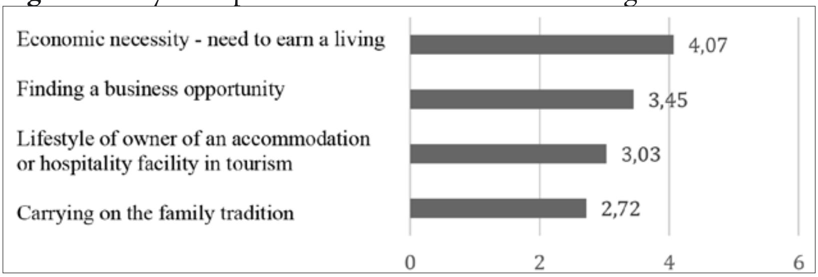
Source: Authors' research

A slightly higher number of women (58%) than men (42%) participated in the survey. Results obtained point to the fact that entrepreneurship in rural tourism is mostly linked to middle-aged or older people. Concerning educational background, most of the respondents (39%) have 4-year secondary school qualifications.

5.2. Entrepreneurial motivations for starting entrepreneurial activity and attitudes towards entrepreneurial activity

The attitudes of entrepreneurs are a valuable source of information that helps to assess the state of entrepreneurship in rural tourism. Having insight into the entrepreneurial mindset may make it possible to identify signs of potential problems that entrepreneurs could encounter. This is the first step in addressing obstacles to rural tourism development in general. Respondents used Likert scales, ranging from 1 to 5, to rate their key motivations for starting a business venture and their personal opinions regarding entrepreneurial business (Figure 4.).

Figure 4. Key entrepreneurial motivations for starting a business



Source: Authors' research

The most important motivations for starting a business are "Economic necessity – the need to earn a living" (4.07) and "Finding a business opportunity" (3.45), results that are consistent with previous research on entrepreneurial motivation (Table 5).

Table 5. Self-evaluation of entrepreneurial competencies

NUMBER	QUESTION	AVERAGE SCORE
1.	I know what customers want and need	3,97
2.	I know the competition and what they have to offer	3,84
3.	I am adept at human resource management (staffing, motivation, communication…)	3,82
4.	I cand develop a new business idea (product, service)	3,75
5.	I am capable of developing a financial plan for a business idea	3,60
6.	I am adept at marketing (sales and marketing)	3,49
7.	I am sufficiently knowledgeable in information and communication technology (the Internet, computers, booking systems, etc.)	3,34
8.	I am adept at handling financial accounting (corporate finance, taxation)	3,31

Source: Authors' research

The statement "I know what customers need and want" (3,97) received the highest score while the lowest score (3,31) was given to the statement concerning the ability to carry out financial accounting. Such results were expected considering that complex fiscal obligation and constantly changing regulations can cause a sense of lack of competency in handling financial accounting. Because of this, many entrepreneurs are compelled to use external finance and accounting services which, ultimately, increase operating costs.

Also examined were the various areas in which entrepreneurs are interested in acquiring additional knowledge shown in Table 6.

Table 6. Entrepreneurial need for new knowledge

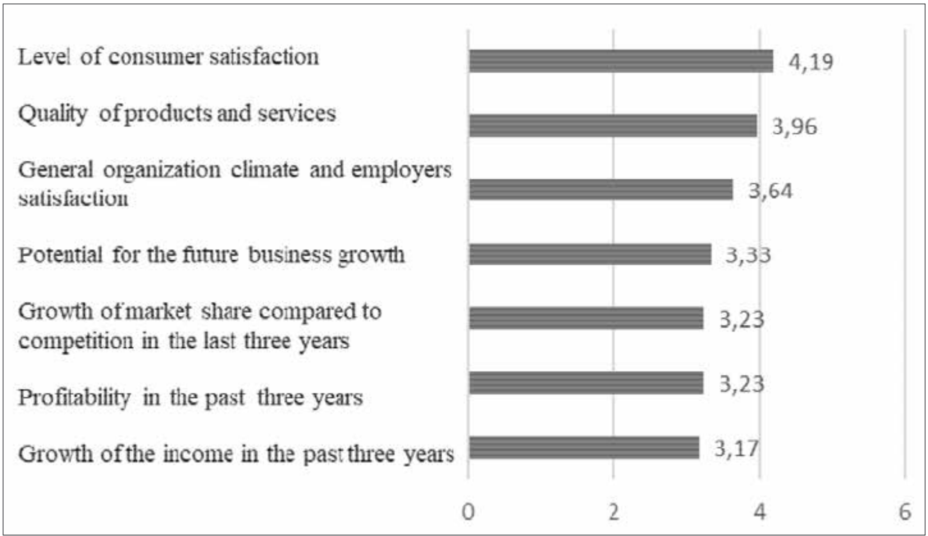
NUMBER	QUESTION	AVERAGE SCORE
1.	New forms of marketing (social networks, e-marketing)	4,18
2.	How to draw from European and national funds	4,11
3.	How to win new markets and gather data about those markets	4,10
4.	How to network with other entrepreneurs and design a joint offering	4,02
5.	Time management	3,80
6.	Family entrepreneurship (e.g., how to transfer business on the next generation, and so)	3,79
7.	How to manage employees and delegate tasks	3,71
8.	How to procure new materials	3,56

Source: Authors' research

Respondents indicated the greatest need for knowledge about new forms of marketing (average score 4,18), followed by the need for knowledge on how to draw from European and national funds (4,11).

Problems are foremost evident in the lack of institutional support. Specifically, because bureaucracy and government programs fail to inspire confidence, entrepreneurs feel they are left to their own devices. At the same time, entrepreneurs are aware of their poor skills in, and knowledge of, information technology, marketing, and financial accounting. Despite the awareness, they are not accustomed to seeking consulting help. This makes organizing workshops for this target group all the more important.

Figure 5. The satisfaction of entrepreneurs with certain elements of business operations



Source: Authors' research

Figure 5 shows that "Customer satisfaction" received the highest score (4,19), followed by "Product and service quality" (3,96). "Profitability" and "Turnover growth rate in the past three years" received a moderate score.

Table 7. Personal attitudes of entrepreneurs concerning entrepreneurial activity

NUMBER	QUESTION	AVERAGE SCORE
1.	Government bureaucracy and legislation are too demanding of entrepreneurs	4.47
2.	I am prone to risk-taking	3.24
3.	I make use of help from the environment, such as the help of experienced consultants, legal advisers, accountants, and tax advisers	3.16
4.	There are good opportunities for developing entrepreneurship in the region where I operate	3.12
5.	In the region where I operate, the infrastructure (roads, buildings, communication…) provides the support needed to start up new businesses	2.94
6.	Whoever needs help from state programs for entrepreneurs, can find what they need there	2.60

Source: Authors' research

It is interesting to examine which statements received the highest and lowest average scores. Table 7 shows that the statement referring to very demanding government bureaucracy and legislation has the highest score of 4.47, while the statement that "Whoever needs help from state programs for entrepreneurs, can find what they need there" has the lowest score of 2.60, leading to the conclusion that this is one of the most serious problems that entrepreneurs are faced with. In addition to inadequate support from the government, entrepreneurs are very concerned with the poor opportunities for entrepreneurial development in the region where they operate and with the infrastructure that does not provide the support needed to start a new business. Consequently, this suggests that a proactive approach by the public administration, which would act as a type of support service, to citizens and entrepreneurs is still lacking in Croatia.

6. CONCLUSION

Starting entrepreneurial activity is tied to many factors in the environment such as the social system, the economy, the quality of public institutions and technology. Investment in human resources is today the most important and fundamental type of investment that fosters further successful economic and social growth and development and ensures sustained empowerment and motivation to take an initiative. The key to successful entrepreneurship is perseverance, good preparation and a willingness to take risks. Globalization and the Internet brings many advantages to businesses, making it easier to start a business as well as expand it to international markets.

The GEM study was used to make a vertical and horizontal comparison of entrepreneurial activity in Croatia. It was noted that entrepreneurial activity is displaying a slight increase and is linked to both entrepreneurial opportunity and entrepreneurial necessity.

Regional differences in the motivational index and in the ability to perceive opportunities, upon which entrepreneurial activity depends, suggests the need for establishing regionally developed support. Reducing regional differences in development implies harmonizing entrepreneurial activity across regions and improving motivational indexes by increasing the number of business ventures started based on perceived opportunities rather than those started of necessity.

Specifically, the development of entrepreneurship in rural tourism is one of the major determinants of GDP growth and boosting employment in rural areas.

Implications of this research can be of use to all the entrepreneurs and can serve as guidelines for creating the content of aimed educational programs intended for potential and existing entrepreneurs from the field of rural tourism. With this process, it is possible to identify market opportunities and stimulate the development of entrepreneurial potential in a continuous interactive relationship. At the same time, entrepreneurs would be provided with the new knowledge needed to select and implement an adequate business strategy and would be given the skills needed to develop self-employment and employment. The results of the conducted research will also serve as a basis for developing guidelines for the joint marketing of tourism products and services in rural areas, which seek to create the conditions for networking of entrepreneurial subjects and the development of a complete tourist product of the destination. Such effects can be expected to multiple at the destination level (GDP growth, growing revenue from the exportation of products and services) and broader (regionally) through the networking of entrepreneurial businesses and by exploiting the benefits of joint marketing. Benefits of the conducted research can also be found in proposals for creating a favorable investment climate, legal support, and state incentives, to enable entrepreneurship in rural tourism to become one of the main economic drivers of rural destinations, but also an indispensable factor of destination experience and a significant factor in the international recognition of Croatian (rural) tourism.

An applicative conclusion that emerges from the literature review and conducted research indicates the need to oncoming the results of such and similar research to all levels of management. The benefits of the results of the conducted research are related to the proactive development of entrepreneurship which will ensure the well-being of the local population and market competitiveness.

When considering the results of this study, some limitations should be noted. The study of the motivation influence on starting an entrepreneurial activity and business growth used the personal attitudes of the entrepreneur, thus making a subjective assessment. Also, the survey sample consisting of 200 entrepreneurs in rural tourism in Croatia creates a limitation in terms of more modest coverage in terms of the number of entrepreneurs but also the area in which they operate (rural tourism). This research included entrepreneurs who had already started entrepreneurial activity while potential entrepreneurs weren`t included in the study.

Based on the results of this research, it is recommended to continue future researches, especially in the areas of monitoring entrepreneurs' development in tourism in rural areas to increase their competitiveness.

Research can be extended beyond the limits of rural tourism to entrepreneurs in tourism and hospitality and entrepreneurs in other economic areas/ industries. Also, research should be done as a longitudinal one at time intervals to continuously monitor changes, with the possibility of extending the research to potential entrepreneurs who have not started the entrepreneurial activity. The overall strategic development of the rural tourism system is not based on an adequate model that currently sets out the guidelines for its development. Therefore, for rural tourism to achieve its multiplicative, inductive and conversion functions, it is necessary to establish institutional support and purposefully stimulate development and promote quality operationalization at all levels.

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THE IMPORTANCE OF THE PERSONAL AND SOCIAL BENEFITS FOR VISITORS OF THE KARLOVAC ADVENT IN DETERMINING THE LEVEL OF SATISFACTION

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Abstract

According to scientific and professional literature, the "value" of the event is determined by the numerous elements of tourist valorizations. This paper highlights the element that relates to the impact of events on the local community and through the perception of personal and social benefits of the event on the visitors. The subject of this paper is the personal and social benefits of the Karlovac Advent visitors and the level of their satisfaction. This paper aims to determine the positive correlation between the level of personal and social benefits of the Karlovac Advent visitors and their level of satisfaction. The authors conducted a desk and field research. The causal research of the Karlovac Advent visitor attitudes was conducted using a convenience sampling method on 260 visitors, in the period from December 19 to December 23, 2019. The analysis was performed using descriptive statistics for the level of personal and social benefits and satisfaction of the Karlovac Advent visitors and hypotheses *were tested using the correlation method. The results of this causal research are investigating the interrelationship between personal and social benefits and satisfaction. The results of this research are of benefits to those subjects who manage the organizations of various events to recognize the role and importance of personal and social benefits of event visitors and their influence on satisfaction.*

Keywords: *personal benefits, social benefits, event, visitors, satisfaction*

JEL Classification: O18

1. INTRODUCTION

The subject of this paper is the personal and social benefits of the Karlovac Advent visitors and the level of their satisfaction. This paper aims to determine the positive correlation between the level of personal and social benefits of the Karlovac Advent visitors and their level of satisfaction. The research questions were:

1. Do the Karlovac Advent visitors recognize the personal benefits of the event?
2. Do the Karlovac Advent visitors recognize the social benefits of the event?
3. Do personal benefits affect the level of satisfaction of Karlovac Advent visitors?
4. Do the social benefits affect the level of satisfaction of Karlovac Advent visitors?

The main hypothesis are as follows:

MH1 – The personal benefits of the Karlovac Advent visitors have a positive correlation on satisfaction.

MH2 – The social benefits of the Karlovac Advent visitors have a positive correlation on satisfaction.

Exploratory research of visitors' attitudes on Karlovac Advent Fair was conducted on a convenience sample, which is a form of non-probability sampling, in the period from December 19 to December 23, 2019. The hypotheses were tested using the correlation method. There were conducted interviews on 260 Karlovac Advent Fair visitors (mostly domestic) who were chosen randomly. The questionnaire contained 23 closed questions and 1 open question. The authors used the interviewer-administered questionnaire. The questionnaire was compiled in English and translated into Croatian. Attitudes of the respondents were measured by the Likert scale ranging from 1 to 5 (1-lowest score, 5-highest score). Residents' perceptions of festival social impacts attitude scale (Delamere, 2001) were used. The observed variables were described using descriptive statistics. This exploratory research is being carried out to highlight the significance and the role of the visitors' event personal and social benefits on visitors' satisfaction. The results of this exploratory research are of benefit to those subjects who manage the organization of various events to improve the quality. The data was processed in Microsoft Office Excel. The questionnaires were anonymous.

2. THEORETICAL BACKGROUND

Several authors represent research in impact scale development specifically related to the social impacts of festivals and events (Delamere, 2001; Delamere, Wankel, Hinch, 2001; Fredline, Jago, Deery, 2003; Small, Edwards, 2003). Delamere (2001) developed a Festival Social Impact Attitude Scale to be used for the measurement and interpretation of residents' perceptions of the social impacts of community-based festivals. The same scale was used in this research. Small (2007) used the Social Impact Perception (SIP) scale, which measures residents' perceptions of the social impacts resulting from community festivals. She underlined the dimensions of the social impacts of community festivals. Christmas Markets have become very popular events in Croatia and authors have investigated motives for visiting (Vitner Marković et al., 2019) and experience (Marković et al., 2018; Varičak et al., 2019) with the Christmas Markets in City of Zagreb and Karlovac.

2.1. Satisfaction

According to Oliver (1997), satisfaction is considered as customer judgment for goods and services (Kim et al., 2010). It is an outcome of subjective evaluation about whether the selected alternative meets or exceeds expectations (Kim et al., 2010, 218). A review of relevant literature showed that socio-demographic and economic characteristics of the visitors influence satisfaction. The level of satisfaction seemed to be related to age (Pickle, Bruce, 1972), gender and nationality (Valle et al., 2006), personal competence (Westbrooke, Newman, 1978), level of education (Valle et al., 2006) and total family income (Brida et al., 2013). Satisfaction is measured as overall satisfaction with the festival, as satisfaction with specific attributes is classified in the relevant attribute category (Tanford, Jung, 2017, 213). Individual beliefs influence the level of satisfaction (Brida et al., 2013). In the literature, it is referred to as the terms festival (Yoon et al., 2010; Tanford and Jung, 2017) and visitor (Yan et al., 2012). In the context of festivals, authors had suggested that visitors' emotions are related to their satisfaction levels (Grappi, Montanari, 2011; Lee et al., 2008; Mason, Paggiaro, 2012; Organ et al., 2015). The visitors are more likely to have a better service experience if they take part in producing the experience themselves (Harris et al., 2001; Organ et al., 2015). This co-creation through visitors interacting leads to greater satisfaction levels (Bijmolt et al., 2010; Brodie, Hollebeek, 2011; Organ et al., 2015).

Community satisfaction can also contribute to the way residents assess their quality of life (Matarrita-Cascante, 2010). Nunkoo and Ramkissoon (2010, 2011) confirmed that satisfaction with the community can act as a powerful determinate of tourism development support from residents (Su, Swanson, 2020). The material well-being and personal benefits mediate the association of economic impact of tourism on the resident's life satisfaction (Wardana et al., 2017). Su and Swanson (2020) in their study investigated the relationship between personal benefits from tourism and overall community satisfaction. The study demonstrated that perceived personal benefits obtained from tourism positively impact both overall community satisfaction and community identification, in turn leading to support for tourism development (Su, Swanson, 2020).

2.2. Personal and Social Benefits for the Visitors

With the growth of tourism and the increased intensity of various activities in the destinations (such are festivals, sports events, etc.) local communities experience the impacts of this growth. Perdue, Long, Allen (1987) developed a model that examined relationships between residents' perceptions of tourism impacts and their support for it. It was discovered that when personal benefits obtained from tourism development were controlled, residents with positive perceptions of tourism impacts supported additional tourism development and specific tourism development policies. Several researchers and planners suggest that effective tourism planning requires resident involvement to mitigate the negative impacts and to clarify the benefits associated with the tourism industry (Chambers, 2002; Sewell, Coppock, 1977; Wates, 2000). In return for mitigating impacts and clarifying benefits, tourism planners can earn residents' support for specific tourism initiatives and create a favorable attitude toward tourism among residents (Wang, Pfister, 2008).

Researchers on personal benefits have focused attention on the economic indicators of the potential exchange (personal income, tax revenue, employment, consumer spending, level of economic dependency, etc.), whereas the value domains may alternatively be anchored in social, aesthetic, community pride and less tangible variables in specific circumstances. Community leaders and economic development specialists have increasingly treated tourism as an important industry that can enhance local employment opportunities, tax revenues, and economic diversity. The question remains: Is tourism impact (economic, social, cultural, and environmental) perceived by community residents? If so, do these perceptions of tourism impact influence their sense of well-being in various life domains (e.g., material life, community life, emotional life, and health and safety (Kim, Muzaffer, Sirgy, 2013).

One of the fastest-growing forms of visitor and community activity is the festival (Getz, 1997). The social impact community festivals are often seen to be "external" forms of economic valuation. These impacts are less tangible than economic impacts and are more difficult to understand and resolve (Getz, 1991). Festivals provide a substantial vehicle to share what is distinctive about communities with visitors. With the urge for visitors to do as the locals do the festival provides an opportunity to explore what the value, interests, and aspirations of residents are. Festivals are where community and its outward manifestations of image and identity collide and where community cultural development, commonly regarded as'sense' of community or 'sense of place' can become a commodity (Derrett, 2000).

3. THE RESEARCH RESULTS

The sample consisted of 260 respondents classified into five target groups, 18 – 25 years (32.31%), 26 -35 years (19.62%), 36 – 45 years (26.15%), 46 – 55 years (14.23%), 56 – 65 years (4.62%) and 66 years and more (4.62%). There were 80.77% of domestic visitors, 10% trippers and 2.31% tourists. All visitors were from Croatia, there were no foreign visitors. The Advent in Karlovac still has a national character because it is a relatively new event in Karlovac. In the general characteristic, there was no gender.

Table 1: General characteristics of Karlovac Advent visitors in the year 2019

GENERAL CHARACTERISTIC		PERCENTAGE
AGE	18 - 25	32.31
	26 - 35	19.62
	36 - 45	26.15
	46 - 55	14.23
	56 - 65	4.62
	66 and more	3.08
VISITORS	DOMESTICS	80.77
	TRIPPERS	10.00
	TOURISTS	2.31

Source: Authors' based on research results, N=260

The research results in Table 2 indicate that all factors are reliable (Taber, 2018), having Cronbach alpha coefficients between 0.753 and 0.830. Results from the descriptive statistics indicate that means is between 3.49 and 4.49, modes are 5, except one variable satisfaction with the quality of entertainment program which is 4. Standard Deviations are between 0.854 and 2.061.

Table 2: Scale – mean, mode, standard deviation, and Cronbach alfa

Item number	Item	Mean	Mode	Std. Deviation	Cronbach alfa
SOCIAL BENEFITS		4.20	5		0.753
DK1	Karlovac Advent enhanced image of the community	4.49	5	0.854	
DK2	Karlovac Advent enhanced the identity of the community.	4.38	5	0.882	
DK3	Karlovac Advent has ongoing positive cultural impact in the community.	4.38	5	0.877	
DK4	Karlovac Advent increases the sense of community well-being.	4.14	5	2.061	
DK5	Karlovac Advent highlight community as unique and special.	4.00	5	1.034	
DK6	Karlovac Advent celebrates culture and tradition of community.	3.85	5	1.062	
DK7	Karlovac Advent improved quality of life in the community	4.12	5	1.037	

PERSONAL BENEFITS		**3.87**	**5**		**0.830**
IK8	Karlovac Advent allowed me to meet the offer of products and services of local producers.	4.05	5	1.006	
IK9	Karlovac Advent acts as a showcase for new ideas (increases my creativity).	3.49	5	1.246	
IK10	Karlovac Advent gives me the opportunity to learn new things.	3.81	5	1.143	
IK11	Karlovac Advent gives me the opportunity to experience new activities.	4.11	5	1.063	
SATISFACTION		**4.16**	**5**		**0.790**
ZA1	Quality of entertainment program.	3.90	4	0.991	
ZA2	Neatness and cleanliness of the place.	4.30	5	0.872	
ZA3	Visual identity of the place.	4.45	5	0.792	
ZA4	A variety of activities and content for different ages of visitors.	4.00	5	0.984	
ZA5	Quality of the catering offer.	4.12	5	0.926	

Source: Authors' based on research results, N=260

The coefficient of simple linear correlation, in particular the Pearson coefficient, was used while testing the hypothesis of this paper. Pearson's correlation coefficient assumes a range of minus one to plus one. The authors (Dawson, Trapp, 2004) find that the values of correlation coefficients from 0 to 0.25 or 0 to -0.25 indicate that there is no correlation, while the values from 0.25 to 0.50 or from -0.25 to - 0.50 indicate a weak correlation among variables. Correlation coefficient values from 0.50 to 0.75 or from -0.50 to -0.75 indicate a medium correlation, and values from 0.75 to 1 or from -0.75 to -1 point to very good to excellent correlation between variables. The table below shows the values of the Pearson coefficient of correlation between the independent variable of this research, which states, "social benefits" and "personal benefits" and the dependent variable "satisfaction".

Table 3: Results of the correlation analysis

	Social Benefits	Personal Benefits	Satisfaction
Social Benefits	1,000		
Personal Benefits	0,624	1,000	
Satisfaction	**0,605**	**0,620**	1,000

*. Correlation is significant at the 0.01 level (2-tailed).
Source: Authors' based on research results, N=260

Correlation analysis showed that there was a statistically significant correlation between the observed variables. The magnitude of the correlation coefficient ranges from 0.605 to 0.624, ($p<0.001$). Social benefits are positive medium correlated with personal benefits ($r = 0.624$, $p<0.001$). Satisfaction is positive medium correlated with social benefits ($r = 0.605$, $p<0.001$) and personal benefits ($r = 0.620$, $p<0.001$).

4. CONCLUSION

The Pearson correlation coefficient value is the highest in the case of personal benefits and visitor satisfaction. It may be concluded that the visitor satisfaction of Karlovac Advent Fair is oriented to the personal benefits, but also social ones. The hypotheses in this paper were confirmed. A positive medium correlation between personal benefits and visitor satisfaction is proved. Also, there is a positive medium correlation between social benefits and visitor satisfaction. Future research should investigate the role of the demographic characteristic of visitors' personal and social benefits of Karlovac Advent Fair. Also, future research should be directed towards significant components of the social sustainability of the event to preserve identity, tradition, and authenticity. Considering that tourism valorization of the event is based, among other things, on defining the impact on the identity and image of the destination and the local community in which it takes place, such research should include all dimensions of sustainability.

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EFFICIENCY OF REGIONS: ENVIRONMENTAL VS. ECONOMIC POINT OF VIEW

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Abstract

Economic efficiency and possibilities of its improvement have become one of the leading imperatives of all world countries. On the other hand, there is an increase in energy-consuming activities and waste, with overexploitation of most easily accessible energy resources and the global warming problem as predictable consequences. The relationship between these complex and conflicting issues should, therefore, be carefully considered in terms of exploring the relationship between the economic and environmental performance of regions, which is the subject of this paper. The analysis is performed empirically, based on the nonparametric method of data envelopment analysis. To separately address the economic and environmental efficiency of Croatian counties for the year 2016, two models that differ primarily in the selection of indicators are designed. The first one is based on predominantly economic indicators, while the second employs variables related exclusively to environmental factors. Each model results in a single efficiency measure for each county, also providing the possibility to identify and quantify inefficiency sources, rank their impact on efficiency itself and determine the directions of their improvement. The received relative efficiency results confirmed two hypotheses: first, that there are significant inter-country disparities in both economic and environmental performance, and second, that the correlation between the two efficiency measures is negligible. Because of the unavailability of data on particular indicators used, the potential limitation of this research is the inability to dynamically consider efficiency. However, the results should assist economic and environmental policymakers to advance their decisions.

Keywords: *economic performance, environmental performance, Croatian counties, (in)efficiency, data envelopment analysis*

JEL Classification: Q50, Q59

1. INTRODUCTION

The last few decades have been characterized by an enormous increase in scientific and public interest in the pace of economic growth and its effects on the environment. As a result, the nexus between economic and environmental performance is being extensively explored in the literature. The conflict arises from the fact that economic activities use energy, among other resources, to produce goods and services, at the same time generating pollution such as greenhouse gasses and wastewater. Consequently, an increase in energy-consuming activities, most in the developed and emerging countries, and waste, most in rich countries, are among the major concerns today's world is confronting. Given that economic efficiency implies the production of maximum output from a set of given inputs, but does not imply resource and environmental efficiency, inefficient economic activities may result not only in lower economic outputs but also in the overexploitation of energy resources and increased waste volumes, emissions of pollutants, etc. In this respect, environmental efficiency cannot be separated from economic efficiency. Accordingly, two issues crucial for policymaking emerge and should be addressed: the choice of environmental and economic indicators and the choice of the efficiency measurement method. The relevance of these choices is the path to the reliable comparison of regions, setting achievable goals and implementing effective policies.

In recent years, numerous empirical scientific studies have focused on the measurement of economic, social, energy and environmental efficiency across regions. Additionally, due to its main advantage of not requiring any prior assumptions on the underlying functional relationships between inputs and outputs, data envelopment analysis (DEA) technique is widely adopted and applied approach for evaluating all these types of efficiency at the macroeconomic level. In the DEA-based literature, which deals primarily with energy (Mardani et al., 2017) and environmental efficiency (Song et al., 2012), there are several publications in which one or both these types of efficiency are observed in combination with economic efficiency. In the comprehensive overview of the application of DEA models in the fields of environmental and energy economics, published by Mardani et al. (2018), a total 145 articles published between 2000 and 2018 in the high-quality international journals extracted from two important databases (Web of Science and Scopus) were classified based on different criteria including author(s), application scheme, different DEA models, application fields, the name of journals and year of publication. Also, in the aforementioned papers, the second most repeated word after 'efficiency' was 'China'. This confirmed our preliminary assumption, suggested by even a cursory search of Google Scholar, that China is by far the most researched country on the subject.

An inevitable conclusion that should be pointed out is that most papers in this field emphasize certain aspects of energy or environmental efficiency, such as pollutants or renewable energy (a brief but fairly complete synopsis of the relevant published literature dealing specifically with the importance of renewable energy for economic growth, and using DEA-based approaches is given in Rabar, 2018). Also, most of the papers observe different industries, sectors, and companies. Nevertheless, there is a respectable collection of studies exploring regions, but the vast majority of them are concerned with provinces, municipalities and autonomous regions of China. There is, therefore, a serious lack of studies evaluating the energy and environmental economics of regions outside China.

Studies on the efficiency of Croatian counties using the DEA method are not numerous and mainly relate to economic efficiency. Only a few are concerned with energy and environmental efficiency on the county or national level. Thus Vlahinić Lenz et al. (2018) assess economy-wide energy efficiency in 28 EU countries in a total-factor framework and compare these results with the environmental total-factor energy efficiency. The analysis is based on 2008-2014 panel data for labor, capital, and energy, plus GDP as desirable and CO2 and SOx as undesirable outputs, using the modified SBM model. The results show that energy efficiency that does not incorporate environmental pollution is overestimated in 20 out of 28 EU countries. Also, more countries reached energy efficiency in 2014 than in 2008, which could imply that EU countries pay a lot of attention to the reduction of GHG emissions and sustainable development. Škrinjarić (2018) empirically evaluates the economic and environmental features of the tourism industry of 21 Croatian counties over the period 2011-2015 by using output-oriented models – BCC window and SBM-undesirable outputs. The results show that the majority of the counties had an increase in efficiency scores over time, which means that a combination of waste management with the growth of tourist arrivals has, on average, improved over the observed period. Although it does not address the efficiency of Croatia or its counties, it is worth mentioning the research by Croatian author Đula Borozan (2018). This paper briefly reviews the literature covering DEA applications related to energy efficiency. The findings indicate that recent applications of

DEA in the field of energy efficiency go beyond pure energy efficiency towards its explicit integration with various environmental concerns. It is worth noting that all mentioned studies were published in 2018, which supports the fact that there has been a recent increase in interest in these topics.

This paper seeks to fill part of this gap by estimating and comparing economic and environmental efficiencies of Croatian counties for the year 2016 and articulate their nexus, using output-oriented DEA models with variable returns to scale assumption. Bearing this goal in mind, two hypotheses come up which need further examination. The first one assumes significant inter-country disparities in both economic and environmental performance, while the second one predicts a negligible correlation between the two efficiency measures.

The paper is organized as follows. After the introduction, the second section briefly describes the selected economic, social, energy and environmental indicators along with criteria for their choice, and the data collection, also introducing the concept of DEA methodological framework employed in this research analysis. The third section shows the empirical results of the DEA-based efficiency analysis of Croatian counties. The findings of the research and general remarks about their implications for policymakers are summarized in the last section of this paper.

2. ECONOMIC AND ENVIRONMENTAL EFFICIENCY EVALUATION OF CROATIAN COUNTIES

Efficiency scores and ranks of the entities observed depend on many factors. Among others, these include the selection of indicators for performance measurement and the model choice, specifically regarding model orientation and the assumption on its returns to scale. Therefore, the selection of relevant indicators and model type and orientation appropriate for the process under investigation are the most significant and, at the same time, the most delicate steps in designing a suitable DEA model for measuring the relative performance of counties. Due care should also be given to the availability and accessibility of data.

2.1. Indicators selection

The imperative of economic efficiency on one side, and the consequential increase in energy-consuming activities and waste on the other, inevitably lead to overexploitation of most easily accessible energy resources and the global warming problem. This indicates the need for joint consideration of economic and environmental performances and their efficiencies. Any such analysis necessitates the proper selection of indicators upon which these efficiencies will be measured. A wide range of economic, social, energy and environmental indicators was considered and ranked by their significance. Eleven of them are selected for this research. Six of them are included in the first, predominantly economic model. These are population size (POP), gross domestic product (GDP), number of graduated students by residence (GST), level of import coverage by export (CIE), the total number of persons in employment (EMP) and number of medical doctors (MDs). The other five are included in the second, environmental model. These are recovery rate of municipal waste collected by local government units (RRW), CO2 emission (CO2), share of treated water in total municipal wastewater discharge (TW), environmental protection expenditure and investments as a percentage of GDP (EEI) and ratio of production and installed capacity of renewable energy plants (REP).

These two groups of indicators will be merged into two performance measures – the economic one and the environmental one. The rationale behind their selection is explained below. As the source of the most important factor of production, i.e. labor force, the population is the starting point for all other variables and the basis of the region's potential and the possibility of its further growth and development. GDP is the single most important measure of the health of the macroeconomy and the most widely reported statistic in every developed economy (Mankiw, 2014). The concentration of various human profiles, arising from education and resulting in different skills, ideas, and products, generates productivity growth and economic development. The exceptional importance of higher education for regional development has been confirmed by numerous studies thus justifying the choice of the number of graduated students as an indicator related to that part of education. The level of import coverage by export is chosen as an indicator of international exchange which is important for economic growth. Considering that many prominent Croatian economic experts believe that, for Croatian circumstances, the number of employed is a better indicator than the number of unemployed, the total number of persons in employment is used as an indicator of the state of the labor market. The situation in the health care system plays an important role in stable economic growth in the long run and can be presented by the number of medical doctors. The recovery rate of municipal waste collected by local government units is selected as an indicator of preventing the waste of resources, reducing the associated negative environmental impacts and a potential decrease of pressures on primary natural resources. The CO2 emission, the share of treated water in total municipal wastewater discharge, the environmental protection expenditure and investments and the ratio of production and installed capacity of renewable energy plants are included as environmental indicators that measure environmental quality and show the local governments' attitude to environmental issues and thus to public health and safety.

It is well known that Croatian counties differ significantly in population size. This results in even greater disparities in all types of indicators – social, economic, environmental, energy, etc. Since population size is not included in our second model, CO2 emission is taken in kg per capita to mitigate these differences. Similar adjustments to other indicators are not required. The reason for this in the first model is that the population is already included as a separate variable and thus put about other indicators. In the second model, the reason lies in the fact that all indicators are expressed as ratios or percentages and thus "aligned" among counties, so it makes no sense to relate them to the population. Accordingly, the indicators included in the first model will be referred to as *absolute* indicators and the indicators from the second model as *relative* indicators. The only exception is the level of import coverage by export, which is a relative indicator.

2.2. Data

The data on selected indicators for 21 Croatian counties were taken or calculated from information provided by the official web pages of the Croatian Bureau of Statistics (POP, GDP, GST, CIE, EMP, MDs, EEI), the Croatian Agency for the Environment and Nature (RRW, CO2, TW) and the Croatian Transmission System Operator Ltd. (REP). As the importance of managing renewable energy stems from the need for reconciling energy demand and the environmental implications with sustainable economic growth, an indicator covering renewables is indispensable for analyzing environmental efficiency.

Given that, according to the author's knowledge at the moment, this research was started, the county-level data on production and installed capacity of renewable energy plants were available only for the year 2016, the research period is limited to this year.

The descriptive summary statistics on the selected indicators are provided in Table 1.

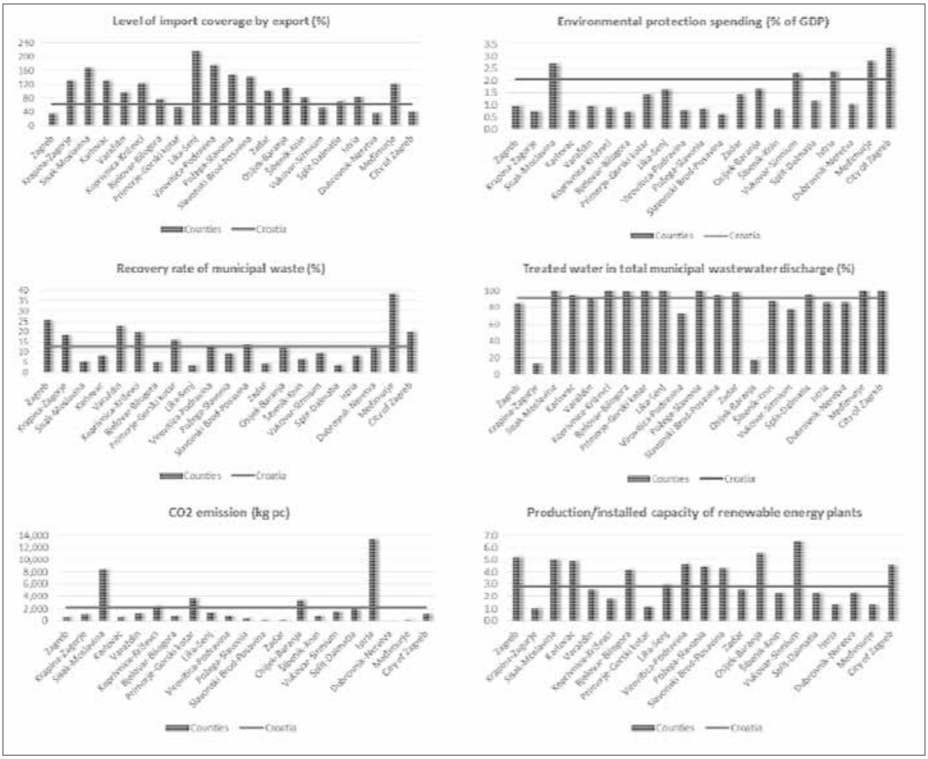
Table 1. Descriptive summary statistics, 2016

	Indicator	Mean	Median	SD	Min.	Max.	CV
Inputs	Population size	198,779	148,373	168,534	46,888	802,338	0.85
	Environmental protection expenditure and investments, % of GDP	1.43	1.04	0.80	0.61	3.34	0.56
Outputs	GDP, thousands HRK	16,730,908	8,179,655	24,512,873	3,009,569	118,100,429	1.47
	Graduated students	1,536	932	1,699	302	8,001	1.11
	Export/import, %	104.28	101.06	49.33	34.86	215.76	0.47
	Persons in employment	64,520	36,818	82,713	12,860	401,642	1.28
	Medical doctors	687	387	974	114	4,680	1.42
	Recovery rate of municipal waste, %	13.00	11.82	8.70	3.29	38.26	0.67
	CO2 emission, kg per capita	2,054	967	3,205	58	13,426	1.56
	Treated water in total municipal wastewater discharge, %	85.41	94.59	24.69	12.70	100.00	0.29
	The ratio of production and installed capacity of renewable energy plants	3.36	2.96	1.65	0.99	6.46	0.49

Notes: SD – standard deviation; CV – coefficient of variation;
Source: Author's calculations based on data from the Croatian Bureau of Statistics, the Croatian Agency for the Environment and Nature and the Croatian Transmission System Operator Ltd.

The descriptive statistics indicators at the county level prove the aforementioned significant inter-country disparities in economic and environmental performance. Their comparison with those at the national level makes sense only in the case of the relative indicators and is recommended for a better understanding of the state-of-the-art environmental assessment in Croatia. Thus, for example, the level of import coverage by export ranges from 35% (the County of Zagreb) to 216% (the County of Lika-Senj), the mean value across counties is 104%, while Croatia as a whole stands at 62%. The huge difference between the last two values can be largely explained by the influence of the City of Zagreb, which covers one-third of total exports and even half of the total imports of Croatia and has a relatively low import/export coverage ratio of 41%. The comparison of all six relative indicators at the county and national levels is given in Figure 1.

Figure 1. County and national levels of relative indicators



Source: Author's work based on data from the Croatian Bureau of Statistics, the Croatian Agency for the Environment and Nature and the Croatian Transmission System Operator Ltd.

To design models appropriate for conducting this analysis, only the population size and the environmental protection expenditure and investments are taken as inputs, while all other indicators are treated as outputs. Since CO2 emission is specified as output and yet preferred to have the amounts as small as possible, its reciprocal values are included in the model calculation. In this way, the relationship between inputs and outputs is preserved and the evaluation of the counties' performance is enabled in the sense of maximizing all selected outputs. As a consequence, the results obtained should be recalculated and carefully interpreted.

2.3. Methodology

DEA is a non-parametric linear programming-based approach for assessing the relative performance of peer decision-making units (DMUs) in the presence of multiple inputs and multiple outputs. As mentioned earlier, inputs are preferred to be as small as possible and output as large as possible. The model can be input-oriented, output-oriented or, less commonly, non-oriented. Additionally, the returns to scale upon which the model is built can be assumed either constant (CCR model – Charnes, Cooper and Rhodes, 1978) or variable (BCC model – Banker, Charnes and Cooper, 1984). In this analysis, we utilize the output-oriented BCC models, which means that they maximize the level of outputs for a given level of inputs, under the assumption of variable returns to scale.

The general formulation of the model is as follows. Let there be n homogenous DMUs, characterized by consuming a certain number of inputs (m) for creating a certain number of outputs (s). Let $x_{ij} \geq 0$ $(x_{ij} \neq 0)$ be the i-the input for some DMU_j, $i \in \{1, 2, \ldots, m\}$ and $y_{rj} \geq 0$ $(y_{rj} \neq 0)$ its r-the output, $r \in \{1, 2, \ldots, s\}, j \in \{1, 2, \ldots, n\}$. Therefore, each DMU_j is represented by a vector of inputs $x_j = (x_{1j}, x_{2j}, \ldots, x_{mj})$ and a vector of outputs $y_j = (y_{1j}, y_{2j}, \ldots, y_{sj})$. The input matrix for the whole set is $X = [x_{ij}] \in \mathbb{R}^{m \times n}$ and the output matrix is $Y = [y_{rj}] \in \mathbb{R}^{s \times n}$. The rule of thumb for the stability of the model puts the number of DMUs about the total number of inputs and outputs. This relation varies from author to author and is usually given as $n \geq \max\{ms, 3(m + s)\}$ (for a more detailed discussion see Sarkis, 2007). The output-oriented BCC model can be written in the following envelopment form:

$$
\begin{aligned}
&\max \eta_B \\
&\text{subject to} \quad X\mu - t^- = x_o \\
&\eta_B y_o - Y\mu - t^+ = 0 \\
&e\mu = 1 \\
&\mu \geq 0, \quad t^- \geq 0, \quad t^+ \geq 0
\end{aligned}
$$

where $t^- \in \mathbb{R}^m$ and $t^+ \in \mathbb{R}^s$ are slack variables (i.e. input excesses and output shortfalls). The optimal objective value η_B^* is the reciprocal of the efficiency result, and for inefficient DMU_o also, the output enlargement rate ($\eta_B^* \geq 1$). If the optimal solution is denoted as $(\eta_B^*, \mu^*, t^{-*}, t^{+*})$, a DMU_o is (fully) efficient if and only if the efficiency score $\eta_B^* = 1$ and $t^{-*} = t^{+*} = 0$ for all $i \in \{1, 2, \ldots, m\}$ and $r \in \{1, 2, \ldots, s\}$. DMU_o is weakly efficient if and only if $\eta_B^* = 1$ but $t^{-*} \neq 0$ or $t^{+*} \neq 0$ for some *i* and *r* in some alternate optima (Cooper et al., 2011). Otherwise, a DMU_o is inefficient. These efficient DMUs define the efficiency frontier, whereas each inefficient DMU can be projected onto the efficient frontier as a combination of efficient DMUs by using the formulae:

$$\hat{x}_o = X\mu^* = x_o - t^{-*} \quad \text{and} \quad \hat{y}_o = Y\mu^* = \eta_B^* y_o + t^{+*}.$$

To become relatively efficient, an inefficient DMU should modify its output and/or input amounts. The requested change is dictated by the above projections in a way that outputs should be radially increased by the factor η_B^* and (if needed) additionally enlarged by the output shortfalls recorded in t^{+*}, while the input excesses recorded in t^{-*} should be eliminated.[1] The relative magnitudes of these changes determine the efficiency score of each DMU and are a direct consequence of its distance from the efficient frontier. In other words, the greater the distance from the frontier, the greater the required changes and the lower the efficiency score.

There are at least two reasons for applying the output-oriented BCC model: (1) In cases like the ones in this study, when the production frontier characteristics are difficult to identify with certainty, it is advisable to run models under both constant and variable returns-to-scale assumptions and, based on differences between their results, to choose a more appropriate model. As these differences are here quite pronounced, it can be assumed that the return effect concerning the range of activities plays an indispensable role, which makes the BCC model more appropriate. The results of both models showed that this assumption was true for the great majority of the DMUs in the sample. (2) As the population size and the environmental protection expenditure and investments are the only variables taken as inputs, the output orientation is selected as more appropriate since it aims to maximize the level of outputs for a given level

[1] Detailed descriptions and explanations of DEA models can be found in, for example, Cooper et al. (2006) and Cooper et al. (2011).

of input, to make the DMU relatively efficient. The model is solved by DEA-Solver-Pro software, and all additional calculations are provided by the author.

The use of the DEA method offers the answers to two key research questions: (1) What is the overall economic and environmental performance of Croatian counties? (2) What are the main socioeconomic and energy-environmental aspects that should be improved?

3. EMPIRICAL FINDINGS ON ECONOMIC AND ENVIRONMENTAL EFFICIENCY OF CROATIAN COUNTIES

The first model (Model 1) measures the economic efficiency of Croatian counties, based on six indicators (population size, GDP, number of graduated students by residence, level of import coverage by export, the total number of persons in employment and number of medical doctors). The second model (Model 2) evaluates environmental efficiency of the same entities, employing five indicators (recovery rate of municipal waste collected by local government units, CO2 emission in kg per capita, share of treated water in total municipal wastewater discharge, environmental protection expenditure and investments as a percentage of GDP and ratio of production and installed capacity of renewable energy plants). Since the first model includes mainly economic and related indicators and the second model mostly environmental indicators, the efficiencies they measure will be hereafter referred to as economic and environmental efficiency. In both cases, an output-oriented model with the variable returns-to-scale assumption is used.

To provide a starting point for appropriate decision making, high-quality analysis of efficiencies should always be accompanied by information on inefficient sources and their magnitudes, along with the improvement paths. Tables 2 and 3 thus present the efficiency scores, rankings and, bearing in mind executed scaling of original data, proposed input and output improvements[2] for each county in Model 1 and Model 2 respectively. This set of results represents a good basis for a meaningful further analysis of economic and environmental relative efficiencies of Croatian counties. At a glance, significant cross-country

[2] The improvements represent input excesses and output shortfalls, that is, the differences between initial and projected values, presented as percentages of the corresponding initial values.

differences can be observed in both models. These differences are reflected in both the efficiency scores and the required improvements to the indicators used. This claim is supported, inter alia, by the differences between the minimum and maximum values of the above parameters and the magnitudes of their standard deviations and coefficients of variation, thus proving our first hypothesis about the significant inter-country disparities in both economic and environmental performance.

3.1. Economic efficiency

According to the results presented in Table 2, only Lika-Senj and City of Zagreb proved to be relatively fully efficient, while Šibenik-Knin proved to be the only weakly efficient county. The average relative economic efficiency of Croatian counties is 0.8350, which indicates an average inefficiency of 16.50%[3]. At the same time, the optimal objective value is 1.2129. In light of the model's orientation towards outputs, this means that an average county, if it wishes to reach the efficiency frontier, should produce 21.29% more output with the current input level. The minimum efficiency score (0.6704) is obtained by Vukovar-Sirmium. Ten more counties showed below-average efficiency. Those are Primorje-Gorski Kotar (0.8264), Krapina-Zagorje (0.8254), Istria (0.8021), Varaždin (0.7989), Međimurje (0.7902), Zagreb (0.7806), Slavonski Brod-Posavina (0.7640), Osijek-Baranja (0.7209), Karlovac (0.7167) and Bjelovar-Bilogora (0.7016). Also, none of the efficiency scores are classified as outliers because they all lie within two standard deviations from the mean value. However, five of them do not fall within one standard deviation from the mean value. This indicates that between-scores variability is pronounced and thus additionally confirms our first hypothesis.

[3] (1 – 0.8350)*100

Table 2. Relative economic efficiency results of Croatian counties, 2016

Model 1	Opt. obj. value (η_B^*)	Efficiency score $\left(\frac{1}{\eta_B^*}\right)$	Rank	Input and output improvements (%)					
County				**POP**	**GDP**	**GST**	**CIE**	**EMP**	**MDs**
Zagreb	1.28113	0.7806	16	0.000	98.945	28.113	96.406	78.171	364.264
Krapina-Zagorje	1.21150	0.8254	12	0.000	92.357	21.150	21.150	46.792	48.690
Sisak-Moslavina	1.17912	0.8481	9	-20.431	56.935	17.912	17.912	44.233	34.549
Karlovac	1.39529	0.7167	19	0.000	75.474	39.529	39.529	44.251	40.714
Varaždin	1.25170	0.7989	14	0.000	79.154	38.511	91.297	25.170	71.957
Koprivnica-Križevci	1.14911	0.8702	6	0.000	36.904	14.911	14.911	30.576	67.951
Bjelovar-Bilogora	1.42540	0.7016	20	0.000	69.548	42.540	99.425	42.540	76.435
Primorje-Gorski kotar	1.21000	0.8264	11	0.000	24.993	21.000	29.282	25.584	32.385
Lika-Senj	1	1	1	0.000	0.000	0.000	0.000	0.000	0.000
Virovitica-Podravina	1.19350	0.8379	10	-9.354	84.287	19.350	19.350	36.835	49.170
Požega-Slavonia	1.04473	0.9572	4	0.000	42.901	4.473	8.027	15.593	4.473
Slavonski Brod-Posavina	1.30889	0.7640	17	0.000	159.314	30.889	30.889	97.904	55.225
Zadar	1.15847	0.8632	8	0.000	63.017	15.847	15.847	54.674	56.339
Osijek-Baranja	1.38713	0.7209	18	0.000	106.299	38.713	38.713	77.602	57.921
Šibenik-Knin	1	1	1	0.000	0.002	0.000	0.000	0.001	0.000
Vukovar-Sirmium	1.49174	0.6704	21	0.000	105.444	49.174	49.174	57.721	72.374
Split-Dalmatia	1.12080	0.8922	5	0.000	114.098	12.080	12.080	67.482	70.603
Istria	1.24665	0.8021	13	0.000	24.665	64.552	116.335	25.027	83.853
Dubrovnik-Neretva	1.15106	0.8688	7	0.000	15.790	15.106	271.878	15.106	45.542
Međimurje	1.26557	0.7902	15	0.000	60.897	36.124	65.420	26.557	77.651
City of Zagreb	1	1	1	0.000	0.000	0.000	0.000	0.000	0.000
Mean	**1.21294**	**0.8350**		**-1.418**	**62.430**	**24.285**	**49.411**	**38.658**	**62.386**
Median	**1.21000**	**0.8264**		**0.000**	**63.017**	**21.000**	**29.282**	**36.835**	**55.225**
SD	**0.13644**	**0.0945**		**4.694**	**41.861**	**16.981**	**60.590**	**26.282**	**72.453**
Min.	**1**	**0.6704**		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Max.	**1.49174**	**1**		**20.431**	**159.314**	**64.552**	**271.878**	**97.904**	**364.264**
CV	**0.11323**	**0.1125**		**3.309**	**0.671**	**0.699**	**1.226**	**0.680**	**1.161**

Source: Author's work based on DEA-Solver-Pro calculations.

Among the most useful results are the projections of all counties against the efficiency frontier, that is, the values of inputs and outputs they should reach to achieve relative efficiency. In the case of efficient counties, the empirical data and their projections do not differ. On the other side, the differences between the empirical and projected values in every input and output vary from one inefficient county to another. Significantly greater average influence of outputs rather than inputs is predetermined by the selection of model orientation. Thus, on average, the greatest improvements are required in GDP and the number of medical doctors (both +62%). This is especially true for Slavonski Brod-Posavina, where GDP needs to be increased by 159%, and for Zagreb County, where it is required to increase the number of medical doctors by as much as 364%. This shows that these two indicators need to be considered more deeply, to gain a more detailed insight into the reasons for such a devastating result and discuss possible measures for performance improvement.

It is also important to clarify the proposed improvements related to the population size of the two counties – Sisak-Moslavina (-20%) and Virovitica-Podravina (-9%). It is obvious that the output improvements suggested for these two counties are not sufficient to achieve efficiency, leading to the requirement for a reduction in the only input, that is, in population size. Such a requirement, of course, does not mean that the population should be reduced, but that the current output levels can be achieved with smaller population size. The major modifications of the remaining indicators are needed in Istria (number of graduated students, +65%), Dubrovnik-Neretva (level of import coverage by export, +272%) and Slavonski Brod-Posavina (total number of persons in employment, +98%). At first glance, such requirements may seem unfeasible, but it should be borne in mind that all these percentages are empirically calculated based on relative performance, that is, compared to other counties among which are those that have succeeded in achieving such relationships among indicators.

3.2. Environmental efficiency

The results listed in Table 3 show the relative full efficiency of twelve and weak efficiency of three counties. The average environmental efficiency of Croatian counties is 0.9793. Due to the very high average efficiency score, the average inefficiency of 2.07% is significantly lower than the one in the previous model. An optimal objective value of 1.0231 dictates the counties to produce on average 3.31% more output without affecting the current input level. The lowest efficiency rating (0.8595) is given to Istria, raising the question of how realistic is the public impression of high environmental awareness this county wants to create about itself. Only four more counties achieve below-average efficiency – Virovitica-Podravina (0.9618), Split-Dalmatia (0.9478), Osijek-Baranja (0.9427) and Šibenik-Knin (0.8730). The efficiency scores of Istria and Šibenik-Knin do not fall within two standard deviations from the mean value, which proves their relatively extremely poor performance. On the other hand, the remaining four inefficient counties all lie within one standard deviation from the mean value. Taken out of context, this could lead to the conclusion that the cross-country disparities in Croatia are not pronounced. However, a glance at the required improvements is sufficient to change that point of view. Namely, input and output modifications suggested for inefficient and even for some weakly efficient counties are very large. Thus, for example, to become relatively efficient Split-Dalmatia has to increase the share of treated water in total municipal wastewater discharge for 5.5% (i.e. from 94.78 to 100%), the ratio of production and installed capacity of renewable energy plants for 91% (i.e. from 2.31 to 4.42%) and the recovery rate of municipal waste for 179% (i.e. from 3.30 to 9.21%), and to reduce CO2 emission for 81% (i.e. from 1,881.92 to 361.09 kg per capita).

Table 3. Relative environmental efficiency results of Croatian counties, 2016

Model 2	Opt. obj. value	Efficiency score	Rank	Input and output improvements (%)				
County				**EEI**	**RRW**	**CO2**	**TW**	**REP**
Zagreb	1	1	1	0.000	0.000	0.000	0.000	0.000
Krapina-Zagorje	1	1	1	0.000	0.000	-0.001	0.019	0.014
Sisak-Moslavina	1	1	1	0.000	0.000	0.000	0.000	0.000
Karlovac	1	1	1	0.000	0.000	0.000	0.000	0.000
Varaždin	1.02100	0.9794	16	0.000	2.100	-32.136	2.100	44.830
Koprivnica-Križevci	1	1	1	0.000	0.000	0.000	0.000	0.000
Bjelovar-Bilogora	1	1	1	0.000	0.000	0.000	0.000	0.000
Primorje-Gorski kotar	1	1	1	-7.311	0.000	-92.387	0.000	215.568
Lika-Senj	1	1	1	-47.307	179.939	-73.596	0.000	49.312
Virovitica-Podravina	1.03974	0.9618	17	0.000	3.974	-53.862	26.631	3.974
Požega-Slavonia	1	1	1	0.000	0.000	0.000	0.000	0.000
Slavonski Brod-Posavina	1	1	1	0.000	0.000	0.000	0.000	0.000
Zadar	1	1	1	0.000	0.000	0.000	0.000	0.000
Osijek-Baranja	1.06073	0.9427	19	0.000	45.186	-74.235	361.277	6.073
Šibenik-Knin	1.14548	0.8730	20	0.000	28.279	-43.359	14.548	89.943
Vukovar-Sirmium	1	1	1	0.000	0.000	0.000	0.000	0.000
Split-Dalmatia	1.05507	0.9478	18	-24.826	179.091	-80.813	5.507	91.345
Istria	1.16346	0.8595	21	0.000	299.046	-98.686	16.346	50.309
Dubrovnik-Neretva	1	1	1	0.000	0.000	0.000	0.000	0.000
Međimurje	1	1	1	0.000	0.000	0.000	0.000	0.000
City of Zagreb	1	1	1	0.000	0.000	0.000	0.000	0.000
Mean	**1.02312**	**0.9793**		**-3.783**	**35.125**	**-26.146**	**20.306**	**26.256**
Median	**1**	**1**		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
SD	**0.04650**	**0.0407**		**11.142**	**78.931**	**35.983**	**76.558**	**51.386**
Min.	**1**	**0.8595**		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Max.	**1.16346**	**1**		**47.307**	**299.046**	**98.686**	**361.277**	**215.568**
CV	**0.04545**	**0.0415**		**2.945**	**2.247**	**1.376**	**3.770**	**1.957**

Source: Author's work based on DEA-Solver-Pro calculations.

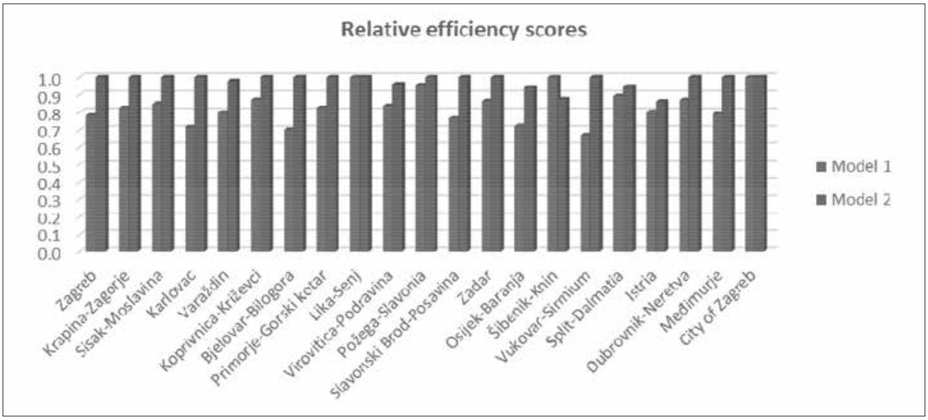
On average the greatest improvement is required in the recovery rate of municipal waste (+35%). This is most pronounced in the case of Istria, which has to increase this rate by nearly 300% (i.e. from 8.02 to 32%). This information is an alarm signaling to local policy-makers the need to take urgent action to improve the waste situation.

Given that the output-oriented model emphasizes output augmentation, input reduction is expected only in cases where output augmentation is insufficient to achieve efficiency. In this model, there are three such cases where the improvements of environmental protection expenditure and investments are required – Primorje-Gorski Kotar (-7%), Virovitica-Podravina (-47%) and Split-Dalmatia (-25%). Similar to the previous model, such requirements do not imply a real reduction in input but mean that the existing output levels can also be reached with less environmental protection expenditure and investments. The major improvements of the remaining indicators are suggested for Istria (CO_2 emission, -99%), Osijek-Baranja (share of treated water in total municipal wastewater discharge, +361%) and Primorje-Gorski Kotar (ratio of production and installed capacity of renewable energy plants, +216%). Although these improvements seem hard to reach, there is evidence to prove the contrary. For example, the CO_2 emission reduction of approximately 99% in the case of Istria means a decrease from 13,425.59 to 176.48 kg per capita. On one hand, this reduction seems unattainable, while on the other hand, four counties have lower CO_2 emissions (Dubrovnik-Neretva with 57.75, Zadar with 112.89, Međimurje with 154.76 and Slavonski Brod-Posavina with 161.99 kg per capita). These facts pose a major threat to environmental sustainability and an imperative to local policymakers to perceive the problems comprehensively and to tailor their decisions on environmental strategies to address contemporary challenges.

3.3. Economic vs. environmental efficiency

A comparison of the two models described above shows their similarities as well as their differences. The differences are most pronounced in the total number of efficient counties and their efficiency scores. According to both these criteria, Croatian counties show higher environmental than economic relative efficiency. A more detailed comparison is given in Figure 2. Bearing in mind that Lika-Senj is only weakly efficient in the second model, it can be easily noticed that the City of Zagreb is the only relatively efficient county according to both models and therefore the most successful. At the same time, Istria and Osijek-Baranja are the least successful – the first one considering the sum of both efficiency scores, and the second one considering the sum of both rankings. Šibenik-Knin is the only county with higher economic than environmental efficiency. Other counties have more or less pronounced differences between the two types of efficiency, in all cases in favor of environmental efficiency.

Figure 2. Relative economic and environmental efficiencies of Croatian counties



Source: Author's work based on DEA-Solver-Pro calculations.

The economic efficiency scores show greater variability than environmental efficiency scores, as confirmed by standard deviations and coefficients of variation. However, when looking at the relative proposed input and output improvements and their standard deviations and coefficients of variation, the conclusion is the opposite. Since two different sets of inputs and outputs are used, they should be taken into account that these improvements cannot be directly compared. However, these findings support the hypothesis of significant cross-country disparities in both economic and environmental performance.

When it comes to correlation, no significant association is found between the economic and environmental efficiency scores of Croatian counties. In particular, the correlation coefficient between these two performance measures is -0.15, which is usually interpreted as a lack of correlation or a weak (negative) correlation. This confirms our second hypothesis that the correlation between the two efficiency measures is negligible. This can be further corroborated by the correlation between the rankings obtained using these two different sets of input/output measures, which is almost twice weaker than the previous one (-0.08).

4. CONCLUDING REMARKS

The relative economic and environmental performances of Croatian counties are empirically evaluated using two output-oriented DEA models with the assumption of variable returns to scale. The mutual comparisons of the counties are carried out based on two sets of indicators and their data for the year 2016 – economic in the first model and environmental in the second model.

Some important and challenging implications for policy and practice, which include economic, social, energy and environmental objectives, can be drawn. Firstly, the City of Zagreb is the most successful county according to both models. The least successful are Vukovar-Sirmium in the first model and Istria in the second model. The efficiency scores averaged across all counties show that the overall inefficiency could be reduced by 16.50% in the first and by 2.07% in the second model. Secondly, relatively major sources of inefficiency are GDP and the number of medical doctors in the first model and the recovery rate of municipal waste in the second model. Thirdly, the significant inter-country disparities in both economic and environmental performance are found, thus proving our first hypothesis. Fourthly, the correlation between economic and environmental efficiency measures is found negligible, confirming our second hypothesis.

The limitation of this research is the unavailability and/or inaccessibility of data series on specific indicators, particularly the production and installed capacity of renewable energy plants. We, therefore, urge policymakers to take this into account and make these and other environmental data available, thus enabling and facilitating more extensive studies. Such researches could span a longer period, thus providing a dynamic picture of the efficiency of Croatian counties and allowing relevant conclusions to be drawn. Those conclusions would then lead to the necessary measures to improve the overall environmental situation in Croatia.

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THE INFLUENCE OF FOREIGN HUNTING TOURISTS ON THE DEVELOPMENT OF HUNTING TOURISM IN THE OSIJEK-BARANJA COUNTY[1]

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Abstract

Special or specific forms of tourism offer development as a reaction to mass tourism and an attempt to add value to it. Hunting tourism, designed for nature and animal lovers, is a special form of tourism product classified in the broader category of adventure and sports tourism. The tourism strategy of the Republic Croatia categorizes hunting tourism as a tourism product with a strong development perspective. The objective of this paper is to present the interest of foreign hunting tourists in all types of hunting grounds in the Osijek-Baranja County and their impact on the possible future development of hunt-

[1] This paper presents the results of the study undertaken as a part of the internal project run by Faculty of Economics, J. J. Strossmayer University of Osijek, named "Market Aspects of Hunting Tourism". The authors of the study are the project director and its members.

ing tourism in the County. An analysis of the structure of hunting tourists and the application of an exponential function mathematical model to the data about the number of foreign hunting tourists in the Osijek-Baranja County 2008-2018 revealed an increase in the number of foreign hunting tourists. Such an interest encourages further investments in the development of hunting tourism and hunting management in Osijek-Baranja County. Despite the protests of certain interest groups (environmentalists, animal protection activists…), true nature lovers, including hunting tourists, do not undermine the ecological balance with their activities such as hunting and wildlife observation and photography but help maintain it. Revenues generated by hunting tourism are primarily invested in maintaining the optimal ecosystem and biological balance, and they indirectly impact the economic and social development of the local community – in this case, the Osijek-Baranja County – through the delivery of various supporting tourism services and amenities.

Keywords: *hunting tourism, hunting management, hunting tourists, Osijek-Baranja County*

JEL Classification: L83, Z32

1. INTRODUCTION

Sports, recreation, outdoor activity, and game hunting using licensed weapons, birds of prey or cameras (photo safari) are the most common motives to take up hunting. This activity requires hunters to actively engage in wildlife management and conservation, environmental protection and habitat protection. Wildlife and habitat management requires a personal investment of time and effort from the hunters, but also considerable financial assets. Revenues generated by hunting tourism and trophy hunting can help secure some of the assets needed. Some business entities and hunting associations with entitlements to operate specific hunting grounds, therefore, work to attract Croatian and international hunting tourists. In the Croatian Hunting Act (Article 7), a hunting ground is defined as "a specific land area that represents an integral natural unit and has environmental and other conditions for the breeding, protection, hunting, and exploitation of game and parts thereof". Hunting grounds are defined "by the type of game that naturally resides in the area or is bred there, the number of game that may be bred in the area, determined by habitat capacities, and the purpose of the hunting grounds" (Article 11). Hunting grounds differ by criteria such as habitat type (field, forest, swamp), game type (big game, small game, mixed), elevation (lowland, highland, mountain), conditions (Pannonian, Dinaric, Adriatic), space (open and closed hunting grounds and breeding grounds), and ownership type (privately owned, state-owned and common hunting grounds). Concerning these criteria, hunting grounds in the Osijek-Baranja county fall within the categories of field, forest, mixed, lowland, largely open, state-owned and common hunting grounds. "State-owned hunting grounds are established in lands that are the property of the Republic of Croatia if they have a surface area of no less than 1,000 hectares of continuous land, allowing the crossing from one cadastral plot to another throughout the hunting ground without trespassing" (The Hunting Act, Article 14, Paragraph 1). If smaller land plots/enclaves belonging to another owner are located within the hunting grounds, they are considered constituent parts of the hunting grounds, and the owners receive adequate compensation regulated by law. These hunting grounds are established by the Minister of Agriculture at the proposal of a special commission with the Ministry of Agriculture. Concessions for state-owned hunting grounds are granted to physical and legal persons who are predominantly in the business of hunting tourism. Concessions are granted under public invitations for tenders for 10-30 years. Under the Hunting Act, common hunting grounds are established in a free land where there are no established privately owned or state-owned hunting grounds and must not be smaller than 1,000 hectares of continuous land. The county authorities are responsible for the establishment or termination of hunting grounds or changes in their demarcation, but the approval of the Ministry of Agriculture is required. Common hunting grounds are leased to hunting associations for 10 years. Since hunting associations are incorporated as associations, non-profit institutions whose mission includes wildlife, habitat and environmental management, they engage in activities of hunting tourism and accommodation of hunting tourists to a much lesser degree. Any revenues generated from these activities are spent solely on wildlife management.

This paper aims to analyze the numbers and structures of foreign hunting tourists in all state-owned hunting grounds in the Osijek-Baranja County in the period 2008-2018 based on secondary sources of information, and use an exponential function mathematical model to demonstrate any trends (decline or increase) in these eleven years. Data thus obtained will help the local authorities decide if it is necessary to intensify further development of hunting tourism as another specific tourism product offered by the Osijek-Baranja County, and to what extent. The paper is based on the following hypotheses:

H-1: Foreign hunting tourists greatly impact the development of hunting tourism in Osijek-Baranja County because they expect to be provided with adequate accommodations in natural settings and other supporting services in addition to hunting.

H-2: The development of hunting tourism indirectly impacts the economic and social development of Osijek-Baranja County.

2. HUNTING TOURISM

Intensive development of hunting tourism and other special forms of tourism (health, cycling, wine, religious, rural tourism, etc.) started in the late 20^{th} century. These new forms of tourism have been termed "new tourism" as opposed to "old", mass tourism. These forms of tourism offer analyzed through tourists' interactions with nature, heritage, and the local population, add value to mass tourism and redesign it (Jadrešić, 2010).

There are many definitions and explanations of hunting tourism. One of the existing definitions describes it as "travel and active visit of hunting tourists to a specific area – hunting ground – as a part of a healthy natural environment to hunt (kill, capture, observe or photograph) game, by which its participants (hunting tourists) satisfy a powerful motive (primary hobby activity that some consider an affinity, and others a passion). In the process, hunting tourists pay a fee for the game they shoot (trophies, meat, skin, etc.), for supporting services (professional guides, transport, etc.), accommodations and food at adequate catering establishments, and other services they may purchase, according to applicable rates" (Prentović, 2014, 24). Unlike some other specific forms of tourism, hunting tourism includes recreational, environmental, economic, educational and cultural functions at the same time (Prentović, 2014).

The environmental function of hunting tourism is reflected in ensuring the availability of the game in an authentic natural habitat/hunting ground and providing hunting tourists with high-quality accommodations in such a natural environment. Unlike some other forms of tourism, especially mass tourism, which cause changes, conflicts and deterioration of natural resources and environments and have an expansive, aggressive and destructive effect (Alfier, 1972, as cited in Jadrešić, 2010), hunting tourism strives to preserve the original quality of the environment and biological wildlife habitats. The educational function of hunting tourism is reflected in continuous education and training of employees who provide services related to hunting tourism as well as the hunting tourists themselves about habitats, wildlife, hunting methods, and wildlife observation. The economic function is reflected in revenues and expenditures generated by hunting tourism. The revenues come from predefined fees for game shooting (meat) and trophies (especially if they qualify for some of the medals), and the expenditures are generated by investments in hunting ground infrastructure and maintenance of optimal wildlife numbers, the so-called hunting management basis, acting as drivers of tourist demand. The cultural function of hunting tourism is to provide cultural amenities in a destination, including local events and possible visits to museums and other cultural institutions, which add value to the hunting experience. "Experiences have shown that many users of hunting tourism services exhibit the need and the interest in learning about the cultural assets of a specific tourist destination in addition to their primary activity, hunting" (Prentović, 2014, 26). In performing the above functions of hunting tourism, we must keep in mind that the consumers of this tourism product belong to a specific market segment, composed of hunters and wildlife and outdoor enthusiasts, who are largely men of a mature age, prepared to spend a certain amount of money on their outdoor activities and their hobby.

Since certain wildlife numbers in their natural habitats, namely forests, farmlands, and rural areas, are required to provide hunting tourism services, we may conclude that hunting tourism is complementary to rural tourism and ecotourism. These two forms of tourism offer contribute to the development of green tourism, and due to their mutual connection and complementariness, the same can be said of hunting tourism. The practical application of green tourism means "reduced environmental footprint, contribution to conservation targets, increased competitiveness and market resilience, creation of new business opportunities, broad application with the help of EU funds, and increased profit and benefits for the local economy" (Carić, 2018, 79).

2.1. Hunting Tourism in the Osijek-Baranja County

Osijek-Baranja County has a long tradition of hunting tourism. Like any other market, the hunting tourism market is governed by supply and demand, costs and benefits, and national and international regulations (Ružić, Banožić, Tolušić, 2016, 351). It is distinguished by the specific resources offered as a tourism product, but also by its specific market demand segment. Hunting tourists, even though traditionalists who prefer familiar ways of hunting, are also looking for new experiences and trophies in new, safe hunting destinations (Tolušić, 2019).

In the Osijek-Baranja County, hunting tourism services are offered by the company Hrvatske šume d.o.o., (Croatian Forests), Forest Administration Osijek, and business entities that have the required resources (hunting grounds and wildlife), as well as a smaller number of hunting associations. According to the statistics of the Hunting Federation of the Osijek-Baranja County, there are 109 such associations in the County. As of 2010, the company Hrvatske šume d.o.o., Forest Administration Osijek, has been very active in providing hunting tourism services. In addition to operating the largest surface area and the highest number of hunting grounds, namely state-owned hunting grounds that the company has concessions for, it also operates five hunting lodges near the hunting grounds, capable of accommodating more than 70 hunting tourists. The sizes of hunting grounds operated by individual concessionaires are shown in Table 1.

Table 1. Size of state-owned hunting grounds and concessionaires in the Osijek-Baranja County

State-owned hunting ground concessionaires	Hunting ground/ha/
Hrvatske šume d.o.o.	38,842
Balkan lov d.o.o.	10,250
L.o. Troga	3,831
Nenado-trade d.o.o.	6,832
Fermopromet d.o.o.	8,925
Agria d.o.o.	1,766
Gavran d.o.o.	5,738

Source: Administrative Department for Agriculture and Rural Development of the Osijek-Baranja County, Information on the Organization and the Situation in Hunting and Fishing in the Osijek-Baranja County, September 2017

Table 1 above shows that there are considerable differences in hunting ground surface areas in Osijek-Baranja County. Hrvatske šume d.o.o., Forest

Administration Osijek operates the largest hunting ground surface area in comparison with the other business entities (listed in Table 1) in the business of hunting tourism. Considering the resources at their disposal (hunting grounds, game numbers, hunting lodges), Hrvatske šume d.o.o. has become the leader in providing hunting tourism services. The company often acts as a broker in addition to its role as the organizer of hunting tourism services, generating extra demand and attracting more guests. We may conclude that its position is almost monopolistic in comparison with the other business entities operating state-owned hunting grounds.

According to the data of the Croatian Bureau of Statistics, in recent years the Osijek-Baranja County receives a total of around 90,000 tourists. According to the internal data of Hrvatske šume and the other business entities and the hunting associations providing hunting tourism services, hunting tourists account for about 600, or about 6%, of the total number of tourists who visit the Osijek-Baranja County. Even though the share of hunting tourists in the total number of tourists seems very small, we must keep in mind that hunting tourism services are expensive, and that hunting tourists are high-income individuals who are prepared to spend a considerable amount of money on their hobby, and that considerable revenues are consequently generated by hunting tourism.

2.2. Foreign Hunting Tourists

We may track the number of foreign hunting tourists in the Republic of Croatia and the Osijek-Baranja County through the official statistics reports as well as through the number of licenses issued to hunters who are not Croatian nationals. Under the Hunting Act, the Croatian Hunting Federation issues hunting licenses to foreign hunting tourists at the request of the beneficiary of the hunting rights for a particular hunting ground. The issued hunter identification cards are valid for one year since the date of the issue in the entire territory of the Republic of Croatia for multiple hunts or tourist arrivals. The trends concerning the number of hunting licenses issued to foreign nationals in the Osijek-Baranja County for all hunting grounds (state-owned and common) in the period 2008-2018 are shown in Table 2.

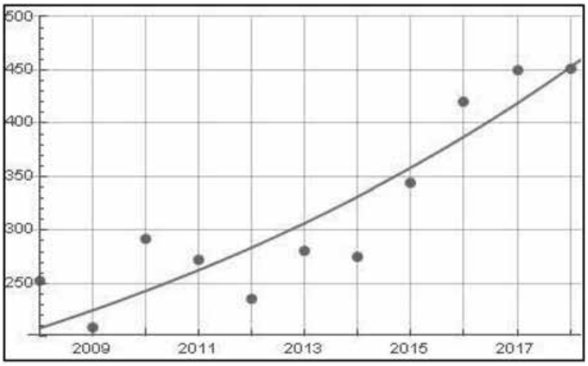
Table 2. Hunting licenses issued to foreigners in the Osijek-Baranja County

Year	State-owned hunting grounds	Common hunting grounds	Total
2008	175	78	253
2009	94	115	209
2010	173	119	292
2011	211	62	273
2012	162	74	236
2013	156	125	281
2014	172	103	275
2015	254	90	344
2016	294	126	420
2017	315	135	450
2018	297	155	452
Total	**2,303**	**1,182**	**3,485**

Source: Hunting Federation of the Osijek-Baranja County

An analysis of the number of licenses issued to foreign hunting tourists in the period 2008-2018 shows oscillations in the number of issued licenses, presented using the exponential function mathematical model, amounting to $f(t)=208.216e^{0.0776398t}$, which means that the estimated corrective average annual growth rate is 7.8% (Figure 1).

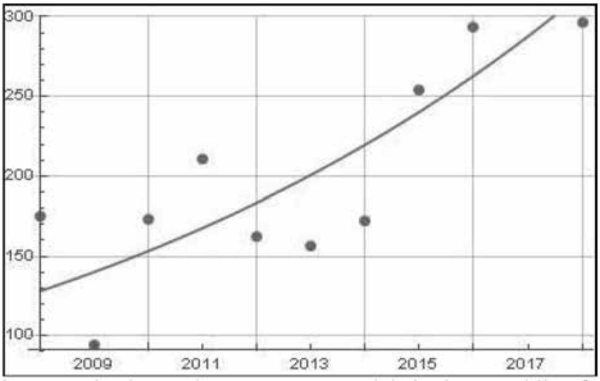
Figure 1. Total number of hunting licenses issued to foreign hunters in the Osijek-Baranja County



Source: Tolušić, Z (2019). Hunting organization and management models in the Republic of Croatia. Doctoral dissertation, p. 177.

If we analyze only the number of hunting licenses issued to foreign hunters in state-owned hunting grounds in the same period and use the exponential function model, the average growth rate is higher and amounts to $f(t)=128.099e^{0.090t}$, i.e. the average annual growth rate is 9% (Figure 2).

Figure 2. Total number of hunting licenses issued to foreign hunters in state-owned hunting grounds in the Osijek-Baranja County

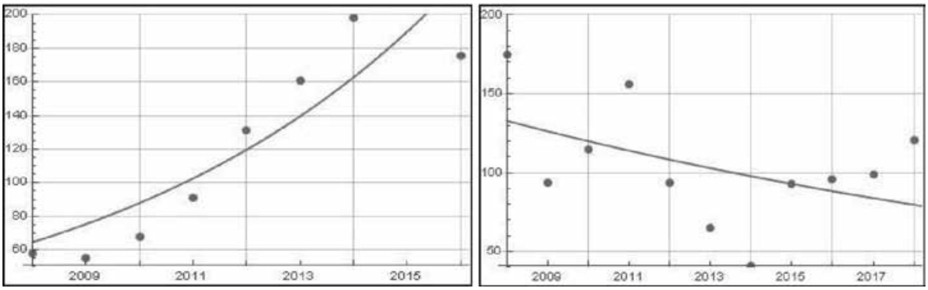


Source: Tolušić, Z (2019). Hunting organization and management models in the Republic of Croatia. Doctoral dissertation, p. 177.

As stated above, Hrvatske šume d.o.o., Forest Administration Osijek is the largest concessionaire, operating the largest number of hunting grounds. As of 2010, the company has been increasingly active in hunting tourism, adapting the existing infrastructure to the tourist needs of the hunting tourists. Other business entities in the sector of hunting tourism, namely Balkan lov d.o.o., Lovni obrt Troga, Nenado-trade d.o.o., Fermopromet d.o.o., Agria d.o.o. and Gavran d.o.o., also holds the rights to operate state-owned hunting grounds in the Osijek-Baranja County based on concessions issued to them. If we analyze and use the exponential function model on the number of licenses issued to foreigners that were requested by Hrvatske šume d.o.o., Forest Administration Osijek, in comparison with the other business entities, the average annual growth rate of licenses issued to foreigners in Hrvatske šume, d.o.o., Forest Administration Osijek is 15.4%, i.e. $f(t)=64.678e^{0.154t}$, while all other entities had an average negative change rate of -5.1% ($f(t)=132.802e^{-0.051t}$) as shown in the graph below (Figure 3).

Figure 3. Hunting licenses issued to foreign hunters in the state-owned hunting grounds operated by Hrvatske šume d.o.o., Forest Administration Osijek (a) and other business entities (b) in the Osijek-Baranja County 2008-2018

a) b)



Source: Tolušić, Z (2019). Hunting organization and management models in the Republic of Croatia. Doctoral dissertation, p. 178.

Figure 3 confirms the domination of Hrvatske šume d.o.o., Forest Administration Osijek in hunting tourism. We can expect a further increase in the number of issued licenses and the number of hunting tourists but respecting the sustainability of wildlife numbers and habitats that the viability of hunting tourism depends on in the long term. If we analyze the total number of hunting licenses issued to foreigners in the eleven years in question, we find a minimal difference of six issued licenses in favor of Hrvatske šume (Σ 1 154) about the other specified business entities (Σ 1 149). Such a ratio and trend, shown in Figure 3, points to the conclusion that in the case of Hrvatske šume, in addition to larger hunting ground surface areas and wildlife numbers, providing hunting tourism infrastructure and hunting management has a substantial impact on the development of hunting tourism.

If we analyze the number of hunting licenses issued to foreigners requested by hunting associations, which operate hunting grounds on a lease basis, we also see that there is a growing trend in the same period, even though, according to the exponential function, it amounts to 5.3% ($f(t)=132.802e^{-0.053t}$) However, we must underline that the county hunting grounds are operated by more than a hundred hunting associations in the Osijek-Baranja County of different sizes, different hunting ground types, and different conditions for the hunting tourism business. Since hunting associations are organized as non-profit institutions under the law, they are not allowed to engage intensively in an activity that would generate revenue and profit. The revenue generated occasionally from hunting tourism services, which is generated solely from the game shooting fee, is used solely to upgrade the society's activities and conserve the hunting grounds and the wildlife residing in it.

The issued hunting licenses, which are always issued to a single individual, allow us to analyze the structure of hunting tourists by their countries of origin (Table 3).

Table 3. Hunting licenses issued to foreign hunters by their countries of origin in the period 2008-2018

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Σ
Austria	13	15	23	24	36	28	28	53	92	78	24	414
England	70	40	48	59	67	-	-	28	3	55	54	424
Germany	13	13	18	6	1	19	23	24	41	42	39	239
France	-	4	11	14	1	2	35	15	47	31	48	198
Italy	39	11	17	17	9	2	13	10	16	4	22	160
Bosnia & Herz.	1	2	3	4	-	14	7	11	22	27	30	121
Serbia	27	3	6	12	13	22	6	14	27	8	2	140
Czech Rep.	2	2	11	16	6	7	8	22	19	8	13	114
Other	10	4	46	59	29	62	52	77	27	62	65	493
Σ	**175**	**94**	**173**	**211**	**162**	**156**	**172**	**254**	**294**	**315**	**297**	**2,303**

Source: Prepared by authors based on the data of the Hunting Federation of the Osijek-Baranja County

Table 3 above shows that most hunting tourists come from Europe, and the majority come from Austria, England, and Germany, countries that take a "sporty" view of hunting and value hunting and shooting style under the influence of their aristocratic traditions (Pinet, 2009). The second group is composed of hunters from neighboring countries (Italy, Bosnia and Herzegovina and Serbia), and the third significant group is composed of hunters from other European countries (Sweden, Norway, Poland, Hungary) and other continents, predominantly North America.

The number of foreign hunters who only hunted in hunting grounds operated by Hrvatske šume d.o.o., Forest Administration Osijek, divided by their countries of origin, is shown in Table 4 below. These hunters account for 35% of the total number of hunting licenses issued.

Table 4. Hunting licenses issued to foreign hunters by their countries of origin in the period 2008-2018 for hunting grounds operated by Hrvatske šume d.o.o., Forest Administration Osijek

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Σ
Austria	-	-	13	13	35	23	27	32	67	54	21	**285**
Germany	-	-	14	3	1	9	21	23	20	24	20	**135**
France	-	-	1	-	-	2	35	15	45	21	14	**133**
Italy	-	-	3	15	8	-	12	10	13	-	18	**79**
Czech Rep.	-	-	-	-	2	4	8	14	13	8	13	**62**
Slovakia	-	-	-	-	-	11	21	12	5	3	10	**62**
Bosnia & Herz.	-	-	-	2	-	3	1	9	14	15	16	**60**
Σ	**-**	**-**	**31**	**33**	**46**	**52**	**125**	**115**	**177**	**125**	**112**	**816**

Source: Prepared by authors based on the internal data of Hrvatske šume d.o.o., Forest Administration Osijek

Data from Table 4 above show that the interest in hunting in the hunting grounds operated by Hrvatske šume d.o.o., Forest Administration Osijek, is the highest among hunting tourists from Austria, Germany, and France, countries with a long tradition in hunting that provide hunting tourism services themselves. Such a structure of foreign hunters confirms the fact, stated earlier, that hunting tourists are traditionalists who prefer familiar hunting methods and destinations, but still like new experiences and challenges.

3. CONCLUSION

In addition to be a form of entertainment and a sport, hunting is increasingly becoming a new way of generating revenues through hunting tourism. Despite criticism from "environmentalists" and "animal lovers", hunters and other hunting stakeholders manage wildlife and habitats, which are affected by the constant changes (industrialization, urbanization, commercialization) as much as the environment and the human society. Due to the importance of maintaining biodiversity and natural habitats, and generating certain revenues through hunting tourism, the Osijek-Baranja County is working on developing its tourism offer by connecting rural, eco- and hunting tourism, complemented by additional cultural and entertainment amenities.

Hrvatske šume d.o.o., Forest Administration Osijek is the most successful hunting tourism provider in the Osijek-Baranja County in the past decade. In addition to larger hunting grounds and more game, as primary resources, the company also offers adequate accommodations and other supporting amenities to hunting tourists. This is of special importance for foreign (European) hunters, who are used to adequate tourism amenities. The lack of accommodations and supporting amenities is one of the reasons for the lower success rate of the other business entities providing hunting tourism services, especially hunting associations. Hunting associations are limited not only by a lack of resources needed to provide hunting tourists, especially foreigners, with accommodations and other services but also by legal regulations.

The upward trend in the interest of foreign hunters in the past eleven years indicates that there are potentials for further development of hunting tourism, taking into account the sustainability of habitats and wildlife but only provided that all service providers, and not just Hrvatske šume, expand their range of services and improve their quality. To make this happens, the hunting tourism offer should be the result of joint efforts of hunting service providers and other institutions, such as tourist agencies, which should operate as brokers between hunting tourists, family farms and other business entities providing hospitality services, accommodations services or other services supplementing the activity of hunting and outdoor sports.

We may conclude from all of the above that both our hypotheses have been confirmed: the arrival of foreign tourists and the satisfaction of their needs require the development of the necessary infrastructure for accommodations and other services not strictly associated with hunting. Also, providing other amenities outside of hunting allows other business entities to network and get involved in the generation of revenues, by which they, and indirectly the general community, derive certain benefits.

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RURAL TOURISM IN CROATIA: THE ACADEMIC COMMUNITY CONCLUDES

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Abstract

Rural tourism in Croatia does not enjoy the place and significance that it deserves, be it in the institutional, strategic, developmental or academic sense. In the strategic sense, given the constant investment in tourism in the maritime area, rural tourism in the maritime area developed in parallel with the maritime tourism, although at an unequal speed. However, its development was unreachable to the development of the rural area of Continental Croatia. Institutionally, rural tourism is neither strategically, legally nor statistically defined, nor defined in the sense of marketing and otherwise, which is, to say the least, unprofessional and developmentally improper. When it comes to the educational system, the matter of rural tourism is mostly structured – with an exception of only one institution of higher education (Virovitica College) – through optimal courses with lecture hours that are insufficient to deal in a grounded manner with only the theoretical basis which is fundamental for understanding further matter topics. There are only a few enthusiastic scientists in the academic community of the Republic of Croatia who research and write *on the topic of rural tourism, which is certainly not enough for its further development. Therefore, the authors of this paper have undertaken the challenge of using the appropriate scientific methods to show the real state of rural tourism in Croatia. The real scientific and professional challenge for the authors was to provide a cross-section of the most important results, of still (in 2020) the only research involving national tourism policymakers and co-creators and rural family farm owners.*

Keywords: *rural tourism, agritourism, research, academic community*

JEL Classification: Z30, Z32

1. INTRODUCTION

In the academic community, a small number of authors have written about rural tourism from the theoretical and empirical levels. According to Tubić (2019), the findings to date are the result of sporadic attempts by a small number of eminent authors (e.g. Kušen, 1995; Jelinčić, 2007; Demonja and Ružić, 2010; Brščić et al, 2010; Baćac, 2011: Tubić, 2012; Tubić et al. 2015; Tubić et al. 2017; Tubić et al. 2018; Tubić et al. 2019). It is needless to say that only three authors working in the system of higher education have received a doctorate in rural tourism. In 2015 Dejan Tubić defended his doctoral thesis *Model of rural tourism development in Continental Croatia* at the Faculty of Economics in Osijek, while Sandra Kantar defended her doctoral thesis *Development of sustainable rural tourism: potentials of Koprivničko-križevačka county* in the same year at the Faculty of Philosophy of the University of Zagreb. Last, in the row, Mateja Petračić defended her Ph.D. *The Entrepreneurial Projects in Sustainable Development of Rural Tourism* at the Faculty of Tourism and Hospitality Management. A comprehensive study of rural tourism at a higher scientific level is a necessary step towards a better practical understanding and applicability of the day-to-day life of stakeholders, whether they are national tourism policymakers and creators or rural family farm owners. A scientific-expert analysis and review of available databases show that there is only a modest database of theoretical and empirical knowledge in the Croatian academic community. Therefore, the main aim of this paper is to present the theoretical and empirically grounded knowledge of Croatian scientists and experts at the research level.

2. RURAL TOURISM: TERMINOLOGY

The first step in the academic study of the development of rural tourism is the need for a well-founded scientific and expert approach to address terminological concerns and questions. This approach begins with the proper definition of the term rural. The first shows that there is no generally accepted definition of a rural area. Page and Connell (2006) say that there is twofold thinking about the definition of rurality:

- first, since there is no unambiguous way of defining rural areas, there is no purpose for definition as it is not relevant to those who live and work in rural areas
- second, the distinction between rural and urban is extremely important for rural development planning and policy, making the definition crucial, as well as defining the basic parameters of a rural area (Page and Connell, 2006).

Ruzić (2011: 4) believes that rural areas can be defined terminologically by the following definitions:

- The rural area is an area outside of urban areas with low population concentration, dominated by farmers' interest and characterized by a special social structure (customs and rural identity)
- The rural area is an area whose economic development is based on traditional agriculture, which is beyond the influence of larger cities and towns that directly affect their development, and in their character, these areas are in contrast to urban ones.

Applying different methodological criteria in determining the rural area produces different results and classifications. For this paper, the authors will use the revised urban-rural methodology based on the use of a 1x1 km2 grid concerning the detected deficiencies of the OECD methodology. The urban-rural methodology is based on a simple two-step approach to identifying population in urban areas:

- population density threshold (300 inhabitants per km²) applied to grids of 1 km²
- a minimum size threshold (5,000 inhabitants) applicable to clustered grids above the density limit (Eurostat, 2010: 242)[1].

[1] In the new typology, Croatia is a predominantly rural country with a rural area share of 79.1%, with 56.7% of the total Croatian population.

In a broad spectrum of definitions of rural tourism (Tubić, 2015), the key definition will be the one created by the OECD for two fundamental reasons. The first reason is that it is the only definition that follows the methodology of defining a rural area and the second reason is that it the most comprehensive in terms of content (Tubić et al., 2019.). The definition by the OECD (1994: 34-35) reads as follows: "*Rural tourism fundamentally takes place in rural areas and is primarily in the function of agriculture. It is based firmly on the agricultural world with special features of the open space, the contact with nature, the rural heritage and the society. Rural tourism must be in an agreement with the environment and the social community in which it takes place. The community includes less than 10,000 people and it includes the farms inside that area of work. The focus of rural tourism is oriented towards a whole line of sustainable business subjects and the community inside the rural area. The goal of rural tourism is ensuring long-time sustainability of life in the region where it takes place; it must be a force for the preservation of the rurality and not a force of urbanization.*" It is also important to give a critical observation to the authors of OECD's definition of rural tourism, the content of which is not of a complementary character, i.e. it does not include tourist consumers or the Government. Although this definition is flawed like any definition, it is, nevertheless, still the most comprehensive one when it comes to the content and character today, concludes Tubić (2019: 96) based on a comprehensive analysis of 25 definitions of foreign and national authors. With the fundamental purpose of minimizing the unjustified mixing of the three key terms (rural tourism, village tourism, and agritourism). Tubić (2015: 68-69) proposes that rural tourism should be terminologically equalized with village tourism since all three forms of tourism are defined by the rural area and, unlike agritourism, they can be primary and/or secondary sources of income without depending on the agricultural activity. In conclusion, rural tourism stands as a synonym for village tourism and conversely, while agritourism stands as a manifestation of rural, i.e. village tourism.

Furthermore, since it is a well-known fact that agritourism is the fastest growing form of rural tourism and that it is by studying this form of tourism that the real situation in the field of rural tourism is created, it is necessary to define precisely this form of tourism. For this work, the authors will use the definition of agritourism proposed by Tubić (2019) in his book *Rural tourism: from theory to empirics*, where he analyses 50 definitions of national and foreign authors according to the following four definitive elements of comparability:

- type of environment (e.g. farm and/or other types of the agricultural environment)
- the authenticity of agricultural infrastructure and experiences, especially connected to working operations
- type of activities involved, especially accommodation and education
- ontological question relating to the need for "travel" about the use of the word "tourism" (agritourism) in its definition.

Tubić (2019: 180) clarifies that: *"The results of the research indicate that none of the 50 definitions analyzed contains all the defining dimensions in their terminological construction, which is certainly a strong and irrefutable argument for the ubiquitous definitional inconsistency and misunderstanding of the term agritourism in existing literary sources. The attached definitions indicate that they are based on the link between tourism and agriculture or the contact of tourism and agricultural activities, which is a logical sequence in the basic terminological understanding".* Tubić (2019: 181) argues with a firm and scientifically grounded stance that the definitions of agritourism need to be analyzed according to the segment of stakeholder involvement and the dimension of sustainability, primarily because each stakeholder has a justified interest and responsibility in the development process, regardless of whether it is of an economic, socio-cultural or environmental character. Tubić (2019: 181) further adds that tourism literature most frequently highlights four groups of stakeholders, namely:

- holders and providers of agritourism products and services,
- local development policymakers and presenters of the local (rural) lifestyle,
- consumers of tourism products and services,
- creators and co-creators of national tourism policy.

The analysis of this segment of definitions points to the following results:

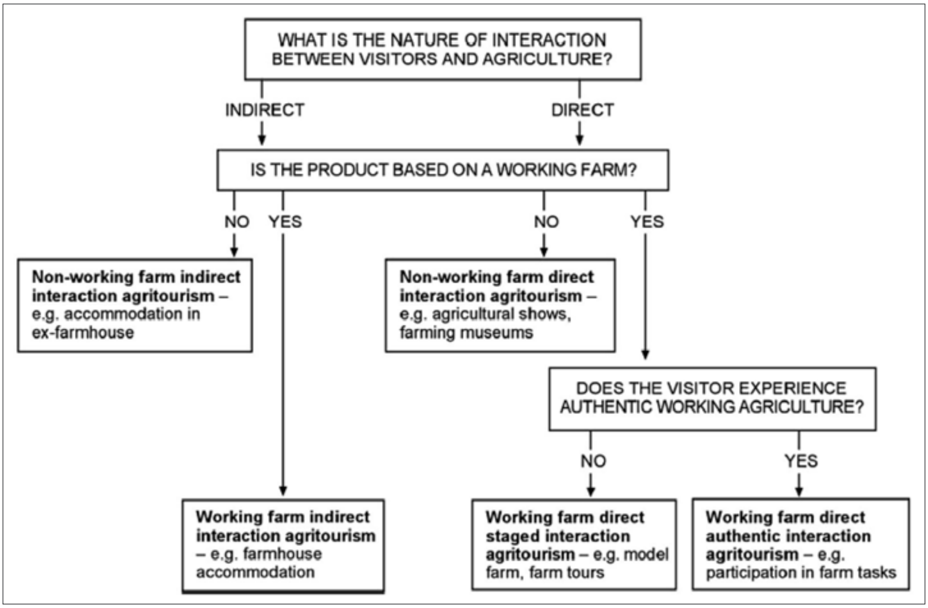
- 36% of definitions, i.e. 18 of them do not include the interest and responsibility of any of the stakeholders in its terminological construction
- in chronological order, tourism consumers (20/62.5%), farm owners/ farms (17/ 53.1%) and the rural community (6/18.7%) are represented most frequently, while national tourism designers and co-creators are the policies are not mentioned in any context

- in its construction, no single definition contains all three dimensions of sustainable development (Tubić, 2019: 181-184).

Considering the extreme complexity of the entire tourism system, Tubić (2019: 181) firmly states the view that the terminological, i.e. theoretical understanding of the phenomenon of agritourism presents the first step to be overcome towards the successful practical application and business, regardless of what perspective we look from. By far, the most comprehensive definition of agritourism in the Croatian academic community, and presumably in the global academic community, as pretentious as it sounds, is that of Tubić (2019: 186), which states: *"Agritourism is a manifestation of rural tourism, which implies a temporary movement of tourists outside the usual environment of permanent residence, includes short and long-term visits to an active or passive agricultural, horticultural or other business entity in a rural area for education and entertainment where providing tourist services is an additional activity that enhances and creates higher value for agriculture as a primary activity, which also brings added benefits and opportunities of economic, socio-cultural and environmental character to business owners, the local community and the environment while enabling tourists to gain unique experiences and experiences about agriculture and the everyday life of the local population and the authentic rural climate in general."*

Terminological inconsistency can also be seen in the typological sense. There are numerous criteria for a typological distribution. The authors of this paper have chosen the one based on the nature of the interaction between tourists and agriculture, the product of the working farm and the degree of tourists experiencing authentic working agriculture, by Flanigan, Blackstock, and Hunter (2014), which is shown in Figure 1. It should be emphasized here that this typology is the revised typology of Phillip et al. (2010), and certainly contributes to a better understanding of agritourism.

Figure 1. A revised typology for defining agritourism



Source: Flanigan et al. (2014: 399)

3. RURAL TOURISM: FROM THEORY TO EMPIRICS

The debate on rural tourism and agritourism needs to be introduced by recent findings and results, which are in chronic deficit in the Croatian academic community and practice in every sense of the word. At the beginning of 2020, the scientific book Rural tourism: From Theory to Empirics authored by Ph.D. Dejan Tubić was published and it is almost an isolated example of such literary material. Also, Tubić is the author of the only research (2015) which included national tourism policymakers and co-creators and owners of rural family farms. The study was conducted on a total sample of 30 respondents from the field of institutional support and 107 respondents, holders of the tourist offer in the rural area of 13 continental counties. The results of this only research, obtained through the application of appropriate scientific methods, indicate that rural tourism, and thus its fastest-growing base, is developing below its real potential. An interesting fact is that although often perceived as two opposing parties in everyday social thinking, national tourism policymakers and co-creators and owners of rural family farms say that institutional support is in every sense underdeveloped, in all its five components. In other words, the rural tourism strategy has never been drafted and although it has been written and talked about for over a decade, there is no statistical basis for marketing activities at the national level. In the most minimal sense, these words include rural tourism, the legislation is complicated, and it enters the areas of different resource ministries, which causes a confusing situation in the real sector. Moreover, interest associations in tourism are almost non-existent, primarily due to the negativity of past privatization and cooperation. Focusing only on the component of interest association[2], Tubić (2015) said that 78.50% of rural family farm owners did not recognize the significance of associating in interest associations. From the distribution of arithmetic means given in Table 1, the previous claim is confirmed on a scientific and expert basis.

Table 1. Impact of cluster (interest) association on selected business dimensions

Business dimension	None	Smail	Moderate	Strong	Exceptionally strong	Arithmetic means
Transfer (exchange) of information, knowledge, and technology between affiliated tourism economies and state institutions	31 29.25%	12 11.32%	27 25.47%	15 14.15%	21 19.81%	2.84
Overcoming deficiencies and building the competitiveness of all interconnected tourism stakeholders	33 31.43%	13 12.38%	26 24.76%	21 20.00%	12 11.43%	2.68
Creating a distinctive and complete rural tourism product	30 28.04%	25 23.36%	27 25.23%	14 13.08%	11 10.28%	2.54
Joint marketing and appearance in the domestic and international markets	42 39.62%	16 15.09%	19 17.92%	16 15.09%	13 12.26%	2.45
Reducing business costs and increasing productivity and innovation	42 40.00%	20 19.05%	28 26.67%	8 7.62%	7 6.67%	2.22
Specialization, stability, economy and flexibility	45 42.55%	16 15.09%	31 29.25%	7 6.60%	7 6.60%	2.20
More favorable procurement of goods and services for a smooth and successful business	48 44.86%	23 21.50%	18 16.82%	11 10.28%	7 6.54%	2.12

Source: Tubić, (2015: 279).

The creators and co-creators of the national tourism policy, as Tubić (2015) states, conclude that the role of the cluster (interest association) is unrecog-

[2] The authors have written about other components of institutional support in previous papers at this conference, which presents the final scientific-professional story.

nized by the providers of tourism products and services in the rural area of the Republic of Croatia. Building on the previous claim, 27 (90%) respondents from the field of institutional support stated that the cluster, as a model of business success, was met with disinterest and even skepticism among economic operators. Besides, only 3 (10%) of the respondents said that there were positive developments, however small for this type of business. According to the results, Tubić (2015: 290) concludes that tourism entities from rural areas are predominantly small economic entities, and with another indispensable fact that horizontal tourism is a highly specific activity due to its horizontal and vertical nature. Therefore, strategic linking and coordination of entities from the state, county and local levels with scientific-professional organizations and institutions as well as the media are necessary to realize the numerous benefits that the interest association encourages. In conclusion, it should be emphasized that alliances in strategic partnerships, i.e. interest associations in developmental terms, are the basis for a long-term and sustainable development of rural tourism.

4. CONCLUDING CONSIDERATIONS

The results indicate a terminological misunderstanding of the meaning of terms of rural tourism and agritourism, although this is a necessary step towards institutional and practical development. Since the author of this work is also the author of the mentioned scientific book Rural tourism: From Theory to Empirics, the concluding considerations will outline the facts stated in that book. In the scientific and professional sense, there is an insufficient base of theoretical and empirical knowledge. At the national level, only one official survey has been conducted, although now 12 years old, which is certainly another proof of institutional disinterest for the development of this globally growing type of tourism. Also, the presented research from 2015 is a solitary example of the involvement of key stakeholders from the national, regional and local levels, and only this scientific and professional approach can identify a complete picture of the existing stage of development (Tubić, 2019: 296). Despite numerous limiting factors, the authors of this paper consider that:

Rural tourism is becoming a field of more intensive scientific and professional research in Croatia's academic community!

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Miscellaneous Categories

TECHNICAL STONE EXTRACTION BUSINESS IN CROATIA

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Abstract

Despite common belief, mining of stone is possible and existing in Croatia. Based on National classification of activities (NKD 2007), section 08 – Other mining and extraction, there are hundred ninety-eight companies registered mainly for that business in Croatia. Their business is mining, processing and selling final products of stone, sand, and gravel. The business is hard as it has a lot of legal requirements to be fulfilled - the capital barriers are high, and the market for the final products very unstable and cyclical. Most importantly, there are not a lot of areas of Croatia that have mineral reserves suitable for extraction. All dough the business is almost insignificant based on its share of revenues of all entrepreneurs in Croatia (0,21%), their significance is great and almost strategic for Croatia because their products are important for other, much larger industries, especially construction. No construction of roads, embankments, houses, other buildings, etc. is possible without their products, so they hold the key for producing immovable goods in Croatia.

This paper aims to analyze the available data of the precise performance of companies conducting such business in Croatia based on the figures for 2018, their importance for regional development and construction industry and the perspective for the future development of such business in Croatia. The research will be conducted using monitoring, comparison and compiling of the available data.

Keywords: *Mining in Croatia, technical stone, construction material, revenues, profitability*

JEL Classification: L72

1. INTRODUCTION

Mining plays an important role in the economy of most countries. Mining is going through hard times in Croatia. Almost all companies in Croatia are struggling with insolvency, high energy prices, the crisis, lack of the government's stimulating measures for investments, and various taxes and duties. The problems that entrepreneurs in the mining industry are facing are real and justified in most cases. These problems concern the non-alignment of the mining regulations with the regulations governing zoning planning and construction, environmental protection and conservation, and concessions. The biggest problems are the conflict and the lack of coordination between the government authorities responsible for mining and other government authorities that have a substantial influence on the mining industry in various stages of the procedure.

There was not a lot of research done on the economics of mining in Croatia and the characteristics of mining entrepreneurs. The closest research to this one was conducted by the authors of this paper based on 2017. data for east Croatian companies (mining companies working in Slavonija), and its goal was to find an answer on the following hypothesis:

1. Percentage of the annual gross salary cost in annual revenues of mining companies in Slavonija is less than 15%
2. All entrepreneurs in Slavonija with revenues above 10.000.000 HRK are profitable
3. The average net salary in mining is lower than the average net salary in Croatia for 2017
4. Entrepreneurs in mining in Slavonija with 20 or more employees are surely profitable
5. The percentage of added value in mining in Slavonija is 20% or more of revenues

That research showed that in Slavonija the percentage of gross labor cost in revenue was 12,8%, that a lot of things affect the profitability of a mining company in Slavonija (not just revenues being above or below 10 mil HRK), that the net salary is 27,9% lower than the state average, that above 20 employees guarantees profitability (a well-formed team, all crucial tasks are covered) and that the observed mining companies on average have a 25,99% added value in their revenues what makes it a very favorable branch of the economy

(Vukadinović, Tadić, Tatarin,2019). That research was compared to this one focused on Slavonija, used 2017 figures and used only one of the available classifications in the business.

This paper focuses on whole Croatia, uses last available figures for 2018 and uses all the classifications of business that cover companies engaged in technical stone production.

2. COMMERCIAL CLASSIFICATION OF STONE

Based on its application, stone materials are divided into two groups: crushed stone and natural or dimension stone.

2.1. Crushed stone

According to the Mineral Raw Materials Management Strategy of the Republic of Croatia, crushed stone is designated as a mineral resource that requires special attention in terms of integrating its exploitation fields into physical planning documents while taking into consideration the fact that crushed stone is predominant in terms of approved exploitation fields of solid mineral resources. The situation is even more pronounced if you add allocated exploration areas into the equation. A shortage of crushed stone of igneous and metamorphic origin is characteristic of the Republic of Croatia. Consequently, this indicates that new exploration areas intended for exploration of the aforementioned mineral resources should be opened. The crushed stone represents a mineral resource with a low market price, the use of which is limited due to transport costs.

Non-metal mineral resources that are blasted and exploited are also classified under the crushed stone group. They are used as stone chippings for the manufacture of bituminous materials used on roads and its crushed form is used for construction and maintenance of roads. It is also used as an aggregate for the manufacture of concrete, as stone rubble and rubble used for masonry, as crushed stone for ballast construction and manufacture of materials such as binding and thermal insulation materials. Some base construction materials that also belong to this group of materials are sand and gravel. (Dunda, Kujundžić, Globan, Matošin, 2003).

Based on its mineralogical and petrographic content, crushed stone is divided into carbonate and silicate stone. What distinguishes these two groups one from another is their physical, mechanical and chemical properties, as well as geological characteristics that determine the exploitation type and refining technology. Carbonate stone is exploited in sedimentary and metamorphic carbonate stone deposits. Crushed stone exploited in igneous and metamorphic silicate deposits also belongs to the group of silicate stones. (Tomašić, 2006) High-quality silicate stone aggregates, which were crushed multiple times, represent the final product that can endure transport on greater distances much better in comparison to ordinary aggregates, road stones and crushed rocks (Tomašić 2007).

It is the predominant mineral resource in Croatia and represents the foundation for the proper functioning of the civil engineering sector and the creation of non-current tangible assets in Croatia - real estate. It is clear that without a sufficient number of crushed stone sources in Croatia, there will be no suitable infrastructure and structures, or they will become far more expensive than they previously were, therefore implicating the growing dependence of Croatia on its neighboring countries that have such crushed stone sources. Crushed stone sources are a matter of national independence and sovereignty. It is an undeniable fact that developed counties, as well as countries that have the desire to continue developing, must have in mind the resources required for their development and ensure their availability to the greatest extent possible.

In Croatia, exploitation of crushed stone is most commonly carried out by making blast holes and by bulldozing the mined stone, while a direct excavation of stone is used less often (cutting - excavating). Mining profession development is aiming to decrease technological downtime and to achieve lower exploitation costs while simultaneously obtaining satisfactory granulation levels. The most common solution for loading and internal transport is the combined use of excavators and loaders with medium capacity dump trucks. Crushed stone is refined by applying various procedures: pulverization procedure (crushing and grinding), which results in desired granulation levels, and classification by which the material is divided into classes, i.e. fractions. This is used to control the upper size limits of products obtained by stone processing (Ćulibrk 2002).

2.1.1. Crushed stone deposits

In comparison to other non-metal and metal mineral resources, crushed stone deposits are of relatively simpler structure. We divide them as follows (Tomašić 2007):

- Sedimentary deposits are mostly found in limestone or dolomite stones, and less in limestone breccias. They are of stratified structure and shaped as thin or thick layers of various slopes. The Dolomites can also include more pronounced stratification in the form of a so-called massive form. Fragmentation of such deposits affects material quality and decreases its value. This is especially pronounced in deposits with a surface zone that is extremely fragmented due to tectonic processes, karstification or surface wear. This enables mixing with covering and other waste materials that penetrate the cracks, the openings of which are directed upwards. This decreases the quality of mineral resources and complicates exploitation.
- Deposits of igneous origin are more complicated to explore. This is because magma was firmly compressed into other rocks and that they are most frequently of massive shape. This complexity is reflected in the problems relating to the determination of contact points with surrounding rocks. They can be extremely cracked and subject to numerous and complex wear processes. All of the aforementioned affects their quality. In Croatia, diabase, andesite, and worn basalt are most often classified in this group. Granites are rarely used as crushed stone.
- Deposits of metamorphic origin are characterized by their textural and structural foliation, which affects the selection of exploration methods and determination of contact points with surrounding rocks. Amphibolite may be singled out as the most significant variable in the Republic of Croatia. Seeing as how over 95% of our territory is covered by sedimentary rocks, the Republic of Croatia has a scarce variety of silicate stones of igneous and metamorphic origin. The coastal area also has a shortage of silicate deposits.

2.1.2. Geological areas suitable for crushed stone

Different varieties of solid rocks are suitable for use as crushed stone. In the Republic of Croatia, these primarily carbonate rocks - limestone and dolomites, which are superficial and most widespread. The following are less common: igneous and metamorphic rocks - granites, rhyolites, andesites, diabases, gabbros, basalts, gneisses, amphibolic porphyrites, and amphibolites.

From a regional point of view, deposits of igneous and metamorphic origin are mostly located in the Pannonian area, while carbonate deposits are found throughout the entire karst area, but also in many parts of Pannonian Croatia. A relatively large number of limestone and dolomite deposits are located in the Pannonian part of the Republic of Croatia. However, only a small number of them are being exploited. A large part of strip mining is performed on dolomite deposits. Consequently, the entire region has a shortage of limestone. The exploited limestone mostly comes from neogenic accumulations, and less often from older accumulations (Živković et al. 2008).

2.1.3. Strip mining

All activities about the exploitation of crushed stone in the Republic of Croatia are performed by strip mining.

Three basic strip mines characteristic for crushed stone exploitation are:

- mountaintop removal mining
- deep underground mining
- combined mountaintop and underground mining.

Mountaintop removal strip mining is mostly applied in cases when crushed stone deposits are located above the altitude of the predominant terrain. Stone overburden and minerals are of greater mechanical strength, which implies the use of blasting to obtain mineral resources. The opening of mines is performed on the slope of a hill by cutting in certain layers. It is characterized by its simple access to the deposit and reduced water-related problems, both in terms of surface and groundwater.

The opening of underground strip-mining pits is performed through the surface, which can be previously prepared by leveling the terrain. After opening the first layer of appropriate width, the level of this layer is cut in, and so on. (Ćulibrk 2002). Underground strip mining is characterized by the complexity, difficultness, and cost of associated exploitation activities, as well as the problems about drainage and protection from surface and ground waters.

Crushed stone exploitation is usually carried out on deposits with opened mountaintop strip mines, and underground strip mining is rarely transitioned into afterward. Instead, combined mountaintop and underground mining are carried out.

2.2. Dimension stone

According to its petrographic and mineralogical content, dimension stone is classified into silicate and carbonate stone, the same as crushed stone. Today, the aforementioned classification is rarely even used in the global market. Instead, dimension stone is classified according to its purpose in the commercial market. Dimension stone is commercially divided into granite and marble.

Granite is a silicate-type stone that can be found on the commercial market, and it is of igneous and metamorphic origin. This group includes stones such as diorite, natural granite, quartzite, and gneiss. The granite processing technology is used for processing thereof. Some essential properties of granite are its high durability and invariability in terms of appearance, as well as high endurance to loads. Due to the abovementioned, it is often used in various internal and external structures, regardless of the load. In most cases, granite is polished and resurfaced until it reaches high-level brilliance. The application of granite is widespread due to its high-quality physical and mechanical properties. (Dunda, Kujundžić, Globan, Matošin, 2003).

Marble is a carbonite-type stone that can be found in commercial markets, and it is of sedimentary and metamorphic origin. It includes dolomite, limestone, travertine, as well as dolomite- and calcite-based marble. Marble processing is somewhat simpler than granite processing. Due to the above-mentioned properties, marble is most commonly used as an interior element, although external applications should not be overlooked, both due to its aesthetic function and lower costs. (Dunda, Kujundžić, Globan, Matošin, 2003).

Today, exclusively stone of sedimentary origin is exploited in Croatia, and it includes different varieties of limestones and carbonate classmates, primarily of Cretaceous age, and to a lesser degree of Jurassic and Paleogene age. Commercial marble is the one most commonly exploited. Amongst the silicate stone quarries in Croatia, we should mention Fužinski Benkovac, in which andesites intended to be used as dimension stone are being exploited (Jovičić, 1994). In a petrological sense, there are no marble deposits in Croatia.

3. RESEARCH ON THE IMPORTANCE AND PROFITABILITY OF NATIONAL CLASSIFICATION OF ACTIVITIES (NKD 2007) GROUP 08.1-QUARRYING OF STONE, SAND AND CLAY IN CROATIA

This research paper focuses on determining business entities in the group 08.1 – Quarrying of stone, sand and clay, and their importance in the economy and employment of Croatia. The 198 entrepreneurs existing in this branch in 2018 generated HRK 1.61 billion revenue in Croatia, which represents a share of 0.21% of the revenues of all entrepreneurs in Croatia. They employed 1,724 employees (a small number) and generated a net profit of HRK 158 mil. These figures clearly show that it is not a relevant area for the Croatian economy in general, but it is important to analyze it due to its undisputable contribution to other branches of the economy, especially construction. A research in Finland concluded that the number of working places in the industries in the next steps (that use the mined mineral stone) employ 30 to 40 times more workers that stone exploitation itself (source: Strategy of using of mineral resources of Republic of Croatia, page 2.1 – 57).

3.1. Group 08.1 – Quarrying of stone, sand, and clay under NKD 2007

According to NACE 2007, group 08.1 – Quarrying of stone, sand, and clay includes (MINPO, 2018):

a) *08.11 Quarrying of decorative stone and construction stone, limestone, plaster, chalk, and schist*

b) *08.12 Activity of gravel pits and sand pits; quarrying of clay and hydrosilicate clay*

It is an industry that is engaged in the exploitation of mineral resources on surface excavations, which includes more or less complex primarily mechanical raw material processing to get the final product for the market. „Mineral resources include all organic and neo-organic mineral raw materials which can be found in solid, liquid or gaseous state in their primary deposits, pits, smelting slags or natural resolutions" (Mining Act, Article 4). All mineral resources are owned by the Republic of Croatia. In general, this industry is mostly stipulated by the Mining Act and Concessions Act, as well as by-laws. To create conditions for stable and regular exploitation of mineral resources on a specific location, all prior activities have to be carried out, which takes several years – prior activities and studies, research permit, research work which have to prove or contest grounds for exploitation, and afterward obtaining all necessary permits for forming exploitation field and obtaining the concession for exploitation (resolving property-law relations, capability proof, environmental impact studies, mining project, location permit, etc.). Upon obtaining everything necessary, preliminary works start so that exploitation of the target raw material could start (e.g. with stone exploitation preliminary works include removing and disposing of topsoil and waste-rock). After all, these activities have been completed and equipment purchased and mounted, all working processes are defined and work cost can be monitored as something stable and time comparable. Next to legal and time barrier, capital barrier (high cost of initial investment for starting a business) make this industry considerable risky and not so attractive for new entrepreneurs. It is necessary to point out that main product consumers are primarily a construction industry, which uses these products from exploitation as a final product, but also agricultural and chemical industry, which mostly use products from exploitation as a reproductive material for further processing or production of final products with increasing value

3.2. Research methodology

The main source of data for this research was the Smart Vision tool developed by the company Bisnode, which is "a unique macroeconomic tool for monitoring the state of Croatian economy". In essence, this tool uses data that all companies in Croatia are legally obligated to deliver to FINA annually within the annual financial reports. The latest data available is for 2018.

Using the above-mentioned tool, the authors selected group 08.1 and defined the following criteria (filters):

- All entities with income higher than HRK 10,000.00 in 2018

- All entities with 1 or more employees (since labor costs cannot be analyzed if the company has no employees)

Entities selected using this approach represent 99.59% of the total income of group 08.1 for Croatia and it can be said with certainty that they are a representative sample for reaching any type of conclusion. Table 2 shows all the entities selected in 2018 and sorted using the criterion of income (from the company with the highest income to the company with the lowest income). Likewise, it can be concluded from Table 2 that in 2018, selected companies collectively employed 1,717 employees, achieved a net profit of HRK 174 million (profit margin 10.91%), the added value of HRK 431 million and paid an average monthly gross salary of HRK 6,504.17, i.e. an average monthly net salary of HRK 4,778.54.

Table 2: Overview of all companies from group 08.1 according to defined criteria (in HRK).

No.	Name	Revenue	Profit	Number of employees	Net salary	Gross salary	Value-added
1	CALCIT LIKA	302,670,733	22,491,320	65	7,820	11,320	34,268,464
2	PGM RAGUSA	134,038,209	62,067,695	37	7,545	10,867	68,326,224
3	KAMEN SIRAČ	78,038,973	9,603,790	47	5,933	8,197	15,321,547
4	RADLOVAC	72,967,938	14,409,351	77	6,023	8,222	28,179,703
5	KAMING	72,864,512	12,055,852	94	6,919	9,525	28,585,432
6	VELIČKI KAMEN	61,481,131	4,550,892	106	4,828	6,394	16,070,571
7	GOLUBOVEČKI KAMENOLOMI	60,650,332	727,098	66	4,597	5,915	6,844,587
8	KAMENOLOM GORJAK	57,602,175	8,932,306	35	6,021	8,280	14,458,380
9	SOLANA PAG	51,211,459	2,713,663	89	5,085	6,806	12,772,512
10	MA. CO. T.	44,242,891	1,193,132	7	7,905	11,618	2,838,882
11	T R G	37,321,660	455,333	64	5,930	8,092	8,002,224
12	IGM Šljunčara Trstenik	34,163,241	1,274,643	36	7,638	11,035	7,546,211
13	HIDREL	27,978,318	-4,209,195	41	5,873	8,164	4,983,534
14	COLAS MINERAL	26,757,830	341,445	39	7,439	9,841	6,227,327
15	GEOCOP	26,282,583	8,879,406	17	8,651	12,847	14,101,002
16	INTER-PROMET	25,417,819	8,304,555	19	3,802	4,843	11,755,570
17	Schwarzl	24,345,535	119,677	14	9,074	12,465	2,601,514
18	POMGRAD GRADNJA	23,677,916	405,045	46	5,860	7,848	7,333,472
19	ŠLJUNČARA-TRANSPORTI SMONTARA	20,316,746	1,960,068	35	6,226	8,162	6,378,300
20	ALAS-SEGET	19,704,167	2,482,197	19	8,061	11,876	6,582,332

No.	Name	Revenue	Profit	Number of employees	Net salary	Gross salary	Value-added
21	FELIKS REGULACIJA	18,347,227	209,092	28	3,876	4,851	2,537,827
22	MI TEH - MIHELČIĆ TEHNIKA	17,695,071	1,493,885	28	6,338	8,702	5,671,779
23	GRADITELJSTVO-ROŽIĆ	16,228,776	352,741	23	6,759	9,688	3,746,183
24	KAMENOLOM GRADAC	15,576,103	-4,806,026	1	8,803	12,981	182,570
25	ANTENAL	15,037,965	1,103,877	28	8,817	13,020	7,041,912
26	KAMEN - PSUNJ	14,389,847	1,160,151	16	6,575	9,055	3,102,000
27	A.B.T. SOL	12,446,524	4,080,403	4	4,904	6,246	4,569,536
28	SOMAR	11,883,830	1,391,129	14	4,075	5,287	2,454,247
29	MEGRAM	11,606,537	230,668	28	2,501	3,203	1,558,055
30	ADRIAKAMEN	11,598,372	740,305	25	5,978	8,302	4,350,775
31	GEOTEHNA VARAŽDIN	11,171,489	-1,094,558	23	6,640	9,139	3,486,796
32	SOLANA NIN	10,719,763	2,306,791	27	4,799	6,430	5,680,832
33	RUDOMAR	10,642,045	247,772	18	4,384	5,642	1,840,307
34	KANINI	9,586,966	2,064,592	17	3,927	5,121	3,681,956
35	CGM KAMEN	9,511,871	1,025,660	5	3,699	4,744	1,591,825
36	NISKOGRADNJA	9,094,427	93,482	36	4,899	6,540	3,822,968
37	KAMENOLOM ŽAKANJE	9,016,768	2,519,842	6	6,839	9,914	3,940,310
38	BETON ZDRUG	8,455,131	-1,120,260	8	6,042	8,277	1,005,105
39	KALEBIĆ	8,417,907	135,447	28	3,185	4,070	1,820,458
40	PULIN	7,767,656	2,342,792	7	6,036	8,655	3,831,510
41	KAMENOLOM FUŽINSKI BENKOVAC	7,398,334	236,573	7	5,525	7,853	1,111,176
42	KAMENOLOM MEĐURAČE	6,930,630	2,666,635	10	6,817	9,307	4,655,101
43	MIKROSIVERIT-ZA DOM	6,453,458	-531,364	15	5,791	8,067	1,920,616
44	KRUŠEVO-PUT	6,351,504	299,275	8	4,712	6,660	1,161,742
45	DRAGA-SADRA	5,785,949	387,432	9	6,299	8,311	1,790,811
46	KAMENOLOM BOJNAK, OWNED BY DIEGO TOIĆ	5,714,024	528,680	6	6,064	8,111	1,463,008
47	BRAČKI KAMEN	5,702,865	2,818,660	5	8,686	12,700	4,369,365
48	TANAC	5,622,327	1,346,504	9	3,253	4,067	2,489,236
49	CEMEX KAMEN	5,228,329	41,952	3	6,130	7,995	444,928
50	INVESTITOR	5,201,704	410,049	11	3,435	4,368	1,273,883
51	INTERIER ĆURKO	5,156,645	3,945,832	11	693	1,031	4,798,744
52	KAVA EXPORT - IMPORT	4,604,926	413,461	7	5,903	8,504	1,442,030
53	GRGUŠA	4,544,436	194,953	13	3,900	4,974	1,142,569
54	CAVA PLANIT	4,491,821	8,975	19	6,619	9,409	2,525,284

No.	Name	Revenue	Profit	Number of employees	Net salary	Gross salary	Value-added
55	KAMEN PLANO	4,263,035	1,667,892	7	5,579	7,647	2,815,308
56	SENIOR	4,141,069	-235,291	14	5,380	7,510	1,406,901
57	AVORIO KAMEN	3,994,123	53,171	12	5,675	7,742	1,478,988
58	ANA-KAMEN-PROJEKT	3,879,071	-792,901	10	5,401	7,615	1,082,838
59	ICE, owned by Mladen Anić	3,644,898	-155,336	7	5,148	7,786	800,043
60	PAŠARIN	3,519,760	362,620	8	4,951	6,410	1,223,630
61	KLARITAC	3,170,074	8,383	3	4,859	6,405	275,272
62	BIGROM	2,985,646	-733,857	9	4,770	6,470	825,106
63	AGRARIA	2,976,352	349,757	4	7,288	10,096	984,636
64	LTK -	2,729,885	39,230	5	5,039	6,723	505,856
65	USKOK	2,350,868	212,577	7	4,540	5,836	819,508
66	KONJUŠKA	2,217,825	37,013	3	5,280	7,266	401,639
67	VAĐENJE KAMENA SELCA	2,148,069	117,992	8	4,730	6,518	862,811
68	KREMENA	2,141,858	151,831	6	6,909	10,070	1,037,195
69	GALDI MINERAL	2,129,964	867,704	3	3,879	5,234	1,194,153
70	KLESAR, OWNED BY SILVIO RABAR	1,976,480	155,139	11	4,857	6,826	1,450,507
71	ŠIM GREDA	1,829,418	205,070	5	5,237	7,257	810,309
72	ŽILIĆ KAMEN	1,787,594	176,657	7	3,663	4,648	659,117
73	ĐURO MIŠKOVIĆ I SINOVI	1,716,839	5,785	13	3,151	3,979	734,043
74	SOLANA STON	1,704,032	-3,061,924	9	6,248	8,822	1,134,188
75	BAGARIĆ	1,684,778	999,516	1	4,412	5,515	1,215,274
76	GOLA GLAVA	1,676,072	72,605	5	1,128	1,316	161,741
77	GM GOLUBIĆ	1,657,103	268,611	4	4,127	5,159	627,933
78	KAMENOLOM	1,599,775	-60,961	1	3,210	4,786	105,256
79	ZLATNO JEZERO	1,545,462	-2,430,830	6	5,306	6,943	585,853
80	CRYSTAL LINES	1,332,147	270,252	2	4,733	6,074	508,129
81	CALCIT BILA STRANA	1,266,930	451,122	2	5,206	7,042	649,029
82	MEDITERAN KAMEN	1,184,473	179,651	6	3,748	4,707	639,811
83	AGAN	1,124,005	632	2	3,858	5,193	220,053
84	KAMENOLOM KOLEVRAT	1,001,808	-558,200	4	5,229	6,617	372,272
85	IGM MOSLAVINAKAMEN	987,791	21,045	2	5,325	6,975	300,025
86	KAMEN BEČIR	982,357	121,090	5	2,880	3,600	394,296
87	CAROVIĆ PLUS	933,087	-111,105	3	2,583	3,229	136,147
88	SANDAREVO	918,021	-1,033,479	2	10,780	16,033	451,036
89	GM GOSPIĆ	913,161	22,949	5	1,253	1,596	130,164
90	HALAPIJA	825,481	128,195	1	3,943	5,000	215,996
91	PETRADA GLAVE	730,751	32,171	1	3,462	4,474	95,091

No.	Name	Revenue	Profit	Number of employees	Net salary	Gross salary	Value-added
92	PERDITA VENDING	689,185	-74,883	2	1,909	2,434	68,454
93	JAGO KOMERC	558,473	-54,584	1	528	660	9,282
94	ADRIATIC STONE	553,014	64,486	1	3,176	3,970	128,840
95	RUDAR	533,533	-9,037	1	4,085	5,170	72,706
96	J.B. SADRA	415,628	122,308	3	3,229	4,212	317,020
97	Kamen produkt	370,985	1,251	2	2,075	2,669	76,489
98	SLAVONIJA	354,233	-45,290	3	3,854	4,818	200,603
99	GRANULATI-DRAVA	354,144	195	2	2,794	3,501	115,512
100	CAVA NADA	330,272	-287,292	4	4,756	6,350	357,213
101	BOŽIĆ-Company	314,074	7,533	1	3,520	4,400	70,442
102	PIJESAK JEROVEC	301,789	33,604	1	5,000	8,437	156,842
103	HB KAMENOLOMI	293,199	-850,921	4	2,764	3,596	202,321
104	FASSA	292,093	-4,097,242	2	9,534	14,208	400,667
105	PASIKA	285,462	-184,210	3	5,552	7,029	301,081
106	LAPIS GRADNJA	281,797	7,733	1	2,241	2,802	49,661
107	KAMENOLOM BRDO KUŠĆ	262,077	86,246	1	6,080	8,751	221,236
108	POLJAK GRAĐEVINARSTVO	247,539	80,185	2	3,333	3,333	197,385
109	PINČIĆ, owned by Luka Pinčić	241,319	-138,953	1	6,276	8,822	124,073
110	NUEKS	235,026	32,511	1	3,694	3,694	94,119
111	TINO	196,271	-1,209,452	3	0	0	0
112	BILOŠ MONTAŽA	164,576	91,495	1	3,363	4,267	133,999
113	HIDROKOP	159,501	68,402	1	300	430	74,907
114	GARJEVICAKAMEN	147,894	-69,971	1	7,960	10,292	136,766
115	PERIŠ	122,551	-169,713	2	2,646	3,340	88,694
116	TIBRA	102,547	7,822	1	2,088	2,610	45,655
117	STONE BAČIĆ	100,315	48,033	1	2,691	3,364	95,342
118	OKAMINA	100,005	38,048	1	2,962	3,702	95,304
119	JOLE, ŠLJUNČARA I PRIJEVOZNIČKI OBRT, -JOSIP ŠERBETAR	98,959	-87,988	2	1,296	2,502	84,951
120	GEOKON	92,000	-46,355	1	2,667	3,333	62,712
121	BEDNJA	75,002	7,473	1	2,391	3,595	58,868
122	KVARTAR	60,200	-16,704	1	1,908	2,544	37,945
123	MAŠKUN	59,141	-245,946	1	2,761	4,074	117,281
124	KAMEN	59,034	-995,271	1	5,905	7,382	104,315
125	PRUDNICA	46,131	-844,711	2	2,386	2,983	83,898
126	ARHITEKTONSKI KAMEN	32,373	-75,972	1	2,752	3,440	44,828
127	EXPLOSIO KRE-NI	24,001	-6,974	1	499	655	8,538
	TOTAL	1,604,339,800	174,994,307	1,717	4,779	6,504	431,431,335

Source: SmartVision for the year 2018, analysis made by authors

Research methods that were applied hereunder for data processing purposes are compiling, comparing and observing.

3.3. Hypotheses

The objective of this study was to test the following main hypotheses:

a) Annual gross labor costs percentage in annual revenue is below 14%.
b) All enterprises with revenue equal to or higher than HRK 10,000,000 are profitable.
c) The average annual net salary is lower than the average net salary in Croatia for 2018.
d) Added value is equal to or higher than 20% of revenue in the analyzed group.

The hypotheses were tested and conclusions were drawn below.

4. STUDY RESULTS

This chapter presents the study results for each of the above hypotheses.

4.1. Annual gross labor costs percentage in annual revenue is below 14%.

According to this hypothesis, to make HRK 1 of revenue, the enterprises need to invest HRK 0.14 or less in labor cost. As technology becomes more advanced, this business is becoming less and less labor-intensive, with machines replacing an increasing portion of labor cost. The share of labor cost has been declining for decades, but this is not in the focus of this paper.

The data obtained for the sample allow us to calculate the annual labor cost for each employer simply by multiplying the average monthly gross salary with the number of employees and then multiplying this result with 12, the number of months in a year. To calculate the final cost for the employer, we must also increase the number thus obtained by 17.2%, the percentage of salary contributions applicable in 2018, to obtain the amount of the so-called gross salary 2, which also represents the cost for the employer. Annual gross salary cost as a percentage of total annual revenue is the final and the key indicator for this hypothesis. All these indicators calculated for the sample are presented in Table 3.

Table 3: Annual salary cost as a percentage of revenue for 08.1

No.	Name	Revenue	Number of employees	Annual gross-2 salary	Salary as a percentage of annual revenue
1	CALCIT LIKA	302,670,733	65	10,348,291	3%
2	PGM RAGUSA	134,038,209	37	5,654,839	4%
3	KAMEN SIRAČ	78,038,973	47	5,418,283	7%
4	RADLOVAC	72,967,938	77	8,903,834	12%
5	KAMING	72,864,512	94	12,592,202	17%
6	VELIČKI KAMEN	61,481,131	106	9,532,073	16%
7	GOLUBOVEČKI KAMENOLOMI	60,650,332	66	5,490,445	9%
8	KAMENOLOM GORJAK	57,602,175	35	4,075,747	7%
9	SOLANA PAG	51,211,459	89	8,519,043	17%
10	MA. CO. T.	44,242,891	7	1,143,769	3%
11	T R G	37,321,660	64	7,283,577	20%
12	IGM Šljunčara Trstenik	34,163,241	36	5,587,065	16%
13	HIDREL	27,978,318	41	4,707,558	17%
14	COLAS MINERAL	26,757,830	39	5,397,749	20%
15	GEOCOP	26,282,583	17	3,071,564	12%
16	INTER-PROMET	25,417,819	19	1,294,127	5%
17	Schwarzl	24,345,535	14	2,454,309	10%
18	POMGRAD GRADNJA	23,677,916	46	5,077,217	21%
19	ŠLJUNČARA- SMONTARA	20,316,746	35	4,017,663	20%
20	ALAS-SEGET	19,704,167	19	3,173,457	16%
21	FELIKS REGULACIJA	18,347,227	28	1,910,285	10%
22	MI TEH - MIHELČIĆ TEHNIKA	17,695,071	28	3,426,778	19%
23	GRADITELJSTVO-ROŽIĆ	16,228,776	23	3,133,797	19%
24	KAMENOLOM GRADAC	15,576,103	1	182,565	1%
25	ANTENAL	15,037,965	28	5,127,172	34%
26	KAMEN-PSUNJ	14,389,847	16	2,037,592	14%
27	A.B.T. SOL	12,446,524	4	351,375	3%
28	SOMAR	11,883,830	14	1,040,989	9%
29	MEGRAM	11,606,537	28	1,261,316	11%
30	ADRIAKAMEN	11,598,372	25	2,918,983	25%
31	GEOTEHNA VARAŽDIN	11,171,489	23	2,956,211	26%
32	SOLANA NIN	10,719,763	27	2,441,651	23%
33	RUDOMAR	10,642,045	18	1,428,284	13%
34	KANINI	9,586,966	17	1,224,370	13%

No.	Name	Revenue	Number of employees	Annual gross-2 salary	Salary as a percentage of annual revenue
35	CGM KAMEN	9,511,871	5	333,598	4%
36	NISKOGRADNJA	9,094,427	36	3,311,228	36%
37	KAMENOLOM ŽAKANJE	9,016,768	6	836,583	9%
38	BETON ZDRUG	8,455,131	8	931,262	11%
39	KALEBIĆ	8,417,907	28	1,602,733	19%
40	PULIN	7,767,656	7	852,067	11%
41	KAMENOLOM FUŽINSKI BENKOVAC	7,398,334	7	773,112	10%
42	KAMENOLOM MEĐURAČE	6,930,630	10	1,308,936	19%
43	MIKROSIVERIT-ZA DOM	6,453,458	15	1,701,814	26%
44	KRUŠEVO-PUT	6,351,504	8	749,330	12%
45	DRAGA-SADRA	5,785,949	9	1,051,973	18%
46	KAMENOLOM BOJNAK, OWNED BY DIEGO TOIĆ	5,714,024	6	684,439	12%
47	BRAČKI KAMEN	5,702,865	5	893,064	16%
48	TANAC	5,622,327	9	514,785	9%
49	CEMEX KAMEN	5,228,329	3	337,325	6%
50	INVESTITOR	5,201,704	11	675,747	13%
	OTHER	103,022,233	311	26,436,271	25,66%
	TOTAL	1,604,339,800	1,717	186,198,725	11.61%

Source: SmartVision for the year 2018, analysis made by authors

We may conclude, based on this analysis, that the hypothesis has been confirmed. All enterprises in the sample had a total labor cost of HRK 186.1 million in 2018 and the percentage of labor cost in total revenue of 11.51%. We can also note that higher-revenue enterprises from the upper half of Table 3, in general, have a lower labor cost as a percentage of total revenue than enterprises from the lower half of Table 3, which could be due to several factors such as:

- Better equipment and technology (which requires substantial capital investments), which means less need for labor
- Lack of qualified workforce (due to which one objective position is filled by several workers) or a poor organizational structure
- Outsourcing of some of the work.

The authors are confident that the employers exhibit all these factors to a certain degree, as they are all trying to keep labor costs under certain control.

4.2. All enterprises with revenue equal to or higher than HRK 10,000,000 are profitable.

Analyzed enterprises, sorted by revenues, with a line drawn after the last enterprise that satisfies the criterion set in the hypothesis, are presented in Table 4 below.

Table 4: Analysed businesses sorted by revenues

No.	Name	Revenue	Profit
1	CALCIT LIKA	302,670,733	22,491,320
2	PGM RAGUSA	134,038,209	62,067,695
3	KAMEN SIRAČ	78,038,973	9,603,790
4	RADLOVAC	72,967,938	14,409,351
5	KAMING	72,864,512	12,055,852
6	VELIČKI KAMEN	61,481,131	4,550,892
7	GOLUBOVEČKI KAMENOLOMI	60,650,332	727,098
8	KAMENOLOM GORJAK	57,602,175	8,932,306
9	SOLANA PAG	51,211,459	2,713,663
10	MA. CO. T.	44,242,891	1,193,132
11	T R G	37,321,660	455,333
12	IGM Šljunčara Trstenik	34,163,241	1,274,643
13	HIDREL	27,978,318	-4,209,195
14	COLAS MINERAL	26,757,830	341,445
15	GEOCOP	26,282,583	8,879,406
16	INTER-PROMET	25,417,819	8,304,555
17	Schwarzl	24,345,535	119,677
18	POMGRAD GRADNJA	23,677,916	405,045
19	ŠLJUNČARA-TRANSPORTI SMONTARA	20,316,746	1,960,068
20	ALAS-SEGET	19,704,167	2,482,197
21	FELIKS REGULACIJA	18,347,227	209,092
22	MI TEH - MIHELČIĆ TEHNIKA	17,695,071	1,493,885
23	GRADITELJSTVO-ROŽIĆ	16,228,776	352,741
24	KAMENOLOM GRADAC	15,576,103	-4,806,026
25	ANTENAL	15,037,965	1,103,877
26	KAMEN-PSUNJ	14,389,847	1,160,151
27	A.B.T. SOL	12,446,524	4,080,403
28	SOMAR	11,883,830	1,391,129
29	MEGRAM	11,606,537	230,668
30	ADRIAKAMEN	11,598,372	740,305
31	GEOTEHNA VARAŽDIN	11,171,489	-1,094,558
32	SOLANA NIN	10,719,763	2,306,791
33	RUDOMAR	10,642,045	247,772
	TOTAL	1,379,077,717	166,174,503

Source: SmartVision for the year 2018, analysis made by authors

The table shows that there are no strict rules, as there are enterprises with revenues much higher than HRK 10 million that are not profitable. However, it is notable that most enterprises are still profitable, and 33 enterprises that satisfy the revenue criterion account for almost the entire profit of the representative sample in this study (which encompasses 127 enterprises). This means that the hypothesis has not been confirmed.

The profitability of any business is influenced by several criteria, and a criterion such as the one set in the hypothesis was not and cannot be confirmed.

4.3. The average annual net salary is lower than the average net salary in Croatia for 2018.

Based on the data of the Croatian Bureau of Statistics (Official Gazette no. 25/2019, document no, 508, from 13 March 2019), the average gross salary in the Republic of Croatia in 2018 was HRK 8,448, and the average net salary in the Republic of Croatia was HRK 6,262.00.

Based on data about the selected sample, described in Chapter 2.2, where we stated that the enterprises in our sample paid an average monthly gross salary of HRK 6,504.17 and an average net salary of HRK 4,778.54, we concluded that the average gross salary paid by the enterprises in the sample was 23.1% lower than the national average and that the average net salary was 23.69% lower than the national average.

The difference is substantial, indicating that this is an industry that does not offer higher personal incomes. However, if the annual salary cost of the analyzed enterprises was 23.1% higher, it would reduce their profit by HRK 43 million, lowering their average profit margin to 8.2%, which would make the industry considerably less profitable (having in mind the risks and the substantial initial capital investments that are required) and much less attractive for enterprises.

Employers in the category of other mining in Croatia are not in a simple position – on the one hand, they want to keep the best workers and offer adequate motivation, as well as attract new workers, and on the other hand, their current incomes are much lower than the national average. In any case, the analyzed employers will have to raise the salaries and try to get as close to the national average as possible to keep and motivate their workers. The only way to succeed in this is to transfer the increased labor cost to the prices of their final products to cover the increased cost and maintain the existing level of profitability.

4.4. Added value is equal to or higher than 20% of revenue in the analysis group.

Added value is calculated by subtracting the costs of goods and services purchased from others and amortization from sales. It is one of the indicators that make an industry attractive or not to the local community as well as to potential investors. To test this hypothesis, we had to calculate the share of added value in a unit of income, as shown in Table 6, in which the analyzed enterprises are sorted by income (highest to lowest).

Table 5: Added value per unit of income

No.	Name	Revenue	Added value	Added value as % of revenue
1	CALCIT LIKA	302,670,733	34,268,464	11.32%
2	PGM RAGUSA	134,038,209	68,326,224	50.98%
3	KAMEN SIRAČ	78,038,973	15,321,547	19.63%
4	RADLOVAC	72,967,938	28,179,703	38.62%
5	KAMING	72,864,512	28,585,432	39.23%
6	VELIČKI KAMEN	61,481,131	16,070,571	26.14%
7	GOLUBOVEČKI KAMENOLOMI	60,650,332	6,844,587	11.29%
8	KAMENOLOM GORJAK	57,602,175	14,458,380	25.10%
9	SOLANA PAG	51,211,459	12,772,512	24.94%
10	MA. CO. T.	44,242,891	2,838,882	6.42%
11	T R G	37,321,660	8,002,224	21.44%
12	IGM Šljunčara Trstenik	34,163,241	7,546,211	22.09%
13	HIDREL	27,978,318	4,983,534	17.81%
14	COLAS MINERAL	26,757,830	6,227,327	23.27%
15	GEOCOP	26,282,583	14,101,002	53.65%
16	INTER-PROMET	25,417,819	11,755,570	46.25%
17	Schwarzl	24,345,535	2,601,514	10.69%
18	POMGRAD GRADNJA	23,677,916	7,333,472	30.97%
19	ŠLJUNČARA-TRANSPORTI SMONTARA	20,316,746	6,378,300	31.39%
20	ALAS-SEGET	19,704,167	6,582,332	33.41%
21	FELIKS REGULACIJA	18,347,227	2,537,827	13.83%
22	MI TEH - MIHELČIĆ TEHNIKA	17,695,071	5,671,779	32.05%
23	GRADITELJSTVO-ROŽIĆ	16,228,776	3,746,183	23.08%
24	KAMENOLOM GRADAC	15,576,103	182,570	1.17%
25	ANTENAL	15,037,965	7,041,912	46.83%
26	KAMEN-PSUNJ	14,389,847	3,102,000	21.56%
27	A.B.T. SOL	12,446,524	4,569,536	36.71%

28	SOMAR	11,883,830	2,454,247	20.65%
29	MEGRAM	11,606,537	1,558,055	13.42%
30	ADRIAKAMEN	11,598,372	4,350,775	37.51%
	OTHER	257,795,380	92,592,803	35,92%
	TOTAL	1,604,339,800	431,431,335	26.89%

Source: SmartVision for the year 2018, analysis made by authors

Table 5 shows that the hypothesis is confirmed since all enterprises in the analyzed group have an average share of added value in the unit of income of 26.89%. Any industry that generates more than 20% of added value is welcome in any economy and any public administration should promote the development of such industries in its area, especially, if possible, in underdeveloped Croatian regions.

5. CONCLUSION

The study we conducted led us to the conclusion that this is an industry with very low personal incomes, as much as 23.69% lower than the average. Regrettably, this drives many qualified workers to emigrate in pursuit of work, while Croatia faces a deficit of workers. On the other hand, employers are forced to keep labor costs within acceptable limits, meaning below 14%, or as our study for 2018 showed, at an average share of 11.61%.

Even though the mining industry generates an added value of more than 20%, or, more specifically, 26.89% in 2018, as our study has shown, there is little understanding for the above problems in the mining industry, although this industry has the potential to contribute to a much greater degree to the development of Croatia, mainly by making the construction sector independent in terms of inputs. These hypotheses generally show that this branch creates a significant added value itself (not only to mention for other branches) and that there is space to grow in salaries (or substitute them more with machine work).

Compared to the research for Slavonija based on 2017 figures, one can see that the percentage of gross salary cost fell (from 12,8% to 11,61%), that the rule of minimally 10 mil HRK of revenues for reaching profitability does not apply here, that the average net salary doesn't lack behind so much(23,69% lover compared to 27,9%, and that the added value percentage has risen (from 25,99% to 26,89%). Future researches of the economy of technical stone could focus on the connection of each cost type with revenues, and the connection between revenue and added value with type and quality of material used for technical stone production.

Crushed stone is a widespread non-metal mineral resource in the Republic of Croatia, which has a wide range of applications in civil engineering, and needs to be approached with special care due to the high number of exploitation areas about other solid mineral resources, which makes it a challenge in the environmental protection sense, as well as in the sense of incorporating exploitation areas into zoning plans. As a mineral resource, crushed stone is heavily restricted by transport costs. This fact can help choose the location for the integration into zoning plans, taking into account the needs of the local market along with the technological, economic and environmental requirements, and resolving crucial issues in crushed stone exploitation. The profitability of crushed stone manufacturers' business depends on several factors and is impossible to foresee based on annual revenue or number of employees.

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EUROPEAN PARLIAMENT AND GENDER EQUALITY STRATEGIES

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Abstract

The European Parliament is a place for political discussion and decision-making at the EU level. The Members of the European Parliament are directly elected by voters in all Member States to represent people's interests concerning EU law-making and to secure that all other EU institutions work democratically. The function of the Parliament is to promote freedom of speech and fair elections across the globe as well as the promotion of democratic decision-making in Europe and fight for democracy. Half of the population in European union are female but women are continually under-represented in power decision-making positions in many areas, including in Parliament. The concept of parity democracy was initiated in the Council of Europe and entered the EU agenda in the first European Summit of Women in Power, held in Athens in November 1992. The purpose of parity democracy is to strengthen democracy and adopt an approach that makes gender equality effective and sustainable.

Keywords: *European Parliament, parity democracy, gender equality, the equal value of women and men*

JEL Classification: J16

1. INTRODUCTION

The Council of Europe referred to the issue of gender equality and its close, unbreakable bond and link to democracy, in 1988. The purpose of parity democracy is to strengthen democracy and adopt an approach that makes gender equality effective and sustainable. The gender equality debate was initiated with the official text Declaration of the Ministers of the Council of Europe, in 1988, including the study on parity democracy. Declaration on equality of woman and man was adopted by the Committee of Ministers on 16 November 1988 at its 83rd Session, stating, inter alia, that equality of women and men is a principle of human rights, upheld as a fundamental right in many international instruments to which they have subscribed and secured by national constitutions and laws, binding involved to pursue and develop policies aimed at achieving real equality between women and men in all walks of life; to continue work in the Council of Europe to further the effective achievement of equality between women and men; to promote awareness of the imperatives of democracy and human rights in respect of equality of women and men.

But it took another four years that European union considers debating on the concept of parity democracy. The concept of parity democracy was initiated in the Council of Europe and entered the EU agenda in the first European Summit of Women in Power, held in Athens in November 1992.

As it is said, parity democracy is necessary for the strengthening of EU democracy because it entails a transformation of our understanding of democracy, political culture and structures and a true embracement of equality between women and men as a fundamental principle in which a democratic system is based (Irigoien, 2018: 3).

Athens Declaration was issued at the end of the summit and signed by 20 women leaders who stated that equality of women and men imposed parity in the representation and the administration of Nations. The declaration established the base for further European debate as well for customizing different views on the issue in each member state. The five basic issues for debating were presented: need to have equal representation of women and men in decision-making forums-equality, democracy, good use of human resources, satisfying the needs and interests of women, and improving the policymaking process. Declaration mentioning, inter alia, for instance, that at that time position of women in the Member States of the European Communities as in other European countries is still characterized by profound inequality in all public and political decision-making authorities and bodies at every level-local, regional, national and European; a democratic system should entail equality of participation by women and men in public and political decision-making; women represent half the potential talent and skills of humanity and their under-representation in decision-making is a loss for society as a whole. Upon that, Declaration stated the need for adopting action of programs and measures to ensure the full participation of women in decision-making in Commission of the European Communities and all European and international organization, as also full integration of equal opportunities the dimension for women and men in their educational system and all their national policies and to adopt the measure necessary to implement these objectives to achieve equal sharing of decision-making posts for women and men.

It is stated, also, that by far, the strongest international statement of the fundamental need for gender balance in decision-making has been 1995 Beijing Platform for Action and its commitment to the empowerment of women based on the conviction that women's empowerment and their full participation based on equality in all spheres of society, including participation in the decision-making process and access to power, are fundamental for the achievement of equality, development, and peace (Woodward, 2002: 10).

The purpose of this paper is to represent the gender equality strategies and its impact on parity democracy in European Union and European Parliament particularly regards achieving one of its important goals, equal representation of woman and man in European Parliament and gender balance in decision-making process and power. The hypothesis H0 is that in European Parliament representation of women shows the visible and constant increase and progress towards more equal representation.

2. GENDER EQUALITY STRATEGIES

2.1. Council of Europe

Council of Europe is a political organization, it includes 47 member states, 27 of which are a member of the European Union. All Council of Europe member states has signed up to the European Convention on Human Rights, a treaty designed to protect human rights, democracy, and the rule of law. The European Court of Human Rights oversees the implementation of the Convention in the member states. The European Convention on Human Rights is the oldest and most efficient system for the protection of human rights in the world. The Council of Europe was founded in 1949., to promote greater unity between European states and referred to the issue of gender equality in 1988. Even though it referred to gender equality at the end of 1980s, Council of Europe from the beginning of 1980s, as stated in the Council of Europe *Equality of woman and man* report, has a major role in the development of norms and concepts such as parity democracy, gender budgeting and gender mainstreaming, giving new light on gender equality and development in Europe. Council of Europe activities concerning gender equality is: Combating gender stereotypes and sexism; Preventing and combating violence against women; Guaranteeing the equal access of women to justice; Achieving the balanced participation of women and men in political and public decision-making; promoting gender mainstreaming in all policies and measures in the Council of Europe. The Council of Europe in the last decades regards the gender equality issues, has brought legal standards and policy guidance aimed at achieving the advancement and empowerment of women and the effective realization of gender equality in the Council of Europe member states and beyond. In 2012, the Council of Europe, presented the Transversal Programme on Gender Equality, intending to impact and visibility of gender equality standards and to support their implementation in member states. The program was based on the political and financial support of the member states, as well as and on the contribution of all Council of Europe decision-making, advisory and monitoring bodies. The Gender Equality Transversal Programme, as stated in the Council of Europe Gender Equality Strategy 2018-2023, article 81, use the experience and expertise of civil society organizations who are expert in issues related to women's rights and gender equality issues as well as development, implementation, and assessment of policies, programs and activities (Council of Europe, 2018).

For the implementation and monitoring for the fulfillment of envisaged activities, the Gender Equality Commission (GEC) was established to ensure the mainstreaming of gender equality into all Council of Europe policies and to overcome the gap between commitments made at the international level and the reality of women in Europe. The Council of Europe Gender Equality Commission steering committee consists of Gender Equality Rapporteurs and they are engaged in different activities and themes. Member states appoint their representatives, with the task to provide advice, guidance, and support to other Council of Europe bodies and member states.

Council of Europe has adopted two strategies, Gender Equality Strategy 2014-2017, and Gender equality Strategy 2018-2023. The Gender Equality Commission is in charge of the implementation of the six objectives of the Council of Europe Gender Equality Strategy 2018-2023.

Gender Equality Strategy 2014-2017 was adopted in November 2013. and it was based on legal and policy acquis of the Council of Europe. The strategic goal was to achieve improvement and empowering of women as well as the effective realization of gender equality in Council of Europe member States by supporting the implementation of existing standards. Five strategic objectives were combating gender stereotypes and sexism; preventing and combating violence against women; guaranteeing equal access of women to justice; achieving balanced participation of women and men in political and public decision-making; achieving gender mainstreaming in all policies and measures (Woodward, 2002).

Gender Equality Strategy 2018-2023 was adopted on March 7, 2018, and it was also based on legal and policy acquis of the Council of Europe as regards gender equality, as well as the achievements of the first Council of Europe Gender Equality Strategy 2014-2017. The new Strategy outlines the goals and priorities of the Council of Europe on gender equality for the years 2018-2023, identifying working methods and main partners, as well as the measures required to increase the visibility of results (Council of Europe, 2018). This strategy is based on six strategic goals: Prevent and combat gender stereotypes and sexism; prevent and combat violence against women and domestic violence; ensure the equal access of women to justice; achieve balanced participation of women and men in political and public decision-making; protect the rights of migrant, refugee, and asylum-seeking women and girls; achieve gender mainstreaming in all policies and measures.

As mentioned in Gender Equality Strategy 2018-2023, The Council of Europe, for cooperation and grater promotion of gender equality and women's rights has partnerships with other regional and international organizations and civil societies like United Nations (UN), European Union (EU), Organization for Security and Co-operation in Europe (OSCE), Organization of American States (OAS), which have adopted Gender Equality Strategies or Action Plans what gives a good base for cooperation and partnerships, recognizing major goals, opportunities, exchange of views, joint actions and overall synergies.

The Council of Europe has institutional agreements with EU (Memorandum of Understanding between the Council of Europe and the European Union from May 2007), the OSCE (Declaration on Co-operation between the Council of Europe and the Organization for Security and Co-operation in Europe from May 2005), UN Women (Exchange of letters between the Council of Europe and UN Women on the promotion of implementation of international standards on gender equality and violence against women from February 2012), the Office of the High Commissioner for Human Rights (OHCHR) (Joint Declaration on the Reinforcement of Co-operation between the Council of Europe Secretariat and the Office of the United Nations High Commissioner for Human Rights from September 2013), the OAS (Memorandum of Understanding between the Secretariat General of the Council of Europe and the General Secretariat of the Organization of American States from September 2011.), and the Organisation for Economic Co-operation and Development (OECD) (Arrangement between the Council of Europe and the Organisation for Economic Co-operation and Development, concluded by exchange of letters from September 1961 and January 1962). etc.

2.2. European union

Even though European Union made important and relevant progress in previous decades and today is a global leader in gender equality due to equal treatment legislation gender mainstreaming, integration of the gender perspective into all other policies and specific measures for the advancement of women, there are still significant issues that persist like gender-based violence, stereotypes and women are still over-represented in lower-paid sectors in the labor market and under-represented in decision-making positions.

As President of the European Commission Ursula von der Leyen (European Commission, 2020) said *gender equality is a core principle of the European Union, but it is not yet a reality. In business, politics, and society as a whole, we can only reach our full potential if we use all of our talent and diversity. Using only half of the population, half of the ideas or half of the energy is not good enough.*

To address these important issues, on March 05, 2020. the European Commission presented the Gender Equality Strategy 2020-2025, related to the issues which address important topics regarding equality between women and men in Europe. Previous to Gender Equality Strategy 2020-2025, the European Commission has adopted two strategies, the European Commission's 2010-2015 strategy for equality between women and men and Strategic engagement for gender equality 2016-2019. The European Commission's 2010-2015 strategy for equality between women and men has promoted gender equality as a central activity for the EU, considering that equality between women and men is a fundamental EU value an EU objective according to Treaty of the European Union and carrier of the economic growth according to OECD report.

According to the Article 2 of the Consolidated Version of the Treaty of the European Union,"The Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity, and equality between women and men prevail." as also referred to in Article 3 (3) of the Consolidated Version of the Treaty of the European Union „ It shall combat social exclusion and discrimination, and shall promote social justice and protection, equality between women and men, solidarity between generations and protection of the rights of the child. Issue of equality between men and women as referred to in Article 8 (ex-Article 3(2) TEC) [2] of the Treaty on European Union and the Treaty on the Functioning of the European Union, 2012/C 326/01 states that in all its activities, the Union shall aim to eliminate inequalities, and to promote equality, between men and women.

The OECD (2012) report „Closing the gender gap now" had a focus on how to improve and close gender gaps through four headings: Gender equality, social norms, and public policies; gender equality in education; and employment and entrepreneurship stressing that „Gender equality is not just about economic empowerment. It is a moral imperative. It is about fairness and equity and includes many political, social, and cultural dimensions. It is also a key factor in self-reported well-being and happiness across the world. Gender inequality means not only foregoing the important contributions that women make to the economy but also wasting years of investment in educating girls and young women. Making the most of the talent pool ensures that men and women have an equal chance to contribute both at home and in the workplace, thereby enhancing their well-being and that of society."

The European Commission's 2010-2015 strategy for equality between women and men, issue of equality between men and women as fundamental EU value, an EU objective, and carrier of the economic growth, has implemented in all its activities and priorities which were:

- equal economic independence for women and men,
- equal pay for work of equal value,
- equality in decision-making,
- dignity, integrity and ending gender-based violence, and
- promoting gender equality beyond the EU.

As stated in strategy for gender equality 2016-2019, women are economically active, a woman has improved by getting into decision-making positions, even though only representing 21 % of board members of the biggest listed companies, but representing significant 9% improvement over the last five years, with that fact that the most substantial improvement has been seen in countries that introduced legislative measures. The gender balance in politics has also improved with the proportion of women in national parliaments and governments has risen steadily from 22 % and 21 % respectively at the end of 2004 to 29 % and 27 % in 2015. Gender inequalities in decision-making bodies in research organizations have also been reduced: the proportion of female heads of institutions increased in 15 of the 20 EU countries for which 2010 and 2014.

The strategic engagement for gender equality 2016-2019 is the framework for the European Commission's future work towards full gender equality. "Strategic engagement for gender equality 2016-2019" is based on continuous and ad hoc evaluation of the 2010-2015 strategy. This strategy added value especially about agenda-setting and learning, ensuring a valuable framework for gender mainstreaming in the Commission and for the implementation of a coherent framework for gender-equality policies in the Member States.

According to Strategic engagement for gender equality, 2016-2019 report Europeans feel strongly about promoting gender equality: three-quarters of respondents of a recent Eurobarometer survey (76 %) think that tackling inequality between men and women should be an EU priority. Around nine in ten (91

%) agree that tackling inequality between men and women is necessary to create a fairer society.

Gender Equality Strategy 2020-2025 envisaged key actions for the next 5 years with a commitment that the European Commission, in all EU policy areas including equality perspective and same opportunities for all that share the same aspirations.

Gender Equality Strategy 2020-2025 strategic engagement is focused on the following five priority areas:

- increasing female labor market participation and economic independence of women and men
- reducing the gender pay, earnings, and pension gaps and thus fighting poverty among women
- promoting equality between women and men in decision-making
- combating gender-based violence and protecting and supporting victims
- promoting gender equality and women's rights across the world

The strategic engagement sets out objectives in each of these priority areas and identifies more than 30 concrete actions. It reaffirms commitment to gender mainstreaming: a gender equality perspective will be integrated into all EU policies as well as into EU funding programs (European Commission, 2019).

According to Communication from the Commission to the European Parliament, The Council, the European economic and social Committee and Committees of the Regions, A Union of Equality: Gender Equality Strategy 2020-2025 stated on the topic of achieving gender balance in decision-making and politics there are still far too few women in leading positions. Having both women and men represented is crucial for successful leadership, to solve the complex challenges that decision-makers face today and to bring forward new ideas and innovative approaches that better serve a dynamic and flourishing EU society. Equal opportunity in participation is essential for representative democracy at all levels – European, national, regional, and local. The goal is to reach a gender balance of 50% at all levels of its management by the end of 2024. Also, the Commission will call upon the Member States to develop and implement strategies to increase the number of women in decision-making positions in politics and policy-making (Commission to the European Parliament, the Council, the European Economic, and Social Committee and the Committee of the Region, 2020).

3. STATE OF PLAY IN GENDER EQUALITY IN POLITICS, WOMAN AND MAN IN POLITICAL DECISION MAKING

According to European Institute for Gender Equality Report for 2019, gender inequalities are the most significant in the difference in the domain of power (51.9 points), even though the score in this domain has improved the most since 2005 (+ 13 points), due to progress in nearly every Member State. The highest scores in the sub-domain of political power (parliaments, ministries, and regional assemblies) belong to Sweden, France, and Finland, and the lowest to Hungary, Cyprus, and Malta.

According to the European Parliament, Think Thank Briefing Report gender balance in political representation and participation was a commitment and a matter of justice, equality, and democracy. To fulfill these goals the European Union gave very specific recommendations and action to be taken by the EU institutions, national governments, political parties, civil society, and the media. In 2019, in EU's current strategy for gender equality, the focus was on how to achieve gender balance, with at least 40 % or gender parity of 50 %., what would lead EU institutions, EU, and its Member States to true parity democracy (Shreeves, Prpic & Claros, 2019: 1).

Between 2005. and 2017., the scores in the sub-domain of political power increased in 24 Member States, with the biggest improvements in Slovenia, France, Italy, and Portugal. In Finland, Spain, Hungary, and Croatia, the scores decreased. Parliaments in Sweden, Finland, Belgium, and Spain are gender-balanced (i.e. at least 40 % of each gender). In Greece, Cyprus, Malta, and Hungary, women account for less than 20 % of parliamentarians. Overall, 10 Member States instituted legislative candidate quotas to increase gender balance in parliaments (BE, IE, EL, ES, FR, HR, IT PL, PT, and SI). Except for Croatia, women's representation has improved since the application of a quota (EIGE, 2020).

According to European Institute for Gender Equality „Beijing + 25 Report: the fifth review of the implementation of the Beijing Platform for Action in the EU Member States, Area G - Women in power and decision making" in recent years we have seen a significant focus on the representation of women in political and economic decision-making by EU institutions but still considering it as slow and uneven progress. The European Commission has continued to promote gender balance in political and public decision-making positions through its strategic engagement for gender equality 2016- 2019 and its target to achieve a 40 % representation of women in senior and middle management within its institutions by 2019. Further, the report indicates that the European Parliament and the European Commission put in place actions to encourage politicians in the Member States to introduce measures to improve and accelerate gender balance in political and economic leadership positions. One of the measures is quotes with special emphasis on quotas enforced by legislation and sanctions to promote gender equality in decision-making. For instance, in 2017 the European Parliament called on the Member States to guarantee gender parity in leadership positions in the government, in public institutions and on electoral lists.

The same report stated also that men still dominate most spheres in which important decisions are taken in the EU and the Member States. „In 2018, women comprised no more than one in three of those in EU, national and local political decision-making bodies, except in the European Parliament and among regional executives. After the 2019 elections, for the first time in its history women accounted for more than 40 % of Members of the European Parliament. National parliaments and governments show the weakest representation of women, although these vary significantly by Member State. The several EU Member States have a long tradition of equality, with some (such as Spain, France, Finland, and Sweden) almost achieving parity in some areas of decision-making. Other Member States (such as Greece, Croatia, Italy, Cyprus, Hungary, Malta, Romania and Slovakia'), however, continue to lag substantially behind; this has a direct impact on the quality and representativeness of national democracy, as well as how policies are prepared and implemented." (EIGE, 2020)

Table 1. Share of ministers (%) 2016-2017-2018

EU-28	-	Women		28.1 EU-28 -	Man		71.9

Source: adapted from EIGE, 2020

Table 2. Share of members of parliament (%) 2016-2017-2018

EU-28	-	Women		29.3 EU-28 -	Man		70.7

Source: adapted from EIGE, 2020

Table 3. Share of members of regional assemblies (%) 2016-2017-2018

EU-28	-	Women		28.5 EU-28	-	Man	71.5

Source: adapted from EIGE, 2020

Table 4. Share of ministers, members of parliaments and reg. assemblies in 2019.

Country	Share of ministers (%)		Share of members of parliament (%)		Share of members of regional assemblies (%)	
	Women	Men	Women	Men	Women	Men
EU-28	28.1	71.9	29.3	70.7	28.5	71.5

Source: adapted from EIGE, 2020

Table 5. European Parliament: Members in Q4/2019.

	Total	Men	Women	Men%	Women%
EU (28 countries)	748	444	304	59,4	**40,6**
Belgium	42	26	16	61,9	38,1
Bulgaria	34	24	10	70,6	29,4
Czech Republic	42	28	14	66,7	33,3
Denmark	26	14	12	53,8	46,2
Germany	192	122	70	63,5	36,5
Estonia	12	8	4	66,7	33,3
Ireland	22	12	10	54,5	45,5
Greece	42	32	10	76,2	23,8
Spain	102	54	48	52,9	47,1
France	148	74	74	50,0	50,0
Croatia	22	14	8	63,6	36,4
Italy	146	86	60	58,9	41,1
Cyprus	12	12	0	100,0	0,0
Latvia	16	8	8	50,0	50,0
Lithuania	22	16	6	72,7	27,3
Luxembourg	12	6	6	50,0	50,0
Hungary	42	26	16	61,9	38,1
Malta	12	6	6	50,0	50,0

Netherlands	52	26	26	50,0	50,0
Austria	36	18	18	50,0	50,0
Poland	102	66	36	64,7	35,3
Portugal	42	22	20	52,4	47,6
Romania	64	50	14	78,1	21,9
Slovenia	16	8	8	50,0	50,0
Slovakia	26	22	4	84,6	15,4
Finland	26	12	14	46,2	53,8
Sweden	40	18	22	45,0	55,0
United Kingdom	73	39	34	53,4	46,6

Source: adapted from EIGE, 2020

Table 6. European Parliament: Members in the period 2005-2019.

EU (28 countries)	Total	Men	Women	Men %	Women%
2019	748	444	304	59,4	**40,6**
2018	749	476	273	63,6	36,4
2017	748	473	275	63,2	36,8
2016	748	469	279	62,7	37,3
2015	751	474	277	63,1	36,9
2014	749	473	276	63,2	36,8
2013	766	491	275	64,1	35,9
2012	753	488	265	64,8	35,2
2011	736	482	254	65,5	34,5
2010	736	481	255	65,4	34,6
2009	736	479	257	65,1	34,9
2008	785	540	245	68,8	31,2
2007	785	540	245	68,8	31,2
2006	731	508	223	69,5	30,5
2005	731	527	204	72,1	27,9

Source: adapted from EIGE, 2020

Figure 1: Proportion of women and men in the European Parliament 1979-2024.

Source: European Parliament, 2019

3. CONCLUSION

Gender equality and parity democracy European Union is pursuing for more than fifty years since 1957 and the Treaty of Rome. Since then, the EU gender equality policy is accompanied by numerous strategies, directives implemented in national legislations, resolutions and decisions, action programs and plans as also supported through different institutions, specific groups focused on gender equality within the Council of Europe, European Commission and European Parliament. Even though data still shows that women continue to be under-represented in politics and public life at local, national and European levels, as also under-represented in power decision-making positions in many areas, including in Parliament, data represented in this paper shows a constant increase in representation of woman in European Parliament. Only 31 women were members from 1952 until the first elections in 1979. The percentage of female members has gone up with each election. Currently, it is the highest it has ever been with 40.4% of Member of Parliament now being women and representation of women in the European Parliament is above the world average for national parliaments and above the EU average for national parliaments. Also, after 2019. elections, for the first time in its history women, accounted for more than 40 % of Members of the European Parliament with European commission's first female president.

Above mentioned confirms the hypothesis that in European Parliament representation of woman shows the visible and constant increase and progress towards more equal representation what is the result of adopted and implemented decisions through strategies, directives, and resolutions, but there is still significant room for progress and further efforts and perseverance are needed to respect the laws and directives adopted to achieve full gender equality in the area of decision-making and equal participation of women and man in European Parliament.

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SCHOOLS AND SAFETY: AN OVERVIEW OF DIFFERENT PERSPECTIVES[1]

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Abstract

In today's modern age children are surrounded by many hazardous elements – from high traffic to internet threats. As one of the most vulnerable fractions of our population high attention is devoted to their wellbeing. This article intends to shed some light on different perspectives regarding safety in schools and around schools. This research aims to find out what security problems schools are facing and consequently to suggest possible potential solutions to address them. Several elementary schools in Primorje – Gorski Kotar county are subjected to the survey. We conduct this survey with children, their caretakers, and school employees separately with a targeted group of questions to prevent response bias. The broad survey involves questions regarding different fields of safety in schools thereby extending the usual one-field point of view. By questioning members of different social categories, we can examine and compare both their opinion and experience and try to form a general feeling on the topic

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of safety. Accordingly, this article will point out the main concerns regarding safety from the perspective of children and contrast them against concerns of parents. It will also emphasize how school employees and caretakers facilitate children's awareness of safety issues. Moreover, we will outline how this awareness can be improved and on which fields. Our results should encourage new ideas for improving safety protocols of safety management in public institutions like schools thereby helping to create a safer environment for children.

Keywords: *school, safety, safety management*

JEL Classification: I20, I21

1. INTRODUCTION

This paper aims to investigate the level of safety in and around schools. The research is based on the perceptions of children and their parents about the safety situation in the schools they attend. The safety of children at school is not determined solely by their relationship with their peers but is a complex problem that is compounded by the physical aspect of security that is related to the conditions provided by the institution itself with the financial resources at its disposal. For this reason, this research is not focused solely on peer relations, but also covers their relationship with teachers as well as the perception of the physical aspect of safety within the school itself by the conditions themselves and the educated staff.

School safety is one of the five determinants of the global construct of the school environment. The other four determinants are *interpersonal relationships at school, teaching and learning, school arrangement, and continuous improvement processes* (Thapa et al., 2013). Burusić, J. (2019) in his research on the example of Croatian schools establishes a link between the school environment (classroom - teaching environment) and the more favorable influence for learning - where the school environment received a more positive, higher grade the learning environment was also better evaluated.

The safety of children in schools depends first and foremost on their immediate environment, which is made up of their peers and teachers. It also depends on the very conditions provided by the school following its financial capacities. Often this second aspect is neglected. According to the 2018 Ombudsman's Work Report, there were 68 reports of irregularities, two of which issued by kindergarten and the rest of them by schools. In 57 reports peer violence was the reported issue. As many as 11 of the reports referred to adult violence - 9 of them stated violence by school staff against children and 2 violence by other adults from the school surrounding. The actual data is unquestionably several times higher, though, it remains unrecorded. The reason behind it is the fact that in most situations the victim, in this case, the child, does not decide to report the matter since it often is not even aware that he or she has been subjected to violence by a peer or an adult.

Today's children are unquestionably exposed to many types of violence that have not been experienced by older generations. Hence some types of violence go unnoticed because they are carried out through various groups and conversations conveyed through applications installed on electronic devices, taking place outside the control of their parents. From this point of view, the fact that children at an earlier age are getting mobile phones is worrying. Most affected by it are those who are unprepared and under-educated to enter virtual communication - without knowing who can be on the other side. When it comes to safety aspects in the school environment, violence can be classified into several basic categories, namely: physical violence, verbal violence, social violence, and electronic violence.

Children nowadays most often suffer from verbal abuse. Parents of newer generations spend much attention on combating physical violence between children. From their earliest days, children are taught that physical abuse is inappropriate and that it will bring consequences. However, verbal violence is more difficult to detect, and for children, it is more difficult to recognize the consequences that their offensive verbal expression may offend another individual. The most commonly undetected form of violence is electronic violence. In most cases, electronic violence goes unnoticed and children have a hard time deciding to report it because they do not know that it is something that affects their mental health.

The school, as a public institution, is designed not only for education but also for the upbringing of children and young people. It makes a big part in which young people are brought up following social norms and educated about their behavior, but also various threats posed in the environment, both real and the virtual one. In schools, students develop social skills, adopt values, and proper behavior towards other children and adults which form the basis of their development and in that manner grow into an individual who is empathetic, prone to helping, and non-deviant behavior, and able to make and maintain friend-ships. In this process, it is undoubted that the key role is played by teachers and principals who guide students through social norms and teach them to follow social rules through educational methods, thus becoming a pillar in developing tolerance and harmonious relationships in the community. All this is not possible without the support of parents who, together with teachers, should strive to form a child's awareness of proper community behavior and thus prepare them for life. In that way, they are making the school a place free from threats, violence, and fear, where the rules are equal for all, in which the child has the opportunity for continuous development and learning.

The process of creating a safe school never ceases - it is an ongoing process focused on interpersonal relationships, policies, and programs whose implementation continuously improves the level of safety and our understanding of school safety issues. This topic is also addressed by the UNICEF prevention program in Croatia, entitled "For a Safe and Enabling Environment in Schools", also known as "Stop Violence among Children", which began in the 2003/2004 school year. More than 100 secondary and elementary schools in the Republic of Croatia are enrolled in the program, and today all schools in the School have zero tolerance for violence. UNICEF also established the "Network of Schools Without Violence" in 2007. A "Break the Chain!" campaign was conducted with the schools as part of the "Safe and Encouraging School Environment" program where the research focused on the growing problem of student safety when using electronic media and other modern technologies.

UNICEF continues to address these issues, and in its report "The Situation of Children in the World in 2017: Children in the Digital World", further emphasizes the need to identify gaps in children's and adult awareness of possible uses of the Internet, knowledge about Internet protection, and laws and regulations that fail to keep up with the pace of technology development, highlighting the opportunities, divisions, and dangers we face when using the Internet (UNICEF, 2017). The consequences of verbal and electronic abuse can leave (Pregrad, J. et al., 2011):

- psychological effects on the abused person and he/she may continuously feel anxious, upset and angry,
- the emotional consequences of which the abused person may feel ashamed may lose interest and will, and
- physical effects resulting from the previous two types of abdominal pain, vomiting, headaches, decreased concentration, and insomnia.

Finally, every safety issue has a social aspect when a child can develop an aversion to going to school, can avoid socializing and isolate himself, or be ignored by friends. The fact that the topic itself is contemporary is also confirmed by the fact that according to the proposal of the Ministry of Education, the Government of the Republic of Croatia voted on February 6 this year to adopt an *Action Plan for the Prevention of School Violence for the period from 2020 to 2024*.

All of the above is a reason enough for exploring this problem from the perspective of students, parents of teachers, since everyone has a role to play in the educational process, and therefore an opportunity to evaluate and improve the existing mechanisms related to school safety. Undoubtedly, nowadays school principals go beyond those old established ways of working, and, with the challenges of the workplace, they become managers with all the skills that a leader of any more complex system must possess (Lunenburg, 2010).

2. METHODOLOGY

The survey was conducted in the 2019/2020 school year in elementary schools in Primorje - Gorski Kotar County. A total of 300 students and 300 of their parents, as well as teachers and school principals, participated in the survey. The survey was conducted through a questionnaire that was tailored and different for each group of respondents.

Before conducting the research, principals and educators were informed of the goals of the research and given questionnaires for insight. Upon approval of the research by the principal, the teachers distributed the consent forms to the students so that their parents were aware of the research goals. The parents then had to give their consent to research their children. Following the gathered consents, students completed a questionnaire intended for students in the class to prevent parents from influencing their answers. The questionnaires designed for parents were taken home by the students and returned to school after being filled out by their parents.

All participants were informed that the questionnaire was completely anonymous and that they were not required to participate in the survey if they did not wish to do so. Furthermore, all survey participants were informed that the results of the questionnaire would be used solely for research purposes and that their data would be protected. It took an average of 10 to 15 minutes to complete the questionnaire. The questionnaires consisted of multiple-choice questions, with the possibility of listing their answer in case the offered answers did not satisfy the respondents thought. The questionnaire was supplemented with statements in which the respondents had to evaluate the degree of agreement with a certain statement, using the Likert scale in which the value 1 represented a complete disagreement with the given statement, the value 2 partial agreement with the statement, the value 3 represented a neutral attitude towards the statement, value 4 agreement with the statement and value 5 representing a complete agreement with the statement given.

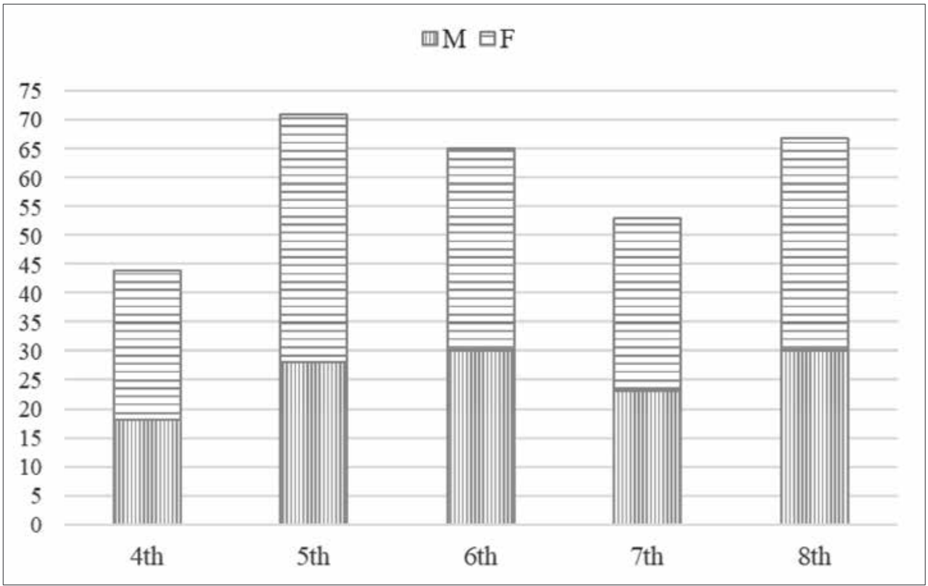
As stated earlier, each questionnaire was tailored to the group being surveyed. The parent questionnaire was composed of twenty-nine questions, of which the first five was related to general information such as gender, age, number of children, etc., four questions were to be answered yes or no, there was a question of recognition, two were questions with multiple answers offered, while the remaining questions were questions in which the degree of agreement or disagreement with a specific Likert scale was required. a claim related to the safety of children at school.

The questionnaire for children consisted of forty-five questions. The first seven concerning general information such as gender, age, grade, and name of the elementary school the student attended, seven questions were multiple-choice questions, twenty-six questions were the ones the children had to agree or disagree with a specific statement. Also, in six questions the children had to choose the degree of agreement or disagreement with a particular assertion using the Likert scale. One question, the same one as for the parents, was a question of recognition, and three were questions that needed to be commented on or the child had to give their judgment or opinion.

3. SAMPLE AND DESCRIPTIVE STATISTICS

The survey was conducted on a total of 300 students and an equal number of parents. The structure of the sample of students by grade and gender is given in table number 1. The average age of all children surveyed was 12 years, and the survey was conducted on students from grades 4 to 8 of elementary school. A total of 43% of the children surveyed were male and 57% female and such is the approximate gender ratio by each grade.

Figure 1. Structure of students surveyed by class and gender



Source: created by authors

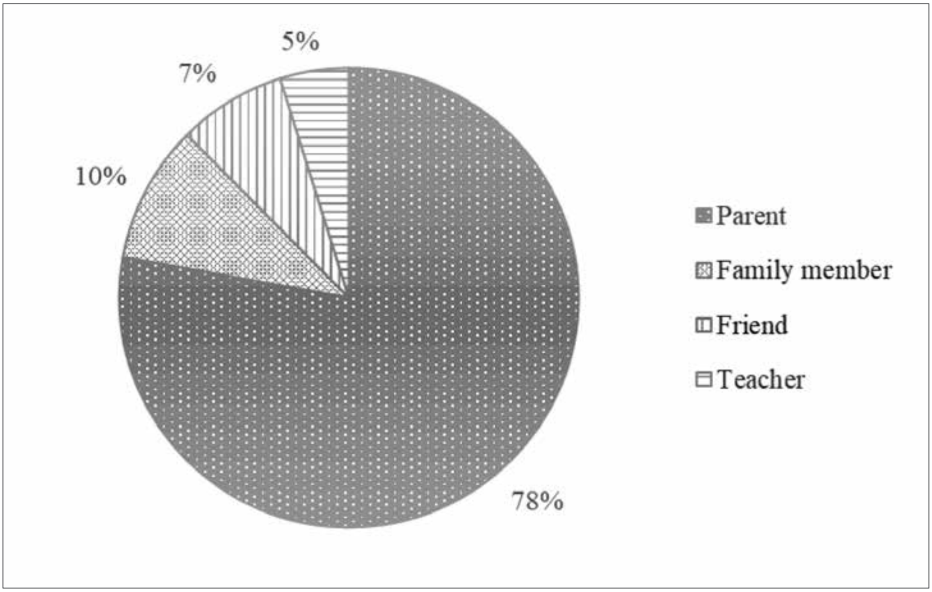
The structure of the sample of parents by age and gender is given in table number 2. As many as 83.3% of the respondents who filled in the questionnaire were female. The average age of all respondents was 43 years, while that of the respondents was 46 years.

4. RESULTS

Observing many aspects of child safety – the first concerned the general level of safety on the way to and from school, and the sense of safety at school. When asked if they feel scared while traveling to school, 5% said yes. Most of them were female, as much as 73.3%. An equal percentage of the 4th, 5th, and 6th-grade respondents answered the question in the affirmative, while this percentage falls in the 7th and 8th-grade respondents. However, most affirmative respondents did not experience any unpleasant situations on their way to school. Those who did mostly listed unknown people who wanted to talk to them, scared, witnessed a physical altercation or were threatened with a car accident. The way children went to school was also examined. There was a correlation between the feeling of fear in children on their way to school and the way they went to school. Of the children who felt anxious on their way to school, 53.3% of them travel alone, 20% with their parents, and 26.7% with friends. An even more significant connection was observed in the mode of this trip - as many as 86.6% of children who felt fear traveled on foot, and 6.7% of them traveled by car or bus to school.

Statistics on safety issues at school indicate some problems. 65% of respondents confirmed that they had witnessed a school incident (brawl, mockery, threats, etc.), 23.7% of the respondents participated in a school incident, and it is interesting to note that as many as 25% of the children surveyed said they were warned for inappropriate behavior at school. Only 1.3% of respondents were reprimanded for inappropriate behavior. We were also interested in who the children's first approach when they have a problem or feel threatened. The results are shown in figure number 2.

Figure 2. Person of confidence structure to whom students first turn to in the event of a problem



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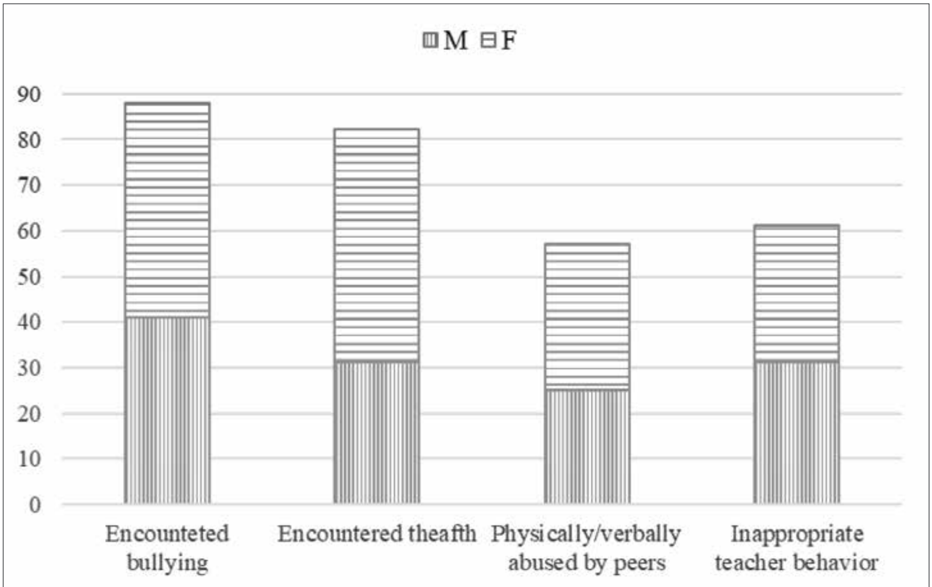
As expected, the largest number of children chose to talk to their parents (78%), but a surprisingly low percentage of them seek help from their teachers – only 5%. Above the teachers, other family members, and the children's friends positioned themselves as a source of help. We investigated more deeply into what forms of unpleasant situations students encountered in school. Detailed results of the most common situations are given in figure no. 3. where affirmative answers about such events are divided by gender of the student. The most commonly reported problem is witnessing bullying, followed closely by encountering or witnessing theft of a student's belongings. Interestingly, more students stated that professors behaved inappropriately towards them than students said they had been physically or verbally abused by their peers. Regarding gender structures, roughly equal numbers of male and female students reported these problems, but still, the number of female students is slightly higher than the number of males. The only exception is the event of inappropriate teacher behavior towards the students - here, however, a few more male students stated they encountered this kind of situation than female students did.

Figure 3. Student's most commonly encountered issues at school by gender



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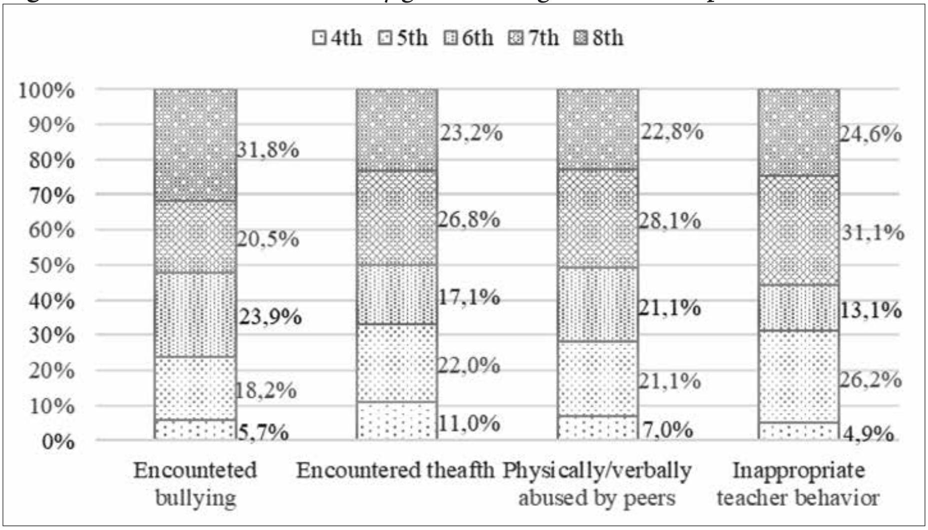
We also found it interesting to find out whether the frequency of the abovementioned common problems encountered by students with increasing age decreases or increases (see figure no. 4). Out of the total number of students who confirmed facing these problems, the lowest percentage of children is convincingly from the 4th grade. For example, already the percentage of students in the

5th grade who have encountered these problems is double or several times higher than the percentage of 4th-grade students. Other results are interesting for several reasons. Students in even grades (6th and 8th) showed a decline in the number of students experiencing theft, peer violence, and unpleasant situations with teachers, while odd grade students (5th and 7th) reported an increase in the percentage of the same events. The only exception is to encounter bullying - it is the most common occurrence in 8th-grade students.

Figure 4. Structure of students by grade stating encountered problems at school



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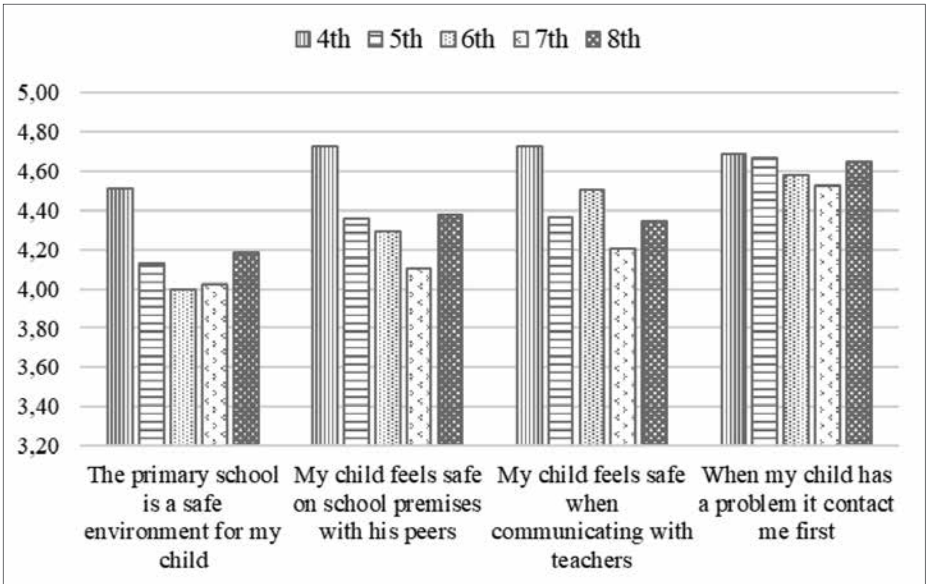
Logically, we also interviewed their parents about the problems their children were experiencing at school to investigate whether they agreed. Because we learned earlier in the study that 78% of children turn to their parents in the first place while facing some problems, we expected approximately the same results. Parents had to rate from 1 (strongly disagree) to 5 (strongly agree) on individual statements regarding the safety of children at school via the Likert scale. A detailed view of the results is visible by class groups in figure no. 5. The statements about the most common problems of children at school were tested and all average grades given for individual statements received a minimum score of 4.0. Parents of all grades agree that their children's school is a safe environment for the children (average mark for all school grades 4.17). They also claim that their children are safe at school and within their peers (average mark for all school grades 4.37) and that their children feel safe when communicating with teachers (average mark for all school grades 4.43). Lastly, we checked the information on entrusting children to their parents in case of problems - these were the highest scores, and the average mark across all school grades was 4.62. It should be noted that the variations in answers in different school grades students' problems tracked the levels of their parents, which is precisely what leads to the additional credibility of this research. The highest scores on all questions asked were for parents of 4th-grade students.

Figure 5. Parents' marks by child grade on safety issues at school



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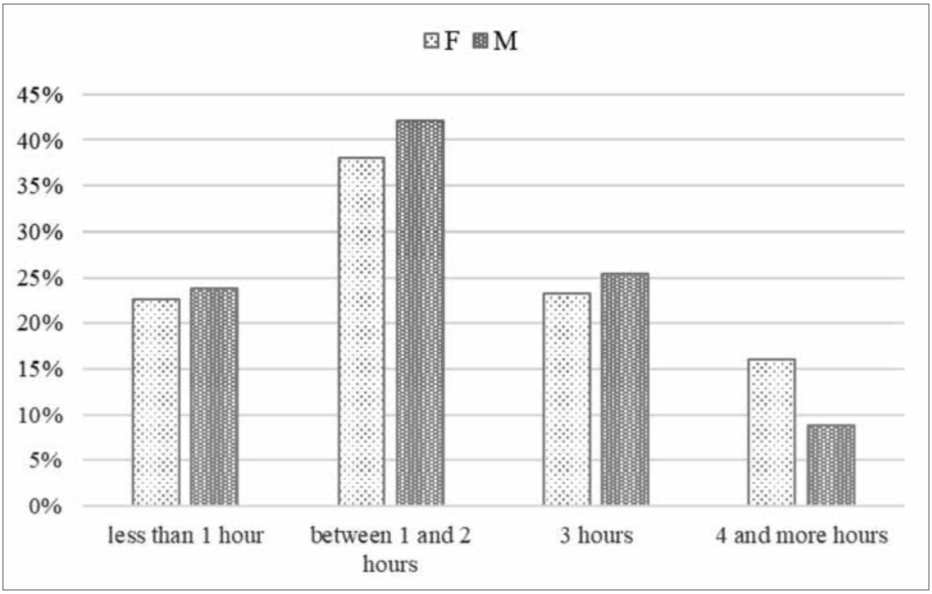
A 2010 UNICEF survey of 5th to 8th-grade students about students and how they navigate the digital world. The study found that 96% of students have their cell phone, 95% of students have a home computer, of which 85% of students and parents and 91% of teachers have internet access from home (Pregrad, J. et al., 2011). The same survey found that students use the internet the most for social networking and entertainment and that 66.2% have never experienced cyberbullying. These data were the starting point of our research and we were interested in the similarity in Croatian elementary schools. The following are the most significant research findings.

Additionally, to the general elementary school student safety, we studied the aspect of online child safety and their habits of using mobile devices and the Internet. The number of students who own their mobile device is 293 out of 300. Out of 7 students who do not have their mobile device, 5 attend the 4th grade of elementary school, and 2 of them the 6th grade. In addition to the structure of children who own their cell phones, it was more important for us to investigate how often they use it daily. The results are visible in figure no. 6 which brings the structure of students' responses according to their gender. The majority of them, as many as 38.1% of female students and 42.1% of male students use cell phones between one and two hours a day. In all lower categories of cell phone time use, male students are ahead of female students, though the proportions within the first three categories are roughly equal. In the last category, that is, the statement that the mobile phone is used for more than four hours daily the lead goes to the female students: 8.7% of male students said that their daily mobile phone use is more than four hours, and as many as 16.1% of the female students said the same.

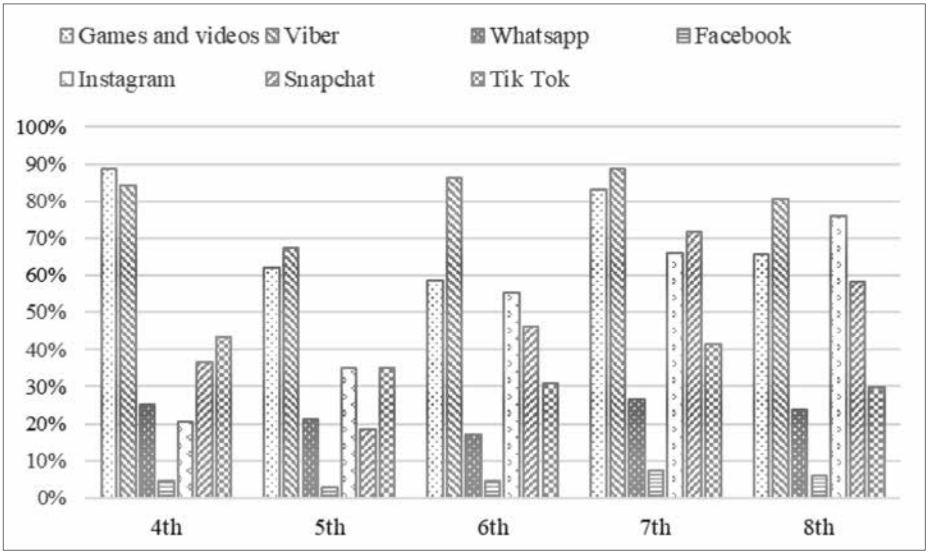
Figure 6. The structure of students' mobile device daily usage by gender



Source: created by authors

In addition to the daily amount of mobile phone usage, we were also interested in the most commonly used apps that students use on their mobile devices (figure no. 7). In addition to playing games and watching videos, they are offered some of the currently popular applications such as Viber, Whatsapp, Facebook, Instagram, Snapchat, and Tik Tok. Students were also bored with writing some of the applications they frequently use that were not listed. In addition to the ones offered, the most common was the Reddit and Twitch application, but with a few respondents. As expected, we received a large number of students to play games and watch video content. An average of 71.6% of them use a cell phone in this world, as expected, the highest percentage was recorded in 4th-grade students (88.6%). The most widely used application by the respondents was Viber, which an average of 81.4% of respondents has installed on their mobile device. This is followed by Instagram, which has an average of 50.6% of respondents, Snapchat with an average of 46.2%, and Tik Tok, which has an average of 36.1% of respondents installed. The number of students using the Instagram and Snapchat apps grows with age, while the use of the Tik Tok app by the respondents varies depending on the class, but the highest percentage (43.2%) of them go to the 4th grade of elementary school. These applications can be misused very easily given the age of the students who use them. Some of them have a prescribed minimum age for their use, which is often violated by users.

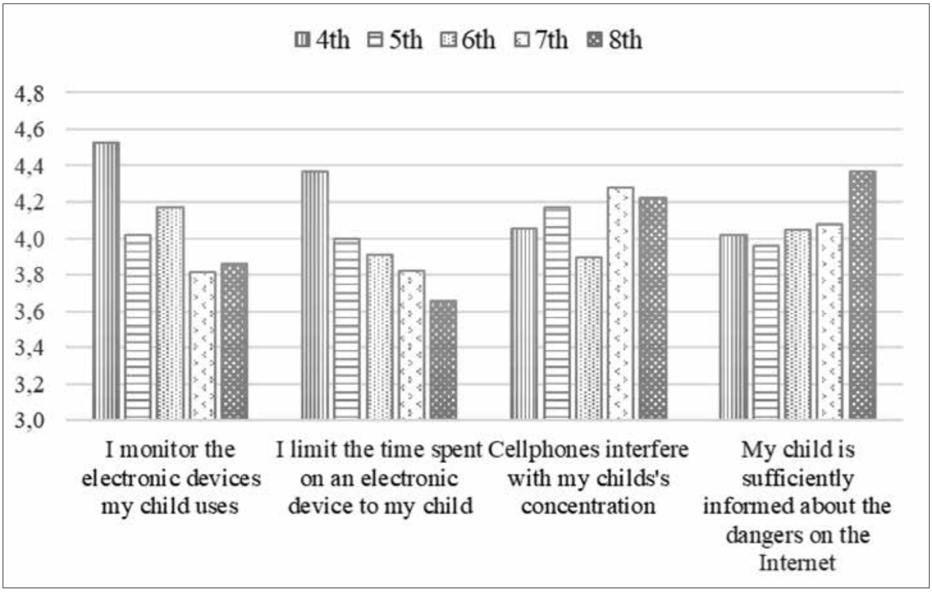
Figure 7. Most used mobile apps by school grade



Source: created by authors

Sharing private photos, communicating with strangers, and even a simpler channel of abuse among peers are just some of the potential threats posed by malicious use of such applications. Therefore, the role of parents as a body to prevent such situations is essential. This is exactly what we decided to check with our parents. Again, using the Likert scale from 1 (strongly disagree) to 5 (strongly agree), they had to rate individual statements about the use of mobile devices and their children's online safety (figure no. 8).

Figure 8. Parents' views on the use of their children's mobile devices and internet safety



Source: created by authors

The average rating on the statement that they control the mobile devices used by their children is 4.08. As expected, the highest mark was given by parents of 4th-grade students, and this rating varies with parents of upper elementary school children. The lowest mark was given by parents of students in school grades 7 and 8. Going back to the usage of mobile devices, we asked parents if they were limiting the mobile device usage time of their children. The awarded marks were different. The parents of 4th-grade students rated it as high at 4.36, and this value continued to decrease throughout the following classes. Lastly, the lowest mark was given to parents of 8th-grade students at 3.66. We also asked parents if they considered mobile devices to interfere with their children's concentration. Although the values varied by school grade, the average value given by parents to that statement was 4.12 with the highest scores given by parents of students in grades 7 and 8. Lastly, perhaps the most important issue is the issue of online child safety. On the statement that their children were sufficiently informed about the dangers found on the internet, parents gave an average score of 4.09, which is a good indicator. The most confident were parents of 8th-grade students with an average grade of 4.37.

5. CONCLUSION

The contribution of our research is primarily related to the different perspectives of individuals directly involved in the whole process of ensuring safety in schools. Specifically, as noted in several studies conducted by UNICEF - teachers and principals do not themselves participate in promoting a safer environment in schools. Parents bear much of the responsibility for safety in schools - they are the first pillar of the child's upbringing. Parents are the first to teach a child to recognize the good and the bad, and through their behavior and upbringing, influence the creation and development of a moral and socially acceptable person. Parents are also the first line of defense in the event of security problems - they are the first to be addressed by the child (Pregrad, J. et al., 2011), and they are often the first to notice changes in their child's behavior. This is confirmed by the results of our research. Specifically, 78% of the children surveyed said that in the event of a problem, it is the parents who first talk to them, above other family members, their friends, and their teachers. The same was confirmed by parents with a high rating of agreeing with this fact. And it is for this reason that parents must be aware and educated of all the possible dangers that may arise within and within the school district, to prepare their children in advance for how to properly handle such situations. Bullying testimony was the most commonly cited problem at school, slightly less than 30% of students confirmed that they had testified to it, and the number was approximately the same for male and female students. The very act of bullying by peers was reported by 19% of students. These values varied from school grade to school grade, and feelings about safety and security issues with parents matched students' statements. This is a good sign as we conclude that parents are well-versed and involved in solving the problems their children face.

It is important to note that, although this research focuses on the students' security situation from the perspectives of many individuals involved in the security process itself, it focuses more deeply on several key aspects of school safety, and there is still room for improvement. Security problems at school are numerous - they are not limited to the physical and verbal abuse that is commonly mentioned. The four most commonly mentioned security concerns were witnessing bullying, witnessing the theft of students' personal belongings, inappropriate teacher behavior towards the student, and only afterward personal experience of physical or verbal abuse by peers. In addition to safety issues in the school and its immediate environment, we also examined students' safety concerns on the way to and from school. 5% of students surveyed said they felt unsafe when traveling to school. The reasons for this uncertainty were the occurrence of several events, the most common being unknown people who wanted to talk to them, they had witnessed a physical alteration, or were threatened with a car accident. A connection between the mode of travel to or from school and the student's sense of fear was observed. Specifically, students traveling on foot most frequently expressed fear (86.6%) and self-reported students (53.3%). When traveling with friends, 26.7% said they felt afraid, but even 20% of students traveling with their parents said the same.

With the advancement of new technologies, electronic abuse is increasingly present, whose characteristics and capabilities are numerous. 98% of the students surveyed claimed to have their mobile devices. 42.1% of male and 38.1% of female students spend between one and two hours daily on their mobile devices. In doing so, they use several applications through which they can very easily compromise their security. The most commonly used Viber is used by an average of 81.4% of students across all school grades. Followed by Instagram with 50.6%, Snapchat with 46.2%, and Tik Tok with 43.2% (all values are averages for all school grades in total). The problems that may arise here are contacts with strangers, misuse of personal photos or video content, and what is most accessible: various types of abuse. It should also be mentioned that some have prescribed minimum age limits for their use, which are often violated by students. Parents play an important role here again. They expressed very high levels of agreement with the statements that mobile devices interfere with their children's concentration but also claimed that they limit the time their children spend on mobile devices and also control how they use them. Last and very encouraging, again, is the high value of agreement that their children are sufficiently informed about the dangers of lurking on the internet.

Children are exposed to many situations in which they may encounter physical and psychological consequences due to a negligent environment. With this research, we have tried to deepen the environmental awareness of some of these situations and have contributed to the overall literature on child safety. Children are the future and the quest for a better understanding of their environment and the development and implementation of better safety solutions never ceases. Therefore, there are numerous suggestions for further research. Some examples would be researching the differences in security issues between urban and rural areas and a more detailed approach to certain aspects of security that have proven problematic in our research. Of course, there will always be disagreements among students and occasional quarrels. Nonetheless, it is our task as a community, together with parents and school staff, to try to make the world a better place for the most vulnerable group in our society.

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