THE INFLUENCE OF MARKETING COMMUNICATION OF THE FITNESS INDUSTRY ON SOCIAL NETWORKS ON CONSUMER ATTITUDES

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Editors:
Barbara Huszar, Zoltan Baracskai, Nicholas Recker

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CONTENTS

SIMULATION OF JOB ROTATION IN THE MANAGEMENT OF AUTOMOTIVE COMPANIES

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ABSTRACT

This study embarks on a comprehensive examination of job rotation practices within the management ranks of automotive companies, spotlighting the significant variability in these practices across different market segments and in response to evolving market demands. Emphasizing the critical role of sensemaking in navigating these dynamic conditions, the research investigates how automotive companies' managers utilize this cognitive process to rationalize decisions and adapt to changing environments. The research utilizes simulation to model the implications of various job rotation strategies, providing a novel perspective on optimizing these practices economically and strategically. Central to the study is the development of a new mathematical model designed to determine the Optimal Job Rotation Year (OJRY), integrating various quantitative factors to pinpoint the most advantageous timing for managerial role changes. This model considers the average tenure of managers, the financial impact of rotations, and the complexity of management positions, offering a strategic tool for enhancing the effectiveness of job rotation policies.
Keywords: simulation, job rotation, automotive companies, sensemaking, terminus technicus

1. INTRODUCTION
The methods used by automakers to rotate their management staff's jobs range greatly. The disparity can be attributed, in part, to the varying requirements across different economic activity groups (such as compact, premium, sport, super-premium, etc.). Second, it is crucial to respond to the shifting market, since this continually modifies expectations for management (Weick, 2015). Examples of this include how quickly a regular manager can pick up new terminology at a new job, among other things. Sensemaking is a tactic used by managers of automobile companies subtly and continuously to justify business actions in the context of a continually changing market (Matilis, 2014, Weick, 2005). It's also critical that generations work together (Singh, 2014, Smith, 2013). In addition to generations X and Y, generation Z is now employed. As managers as well as employees, they need various HR resources as well as communication, motivation, and management strategies. The domains of work rotation are greatly impacted by the diverse requirements and opportunities of the different generations. Additionally, it would appear that the nationalities of the founders and the senior management are significant (Boone, Hendriks, 2009), as they are also a deciding element in the rotation process. Given that certain process components come with high prices, it may also be important to describe the rotations' financial and economic implications (Ortega, 2001). Consequently, a cost-benefit analysis is crucial.

2. LITERATURE BACKGROUND
The authors' research questions are: How does reasoning/sensemaking help in successful job rotation? Is there a rotation time interval that applies to everyone? The subject matter covered has serious shortcomings or gaps in light of the body of literature. The authors made an effort to locate papers that would support their own rotation or the rotation of others; however, the literature primarily addresses and evaluates rotation procedures to keep line workers from

burning out and to preserve their ergonomic health, with insufficient focus on the rotation of managers and leaders. The majority of the literature (Ortega, 2001; Osterman, 2000) focuses on the employees who rotate jobs rather than managers. Furthermore, the literature does not provide any universal guidelines that apply to the automobile industry. Researchers don't go deep into the subject of automobile industry management. Healthcare, production lines, and occupations in the social care sector receive the majority of attention (e.g. Rhodes et al., 2015). Overall, it can be said that a number of sensemaking-related publications have been published between 2014 and 2022; however, as they are not directly relevant to the subject of the study, they are not covered in detail in this literature review. Attention is mainly directed to healthcare, production lines and jobs in the social care sector (e. g. Rhodes et al., 2015). Therefore, overall, it can be stated that several articles on sensemaking have been published in the period 2014-2022, but since these are not closely related to the topic of the research, they are not detailed in this literature review.
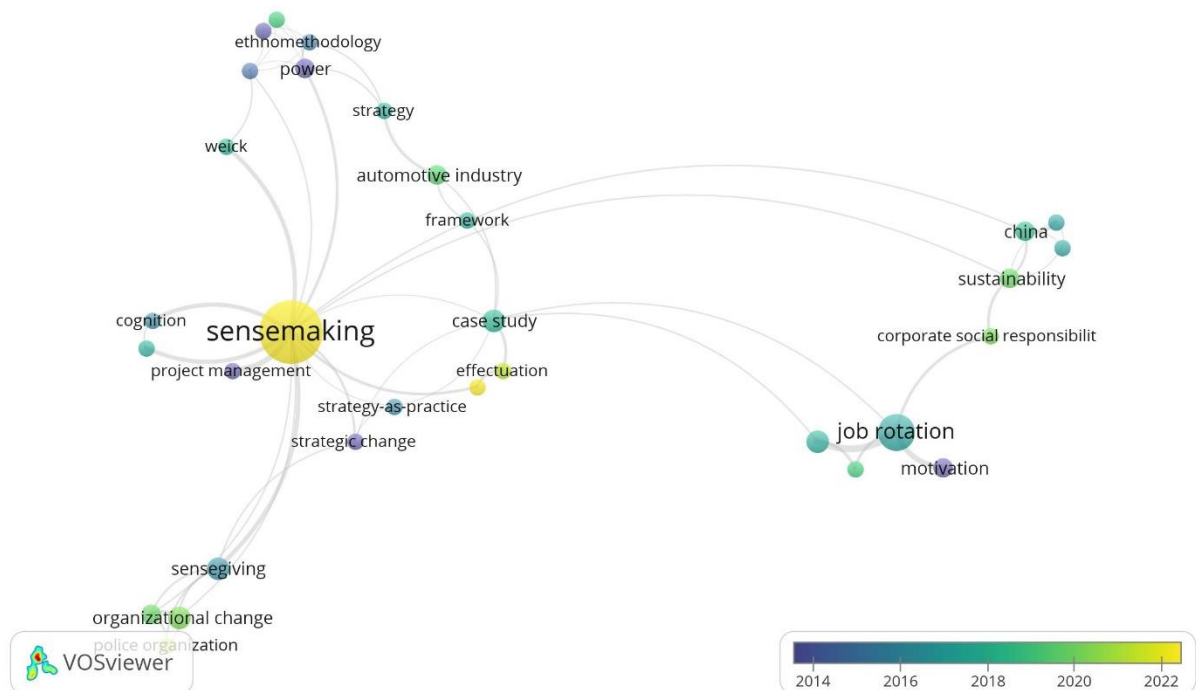
Picture 1: Results of digital SLR research, with a web of relationships among keywords 2014-2022
(Source: authors' own survey with VOSviewer)

For an economic analysis of the topic, the simulation technique is intended to be used. Simulation is a concept that is commonly used in everyday life, but in most cases we are not aware of it. For instance, weather forecasters daily show us simulations of rain and temperature information, where we see the movement of clouds or fronts over the days, months ahead. Also, model railways and remote control boats or cars, even drones, are examples of physical simulations. „So what does the term simulation mean? In its most general sense a simulation can be defined as: An imitation of a system" (S. Robinson, 2014). Queuing systems are also modelled using discrete-event simulation. Entities flowing from one activity (essentially a time delay) to another are used to illustrate a system. Queues separate the activities. Queues form when entities arrive at a faster rate than the following activity can process them. On the surface, there may appear to be a small number of situations that qualify as queuing systems, yet the applications are numerous and diverse. Many systems can be thought of as queuing systems, regardless of whether the entities going through the system represent people, physical items, or

information. (Antoni G, et al., 2009.) As a result, discrete-event simulation is widely used in a variety of industries. In the case at hand, simulation is used to show the result of changing the attributes (inputs) of the system and predict the consequences. As Robinson, S. (2014). stated simulation models can be used as a flexible framework for discrete-event simulation modelling of (integrated) emergency departments. The model has been implemented in Technomatix Plant Simulation from Siemens, a simulation software package for integrated, graphical and object-oriented modelling and simulation. The model contains the following main components: moving entities, which mainly represent the patients requesting emergency care; recourses, e.g., treatment rooms, staff, and diagnostic testing equipment, and processes, i.e., the decision logic implemented to represent the patient's logistic care pathways.

3. METHODOLOGY

At this juncture in the research, we anticipate results that will substantiate two primary hypotheses. The first hypothesis posits that significant gaps and deficiencies exist in the current literature related to the management of automotive companies, particularly in the context of job rotation practices. Despite these gaps, there is a pressing need for standardized job rotation practices within the automotive industry, which consistently encounters a spectrum of challenges and tasks. The second hypothesis is derived from preliminary interviews, which suggest that the average job rotation cycle spans approximately 4-5 years. Although many companies have established rotation plans, these are not universally applied or consistently practiced on a daily basis. The consequences of delayed rotation are noteworthy, potentially leading to burnout or increased staff turnover. Moreover, initial discussions have revealed a degree of managerial resistance to the concept of job rotation, questioning its utility. This resistance introduces an additional layer of complexity to the understanding of job rotation processes, warranting further investigation. Regarding the simulation model, it lacks a moving entity, testing equipment, and does not represent a process simulation. Consequently, the simulation software previously considered, including Plant Simulation, Arena, and NHPP, is deemed overly complex for our purposes. In response, we plan to initiate our simulation using Microsoft Excel, exploiting its capabilities for data tabulation, analysis, and the facilitation of simulations. Additionally, Python will be employed for further data analysis and simulation tasks. The process of determining accurate inputs is critical to the construction of a viable simulation model, as the validity of the model's outcomes is directly dependent on the quality of its inputs. Despite the existence of multiple methods for input determination, no single approach guarantees perfection. A flawless method would significantly simplify forecasting efforts, which is not the current reality. Thus, we adopt a stochastic approach to achieve precise results, relying on the collection of real variables with inherent randomness. These variables may be used directly or processed further to generate necessary inputs. Simplified inputs, as depicted in Picture 1, serve as fundamental variables in our model, illustrating the initial step in our methodological approach to exploring job rotation strategies.

	Actual	PLAN
avarege time in position	4,25	3
People	300	250
1	20	40
2	40	50
3	60	70
4	100	50
5	80	40
	300	250

Picture 2: Input variables for AMYC formula in Excel
(Source: authors' own survey with Microsoft Excel)

The inputs detailed here accurately reflect the current managerial situation within the company and outline the proposed analysis. Specifically, "average time in position" quantifies the tenure of managers in their current roles, expressed in years, while "the people" metric indicates the total number of managers presently employed by the company. The variables labeled 1 through 5 denote the tenure range, in years, of managers remaining in the same position, accompanied by respective quantities for each tenure duration. The proposed plan mirrors these variables, albeit with altered values and a revised distribution across the years. To facilitate our analysis, we have developed a formula to determine the Average Management Year (AMY) constant. This constant provides an insight into the average tenure of managerial positions within the organization. It is calculated using the following method:

$$\text{AMYC} = \frac{\sum_{n+i}^{n} \text{MIP}}{\sum m}$$

AMYC = Average Management Year Constant
n: First year in the position
i: years in position
MIP: Manager in Position (Numbers of the managers in the position
m: manager number

4. SIMULATION

In the realm of business management, understanding the dynamics of managerial rotations is crucial for optimizing organizational structure and efficiency. This section presents a comprehensive analysis aimed at comparing the current managerial setup with various projected scenarios, employing a blend of statistical tools and network analysis. Through a series of visual representations, we delve into the intricacies of these comparisons, offering insights into the relationships between different scenarios and their implications on the number of rotating managers. Through rigorous evaluation, the analysis sheds light on potential paths forward, underpinning strategic decisions with empirical evidence. In Picture 3, we observe a graphical representation that compares the number of rotating managers in the current situation ("Present" scenario) against various projected scenarios, specifically "Scenario1" through "Scenario5". This comparison is depicted through a meticulously crafted graph.
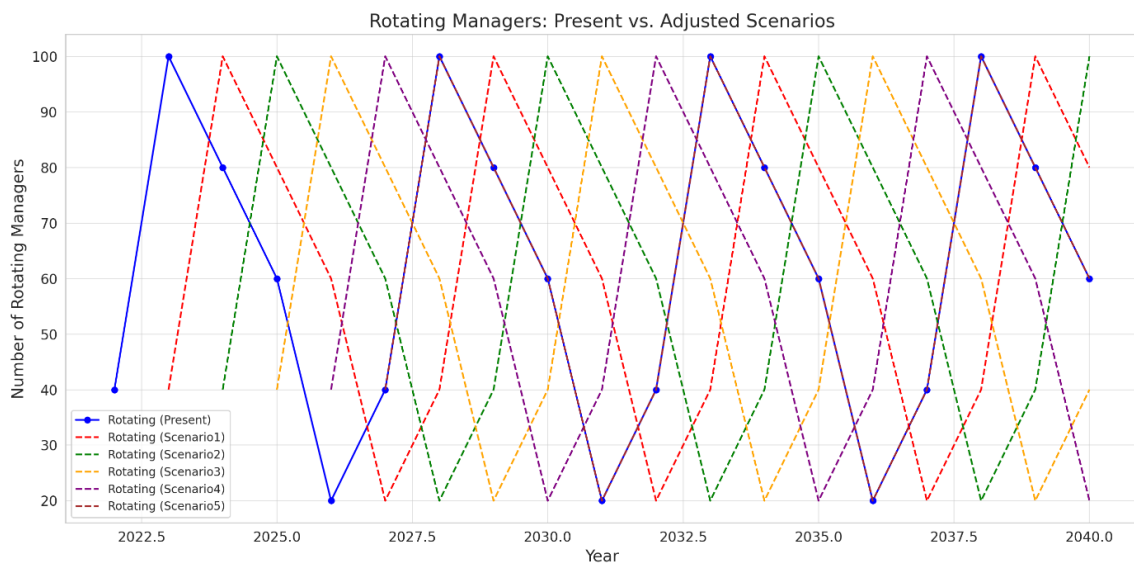
Picture 3: Input variables for AMYC formula in Excel
(Source: authors' own survey with Microsoft Excel)

The accompanying text refers to Picture 2 as input variables for the AMYC formula within an Excel framework, introducing a network graph that illustrates the correlations between these scenarios. Each scenario is symbolized as a node, and the connections (edges) between these nodes highlight the correlation strength. Correlation coefficients, which quantify the relationship strength, are annotated on each edge. For enhanced clarity, only correlations with an absolute value exceeding 0.5 are included. This graph exemplifies the minimum spanning tree (MST) technique applied to the scenario correlation network. The MST strategy aims to connect all scenarios in the most efficient manner, prioritizing the strongest correlations while avoiding redundant connections.
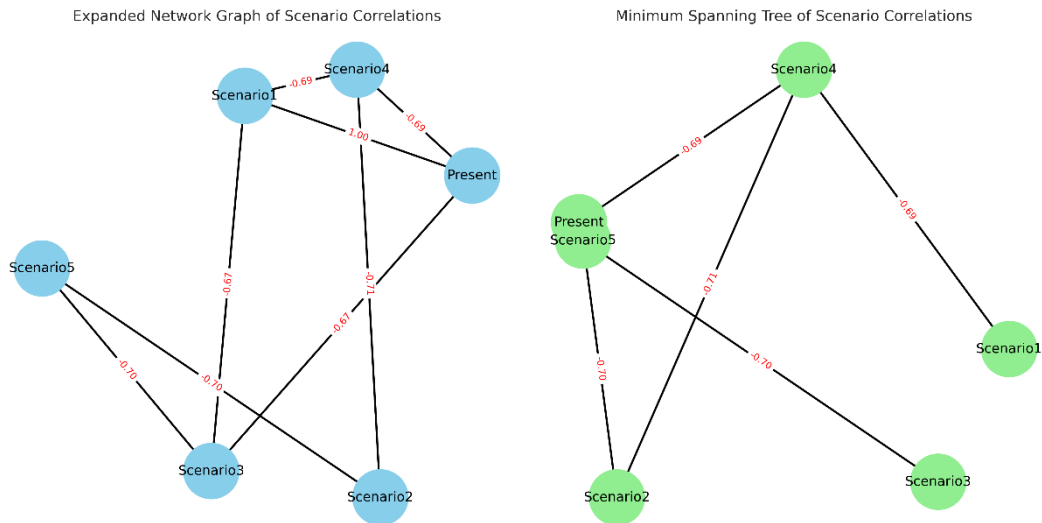
Picture 4-5: Scenario basic graph, and after the edge reduction with the mining spanning tree algorithm
(Source: authors' own survey with Microsoft Excel and Python)

Pictures 4 and 5 delve into the basic scenario graph and its evolution post-application of the edge reduction technique via the minimum spanning tree algorithm. The initial visualization, a scatter plot, compares the "Present" scenario against "Scenario1" through the integration of 6th-degree polynomial trend lines. These trend lines serve as indicators of the overarching trends over the years for each scenario. Additionally, a bar chart presents the p-values derived from t-tests conducted to compare the "Present" scenario against the others. A significant threshold is marked by a horizontal red dashed line at $p = 0.05$, guiding the interpretation of these p-values. P-values above this line indicate a lack of significant difference between the compared scenarios, while those below it signify a noteworthy divergence.
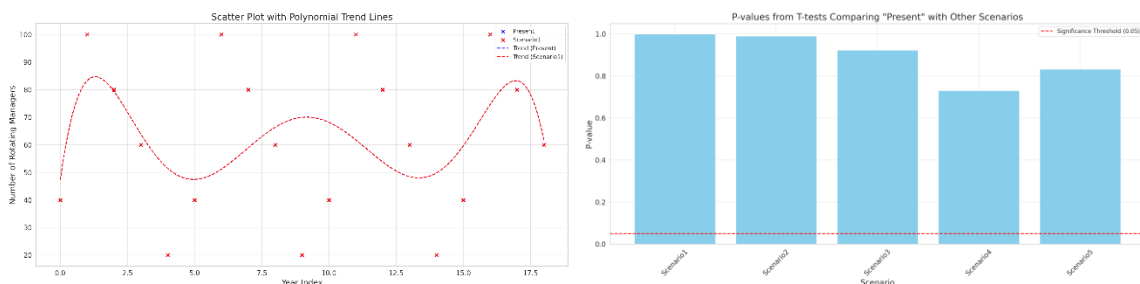
Picture 6-7: Evalutaion of the created scenarios
(Source: authors' own survey with Microsoft Excel and Python)

In Pictures 6 and 7, the evaluation of the devised scenarios is laid out. This section underscores the methodical assessment and comparison of each scenario against the "Present" scenario, focusing on the variance in the mean number of rotating managers. This comprehensive evaluation aids in identifying which scenarios exhibit significant differences from the current state, thereby facilitating informed decision-making regarding managerial rotations.

5. RESULTS

This section delves into the analytical exploration of managerial rotation strategies within an organization, leveraging advanced statistical modeling to forecast and optimize management dynamics. Through the examination of linear regression analyses, we aim to shed light on the expected trends in managerial rotations, comparing current scenarios against future projections. The focus is on understanding the implications of these trends for organizational strategy and the optimal management of human resources. By integrating empirical data with predictive modeling, we present a nuanced analysis that informs strategic decision-making, aiming to enhance the efficiency and adaptability of management practices over time. Picture 8 offers a visual representation of the average values for each year across all scenarios, excluding the current ("Present") scenario. These averages are depicted as blue dots. Additionally, the graph includes the predicted outcomes for "Scenario 6," represented by a red dashed line. These predictions stem from a linear regression model, indicating our effort to forecast a new scenario by leveraging the mean trend observed across existing scenarios. The creation of "Scenario 6" is an endeavor to encapsulate the overall linear trend throughout the years.

Picture 8-9: Predict a Scenario6 based with Linear Regression algorithm
(Source: authors' own survey with Microsoft Excel and Python)

n Pictures 8 and 9, we embark on a journey to conceptualize "Scenario 6" using a linear regression algorithm. Picture 9 showcases a line graph illustrating the linear regression analysis aimed at forecasting "Scenario 6" across a time span extending from 2022 to 2040. The graph features green dots, each corresponding to the average number of rotating managers for a given year, annotated with the year and the specific average number. The red dashed line, signifying the linear regression model's predictions for "Scenario 6," portrays a gradual decline in the average number of rotating managers over the analyzed period. This trend suggests a strategic recommendation for progressively decreasing manager rotations over time, possibly reflecting organizational adjustments, efficiency enhancements, or changes in managerial roles and structures. The x-axis of the graph chronologically maps from 2022 to 2040, although the years are not equidistant, suggesting the x-axis is indexed with 2022 as the base year. The term "Optimum Rotation Year" is not directly indicated; however, the year 2022 is emphasized with a value of 61.54, hinting at its designation as the optimum year for manager rotations according to the model's forecasts. This inference points towards an initial high rotation rate, which is then advised to be scaled down in subsequent years. The visualizations and analyses provided by these graphs facilitate a straightforward comparison of actual averages against predicted values on a year-by-year basis, allowing for effective trend analysis.

The meticulous labeling of data points ensures clarity and ease of interpretation, significantly aiding decision-making processes regarding managerial rotations. Consequently, these findings suggest that the optimal range for the average number of rotating managers should lie between 62 and 58, based on the scenario modeling and analytical predictions. This data-driven approach aids organizational leaders in strategizing and refining their rotation policies to align with future projections and optimal outcomes.

6. THE DEVELOPING OF A NEW MODEL

The new further developed model presented in the picture 10 is a complex, mathematical framework designed to determine the Optimal Job Rotation Year (OJRY). This concept is essential in strategic human resource management, aiming to maximize the effectiveness of personnel through timely job rotations. The model integrates various quantitative inputs related to the tenure and financial impact of management roles and, through a series of calculated intermediaries, yields an optimal timing for rotating managers to new positions.
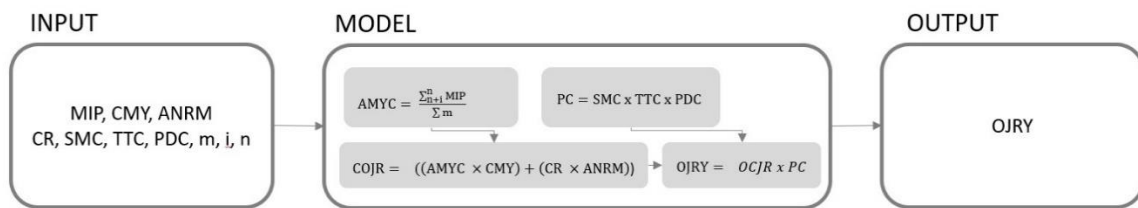
Picture 10: The Model of Optimal Job Rotation Year
(Source: authors' own survey with Excel and Python)

In the first stage, the model seeks to establish an Average Management Year Constant (AMYC), which serves as a normalized value reflecting the average tenure of managers across different positions. To compute the AMYC, it aggregates the managerial tenure by summing the years each manager (denoted by 'm') has served in their position ('i') and then divides this by the sum of the Manager in Position (MIP), which is the total number of managers serving in that particular role. This step provides a foundational average that represents the typical duration managers spend in their roles before considering rotation. The second calculation within the model focuses on the Cost of Overall Job Rotation (COJR), which is a comprehensive metric encapsulating the financial implications of rotating managers. This metric is obtained by multiplying the previously computed AMYC with the Cost of a Management Year (CMY), representing the average annual cost of maintaining a manager in their position. This product is then further adjusted by adding the product of the Cost of Rotation (CR) and the Average Number of Rotated Managers (ANRM). CR encompasses all expenses associated with transitioning managers from one role to another, while ANRM reflects the average frequency of such rotations within the organization. Position Complexity (PC) is another critical intermediary variable in this model, derived from multiplying three distinct facets of job complexity: Sense Making Complexity (SMC), Terminus Technicus Complexity (TTC), and Personal Development Complexity (PDC). SMC relates to the cognitive demands of interpreting and understanding information in the managerial role, TTC pertains to the technical or specialized knowledge required, and PDC refers to the opportunities for personal growth and skill development within the position. The product of these three factors yields a comprehensive measure of how complex and demanding the managerial position is, which is crucial in determining the timing of job rotation. The final stage of the model integrates the COJR with the PC to produce the Optimal Job Rotation Year (OJRY). This outcome is a strategic indicator that suggests the most beneficial point in time to rotate a manager, considering both the cost implications and the complexity of their position. Ideally, the OJRY is when a manager has

gleaned maximum learning and development from their current role, just before the point where the cost of keeping them in the same position outweighs the benefits of their accumulated experience. This model operates on the premise that there is a tangible benefit to rotating managers at certain intervals, which can be optimized to balance cost with the qualitative aspects of management roles. By carefully analysing these factors, organizations can make informed decisions about their rotation policies, ultimately aiming to foster a dynamic and responsive management team, prevent staleness, promote cross-functional expertise, and optimize the allocation of human capital.

7. CONCLUSION

In conclusion, this comprehensive study underscores the intricate dynamics of job rotation within the automotive industry's managerial sphere, illuminating the multifaceted considerations that inform these strategic decisions. Our investigation delves into the varying requirements across different market segments, the adaptability of management to evolving market demands, and the influence of generational, national, and economic factors on job rotation practices. Through a methodical exploration of sensemaking and reasoning processes, we aim to bridge the identified gaps in existing literature, particularly concerning the rotation of managers rather than line workers, thereby offering a nuanced understanding of optimal rotation strategies. Our methodology, centred on the analysis of sensemaking within managerial rotations, underscores the significance of this cognitive process in rationalizing and adapting to changes within the automotive sector. Initial findings suggest a prevalent need for structured rotation practices to mitigate potential challenges such as burnout and disengagement, despite some resistance to these changes among management personnel. Moreover, the application of simulation techniques, especially those modelled in Excel and enhanced through Python for predictive analysis, offers a pragmatic approach to forecasting and optimizing job rotation schedules. This approach facilitates a detailed examination of managerial tenure, the financial implications of rotation, and the potential for a strategic alignment of rotation practices with organizational goals. The development of a novel model to determine the Optimal Job Rotation Year (OJRY) represents a significant contribution to strategic human resource management within the automotive industry. By integrating quantitative inputs and calculating key metrics such as the Average Management Year Constant (AMYC) and the Cost of Overall Job Rotation (COJR), this model provides actionable insights into the timing and financial considerations of managerial rotations. Furthermore, the consideration of Position Complexity (PC) adds a layer of depth to our understanding of job demands, informing the optimal timing for managerial transitions to maximize learning and minimize costs. This study's findings highlight the complexity of managing job rotations in a dynamic and competitive industry, emphasizing the importance of strategic planning, sensitivity to generational and national diversity, and the economic rationale behind rotation decisions. By offering a structured model for determining the optimal timing of job rotations, this research contributes to the broader discourse on effective management practices, ultimately aiming to enhance organizational efficiency, adaptability, and employee satisfaction in the automotive sector.

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DIGITAL TRANSFORMATION AND FINANCIAL PERFORMANCE: A META-ANALYSIS OF MULTINATIONAL COMPANIES

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ABSTRACT

This meta-analysis explores the nexus between digital transformation and financial performance in Multinational Companies (MNCs). Leveraging a curated dataset from the SCOPUS database, qualitative analysis identifies five key categories: Big Data Analytics (BDA), digitization's impact on business models, digital synergies, leadership, innovation, and platform digitization, and the interplay of risks and rewards in the digital landscape. Despite these insights, empirical analyses remain scarce, highlighting a critical need for further research. The prevalence of healthcare-related keywords suggests a focus on digital innovations in this sector, urging targeted exploration. The prominence of 'digital' and 'analysis' underscores the widespread impact of digital transformation, emphasizing the pivotal role of analytical approaches. In conclusion, this research provides a nuanced understanding while pinpointing crucial gaps, guiding future empirical investigations and industry-specific inquiries.
Keywords: *Digital Transformation, Financial Performance*

1. INTRODUCTION

In the contemporary era, the business landscape has been significantly altered by the advent of digital transformation, a phenomenon that has fundamentally reshaped the way organizations operate. Digital transformation refers to the process of integrating digital technologies into all aspects of an organization, such as products, services, or operations, to deliver value to customers (McKinsey & Company, 2023). This shift towards digitalization has been driven by the need for organizations to enhance their efficiency and competitiveness in an increasingly digital world. The intersection of digital transformation and financial performance has emerged as a mainstream topic of scholarly inquiry. This is due to the significant impact that digital transformation can have on a company's bottom line. For instance, research suggests that financial digital transformation significantly boosts corporate financial performance, with every 1% growth in financial digital transformation leading to a 1.1% improvement in corporate financial performance (Liu et al., 2023). Multinational companies (MNCs), which operate in diverse global environments, face unique challenges and opportunities in navigating this transformative journey. The impact of digital adoption on the financial performance of MNCs is not only crucial for their strategic decision-making but also holds significant implications for the broader academic community. Understanding this impact can provide valuable insights for MNCs as they navigate the complexities of digital transformation and can also contribute to academic discussions on the role of digital technologies in shaping organizational performance. Digital transformation has become increasingly important due to its potential to improve business efficiency, reach more customers, increase value for existing customers, and create entirely new revenue streams (Forbes, 2023). Moreover, digital transformation is about meeting ever-escalating customer expectations in the digital age.

Current trends in digital transformation include artificial intelligence (AI) and machine learning (ML), cloud and everything as a service (XaaS), hybrid work, automation, cybersecurity, and customer data platforms (Financesonline.com, 2024). These trends are already affecting how businesses interact with customers and each other and are shaping the future of digital transformation. This meta-analysis embarks on a meticulous exploration of the literature surrounding the nexus between digital transformation and financial performance in MNCs. The rationale behind this endeavor lies in the recognition that while the discourse on digital transformation has proliferated, a comprehensive analysis of its real-world impact on financial outcomes remains underexplored. To bridge this gap, author's meta-analysis scrutinizes a curated dataset drawn from the esteemed SCOPUS database, renowned for its extensive coverage of peer-reviewed literature across various disciplines. Authors' methodological approach involves a systematic refinement of search parameters, rigorous data cleansing, and strategic augmentation through citations. The final selection of 25 articles for qualitative analysis represents a judicious curation of scholarly works, including prominent studies such as Singh and Del Giudice (2019) on the dynamic capability of big data analytics (BDA) and Loebbecke and Picot (2015) on the transformative effects of digitization on societal and business models. This selection ensures a robust foundation for understanding the intricate relationship between digital transformation and financial performance in the context of MNCs. The qualitative analysis reveals five key categories: the strategic lever of BDA, the influence of digitization on business models, digital synergies, the role of leadership, innovation, and platform digitization, and the complex interplay of risk and rewards in the digital landscape. These categories provide a nuanced understanding of the multifaceted dynamics involved in digitalization and its impact on financial outcomes. However, authors' exploration also brings to light notable gaps in the existing literature. Despite the wealth of qualitative insights, empirical analysis of the impact of digital transformation on financial performance with real-world data remains scant. This highlights a critical avenue for further research, necessitating a deeper examination of the tangible effects of digital adoption on the financial bottom line of MNCs. Moreover, the scarcity of studies analyzing job postings or vacancy keywords in the context of digital transformation and financial performance unveils another research gap. This observation prompts a call for future investigations to explore how companies articulate their commitment to digital transformation in their recruitment strategies, thereby aligning workforce dynamics with digital goals. Furthermore, the pronounced interest in healthcare digitalization discovered in authors' analysis opens doors for broader research endeavors. While healthcare has been extensively explored, there is a pressing need to extend the inquiry into diverse industries, unraveling the sector-specific nuances of digital transformation's implications on financial performance. In summary, this meta-analysis seeks not only to provide a comprehensive understanding of the intricate relationship between digital transformation and financial performance in MNCs but also to pinpoint critical gaps in the literature, guiding future research directions. The subsequent sections delve into the qualitative and quantitative dimensions, offering insights into the thematic patterns, influential journals, and emerging trends, thereby contributing to the evolving discourse in this dynamic field.

2. METHODOLOGY

In conducting a rigorous and comprehensive review of the literature on the intersection of digital transformation and financial performance in multinational companies (MNCs), a meticulous methodology was employed to ensure the selection of relevant and high-quality articles. The process involved several iterative steps to refine the search and curate a focused dataset for the articles that were published in the past 10 years.

2.1. Database Selection:

The SCOPUS database, renowned for its extensive coverage of scholarly articles, was chosen as the primary source. This database encompasses a wide array of disciplines and is recognized for its robust collection of peer-reviewed literature.

2.2. Initial Keyword Selection

The initial search commenced with the keywords "Digital*" AND "Finan*," yielding a substantial 19,127 documents. Recognizing the need for specificity, this was subsequently narrowed down.

2.3. Refinement through Iterative Keyword Combinations

To refine the search, multiple keyword combinations were tested. The search strings "Digital*" AND "Finan*" AND "Perf*" resulted in 3,557 documents, still unwieldy for an in-depth review. The final, effective search string was "Digital*" OR "Tech*" AND "Finan*" AND "Perf*" AND "MNC*" OR "MULTI*" AND "JOB*" OR "VACAN*," which yielded a manageable 126 documents. Additionally, two supplementary keyword combinations were employed to further refine the search and enhance the comprehensiveness of the dataset. The first combination, involving the keywords "Digital*" AND "Finan*" AND "Perf*" AND "Job*" OR "Vacancy*," yielded a corpus of 110 documents, which were subsequently included in the selected dataset. The second combination, incorporating "Digital*" AND "Finan*" AND "MNC*" OR "Multinational*," resulted in the identification of 98 documents, also deemed relevant and thus included in the final selection. These additional search strategies aimed to capture nuanced aspects related to job dynamics and multinational organizational structures within the overarching theme of digital transformation and financial performance.

2.4. Removal of Duplicates and Irrelevant Documents:

The dataset underwent a meticulous cleaning process. Twelve duplicate articles were identified and removed. Additionally, 115 conference articles and books were excluded to ensure a focus on peer-reviewed, journal articles. Furthermore, 15 articles in foreign languages were omitted, emphasizing the importance of linguistic accessibility.

2.5. Augmentation through Citations:

Recognizing the significance of comprehensive coverage, an additional 45 articles were incorporated into the review from the citation lists of the initially selected 192 articles. This augmented dataset ensured a more holistic perspective on the subject matter.

2.6. Selection for Core Analysis

From the amalgamated 217 articles, a careful selection process was undertaken to identify the core set for qualitative analysis. Twenty-five articles were meticulously chosen based on their relevance, rigor, and contribution to the understanding of the relationship between digital transformation and financial performance in MNCs. This methodological approach, characterized by a systematic refinement of search parameters, rigorous data cleansing, and strategic augmentation through citations, ensured the assembly of a robust dataset for the comprehensive literature review. The final selection of 25 articles for qualitative analysis represents a judicious curation of scholarly works that contribute substantively to the exploration of digital transformation's impact on financial performance in the context of multinational companies.

3. QUALITATIVE ANALYSIS

In the qualitative section of the meta-analysis paper, a thematic approach was used in the literature review. This method helped bring together different research areas that were not connected before. Various themes were identified, and relevant studies were grouped under these themes, linking them based on thematic, contextual, or theoretical similarities. This approach allowed for a non-linear exploration of the research, aiming to clarify how different research areas are interconnected. In examining the extensive literature on how digital transformation affects the financial performance of multinational companies, a nuanced understanding emerges across five key categories. These categories encapsulate diverse perspectives from 25 comprehensive articles, offering a more detailed portrayal of the complex dynamics involved in digitalization.

3.1. Big Data Analytics as a Strategic Lever

The important role of big data analytics (BDA) stands out prominently. Wamba et al. (2017) argue that treating BDA as a dynamic capability can significantly improve firm performance. They focus on creating business-relevant knowledge, adding value, and the potential for a sustainable competitive advantage through BDA. Müller, Fay & vom Brocke (2018) support this view, confirming the positive impact of BDA on firm productivity and highlighting industry-specific variations in returns.

3.2. Digitization's Influence on Business Models

Loebbecke and Picot (2015) highlight the transformative effects of digitization and big data analytics on societal and business models. They encourage further exploration of the nuanced effects on employment, especially in cognitive tasks, and the resulting changes in business models and societal structures. Hanelt et al. (2021) contributes to this discussion by offering a systematic review that identifies the evolution of adaptable organizational designs and the integration of firms into digital business ecosystems as crucial outcomes of digital transformation.

3.3. Digital Synergies

Kohtamäki et al. (2020) provide valuable insights into the interaction between digitalization and servitization, particularly in enhancing the financial performance of manufacturing companies. They find that, at moderate to high levels of digitalization, a positive and significant interaction with high servitization occurs, contributing to improved financial outcomes. The importance of a digital organizational culture as a prerequisite for digital technology success is emphasized by Martínez-Caro, Cegarra-Navarro & Alfonso-Ruiz (2020).

3.4. Leadership, Innovation, and Platform Digitization

Benitez et al. (2022) offer a theoretical foundation for the connection between digital leadership, platform digitization, and innovation performance. Supported by a multiple case study, they unravel how digital leadership drives innovation through the digitalization of a firm's platform. Building on this, Liu et al. (2023) explore the mechanisms and institutional conditions that enable manufacturing firms to benefit from digital innovation, highlighting its positive impact on performance through enhanced innovation speed and operational efficiency.

3.5. Risk and Rewards in the Digital Landscape

Chouaibi et al. (2022) delve into the complex interplay between digital transformation and organizational performance, with a unique focus on associated risks, using Tunisia as a case example. This study provides insights into the specific challenges and opportunities digital transformation presents in emerging economies. Further sector-specific considerations are

explored by Fernandez-Vidal et al. (2022) in the oil & gas sector and Zhou et al. (2021) in financial services, adding granularity to authors' understanding of how digitalization impacts distinct industries. This extended analysis offers a comprehensive exploration of the intricate relationship between digital transformation and financial performance, highlighting the interconnectedness of big data analytics, digitization, organizational culture, leadership, and sector-specific nuances. These five overarching categories provide a rich framework for researchers and practitioners seeking a profound understanding of the complex landscape of digital transformation in multinational companies.

4. QUANTITATIVE ANALYSIS

4.1. Journals

In the quantitative exploration of the literature, we've categorized journals based on the number of citations received from relevant articles, shedding light on their influence in the academic landscape. The Journal of Strategic Information Systems emerges as a noteworthy contributor with 687 citations, indicating its recognized impact in the field of digital transformation. Following closely, the Journal of Management Studies gathers a substantial 1379 citations, emphasizing its significant role in shaping academic discussions on the subject. Production and Operations Management, with 948 citations, underscores its relevance, likely due to its focus on the practical aspects of digital transformation. MIS Quarterly: Management Information Systems, securing 908 citations, evidently contributes to discussions on information systems management. The inclusion of Nature with 874 citations suggests that interdisciplinary perspectives are sought after in discussions on digital transformation. Moreover, the Journal of Business Research, Technological Forecasting and Social Change, and California Management Review stand out with 513, 510, and 380 citations, respectively. The appeal of these journals may be attributed to their exploration of practical implications, forecasting methodologies, and management insights related to digital transformation. Academy of Management Perspectives, with 326 citations, and the British Journal of Management, amassing 1526 citations, reveal their influence in offering managerial and organizational perspectives on the subject. The latter's higher citation count could be indicative of its comprehensive coverage and substantial contribution to the academic discourse surrounding digital transformation. This categorization not only elucidates the prominence of these journals within the literature but also hints at their individual strengths and focal points, providing a foundation for further investigation into the reasons behind their varying degrees of impact in the field of digital transformation.

4.2. Number of Publications Per Year

A noticeable contrast emerges between the rising number of published articles and their corresponding citation numbers. The graph illustrates a clear upward trend in the annual volume of published articles, indicating a growing body of knowledge in this area. However, a distinct pattern is observed where authors tend to cite older articles, as seen in the declining trend of average citation numbers. This phenomenon may be attributed to the foundational insights and seminal nature of earlier works, which continue to influence current research discussions. 2022, although there are fewer than 50 published titles, their average citation number has increased to just above ten. This implies that while the quantity of published titles has decreased, the quality, indicated by the average citation number, has risen. This could be interpreted as a sign of the field maturing, with fewer but more impactful articles being published. In conclusion, the growing number of articles published each year and the preference for citing older articles highlight the dynamic and evolving nature of research in the field of digital transformation and financial performance. It emphasizes the importance of staying informed about the latest developments while acknowledging the foundational works that have shaped the field. This trend is likely to persist as the field matures and further research unfolds.

4.3. Keywords

The analysis of keywords from the 230 articles in literature review reveals a noteworthy pattern. Although the search did not explicitly target 'health' or related terms, 'health' emerged as the most frequent keyword, appearing 80 times. Moreover, 'health care' ranked highest among two-word phrases, occurring 35 times, and 'health care delivery' was notable in three-word phrases, with 7 occurrences. This unexpected prevalence of healthcare-related keywords suggests a substantial involvement of multinational companies in digital innovations within the healthcare sector. It indicates a potential trend or specific focus area in the application of digital transformation strategies. This finding underscores the wide-reaching impact of digital transformation across diverse sectors, with healthcare standing out as a prominent area of interest. It also suggests that future research might benefit from a more targeted exploration of digital transformation initiatives within the healthcare domain, offering valuable insights into specific strategies and outcomes associated with digital transformation in this context. In addition to the prominence of healthcare-related keywords, the analysis of literature review also highlights the significance of 'digital' and 'analysis.' The term 'digital' appears 37 times, signifying its importance in the context of multinational companies. This suggests a notable emphasis on digital technologies and strategies within these organizations. Similarly, 'analysis' occurs 54 times, emphasizing the critical role of analytical approaches in comprehending and leveraging digital transformation for enhanced financial performance. These findings indicate that while healthcare is a substantial sector where digital transformation is applied, the concepts of 'digital' and 'analysis' hold integral importance across various sectors. This reinforces the notion that digital transformation is not confined to a specific industry but is a widespread phenomenon impacting multiple areas. It also underscores the importance of analytical methods in studying and implementing digital transformation strategies. This could serve as a compelling avenue for further research, delving into how different sectors employ digital technologies and analytical methods for their benefit.

5. CONCLUSION AND FINDINGS FOR FURTHER RESEARCH

In this meta-analysis, the authors have undertaken a comprehensive exploration of the literature on the intersection between digital transformation and financial performance in multinational companies (MNCs). The findings reveal key insights across five qualitative categories: the strategic lever of Big Data Analytics (BDA), the influence of digitization on business models, digital synergies, the role of leadership, innovation, and platform digitization, and the complex interplay of risk and rewards in the digital landscape. The strategic lever of BDA emerges as a crucial aspect, with studies emphasizing its role as a dynamic capability that can significantly improve firm performance. Digitization's impact on business models, explored by Loebbecke and Picot (2015), presents transformative effects that extend to societal and business structures. Digital synergies, particularly the interaction between digitalization and servitization, reveal positive outcomes for financial performance in manufacturing companies. Leadership, innovation, and platform digitization are interconnected elements that drive digital transformation, as evidenced by studies linking digital leadership to innovation performance. However, the analysis also points to notable gaps in the literature. While qualitative insights abound, empirical analysis of the impact of digital transformation on financial performance using real-world data remains limited. This lack of empirical scrutiny underscores an unexplored gap in the literature, emphasizing the need for future research to delve deeper into the tangible effects of digital adoption on the financial bottom line of MNCs. Another research gap is highlighted by the scarcity of studies analyzing job postings or vacancy keywords in the context of digital transformation and financial performance. Future investigations could explore how companies articulate their commitment to digital transformation in their recruitment strategies, aligning workforce dynamics with digital goals such as "Decoding Digitalization:

Analyzing Job Postings for Financial Insights in MNCs" or "Job Dynamics and Financial Performance: A Digital Transformation Perspective," could pioneer empirical investigations into unexplored dimensions of the digital transformation and financial performance nexus. Furthermore, the prevalence of healthcare-related keywords in the analysis opens avenues for broader research endeavors. While healthcare has been extensively explored, extending the inquiry into diverse industries could unravel sector-specific nuances of digital transformation's implications on financial performance. Leveraging this insight, future research titles could include "Navigating Digital Transformation in Healthcare MNCs: A Financial Perspective" or "Sector-specific Dynamics: Unraveling the Impact of Digital Transformation on Financial Outcomes." In summary, this meta-analysis not only contributes a nuanced understanding of the relationship between digital transformation and financial performance in MNCs but also identifies gaps that warrant further exploration.

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APPENDIX

List of figures:
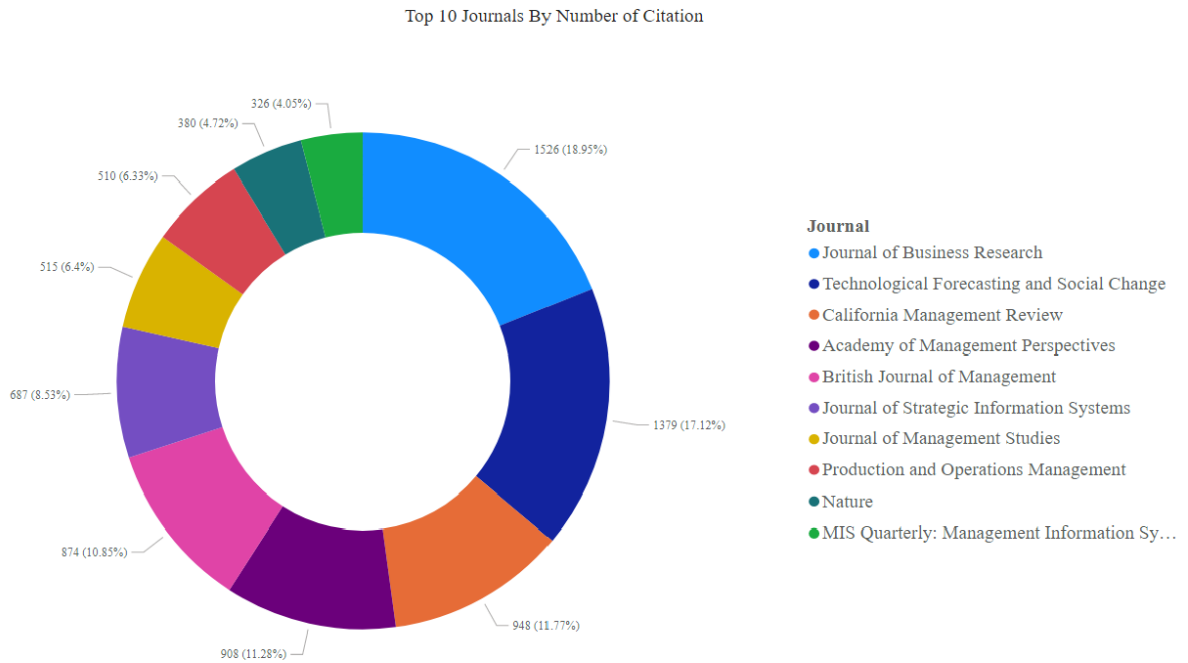
Figure 1: Top 10 Journals by Number of Citation
(Source: Generated by Author Using PowerBI software)
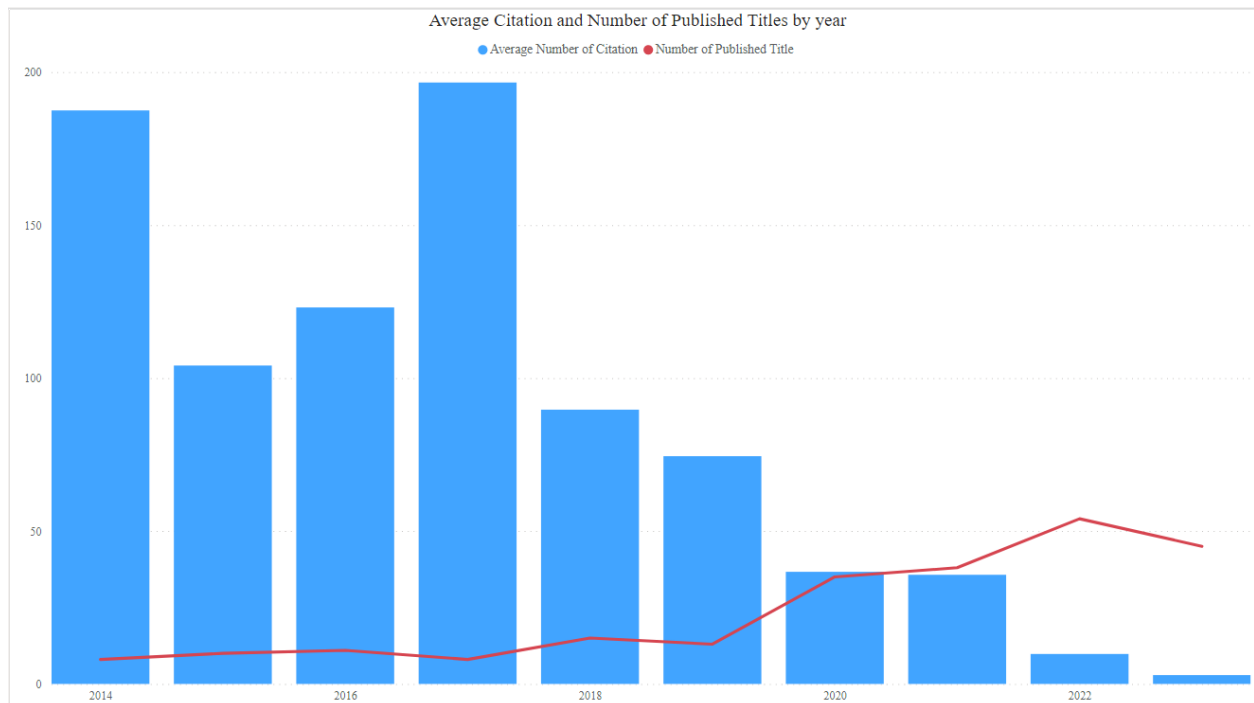
Figure 2: Average Count of Citations vs Count of Published Titles by Year
(Source: Generated by Author Using PowerBI software)

Top phrases containing 1 word(without punctuation mark)	Occurences
health	80
management	56
analysis	54
care	47
human	45
digital	37
job	36
study	34
information	29
systems	27

Top phrases containing 2 words (without punctuation marks)	Occurrences
health care	35
job satisfaction	10
controlled study	9
human job	9
sustainable development	9
artificial intelligence	8
job performance	8
multinational enterprise	8
qualitative research	8
personnel management	7

Top phrases containing 3 words (without punctuation marks)	Occurrences
health care delivery	7
information and communication	7
surveys and questionnaires	6
and communication technologies	5
and social effects	5
delivery of health	5
economic and social	5
of health care	5
health care personnel	4
small and medium	4

Top phrases containing 4 words (without punctuation marks)	Occurrences
delivery of health care	5
economic and social effects	5
information and communication technologies	5
care delivery health care	4
health care delivery health	4
small and medium sized	4
and medium sized enterprise	3
health care delivery human	3
statistics and numerical data	3
austria benchmarking documentation electronic	2

Figure 3: Keyword Analysis of Selected Articles
(Source: Generated by Author Using PowerBI software)

POSITIONING OF THE ISTRIAN COUNTY AS A TOURIST DESTINATION

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ABSTRACT
Tourism has today developed into a social phenomenon, which enables us to protect local specificities, preserve and present cultural and historical heritage, and differentiate ourselves from competitors, all for the sake of increasing the quality of life of the resident population, which must be fully included in all forms of planning and of course, the tourists themselves. Global economic processes and the progress of society as a whole, along with the increase in knowledge and the progress of technology, lead to a change in the structure of tourist demand requirements. There are changes in the creation of tourist packages, they become individualized and personalized. The modern tourist product, which is adapted to the needs of "new" tourists, no longer implies the role of a partner for the tourist, but the realization of an experience. The aim of this paper is to propose a theoretical proposal for the positioning model of the Istrian County, including experience and tourist experience, since the traditional positioning of tourist offers at the macro and micro level is no longer sufficient, and that they could not differentiate the tourist offer, which ultimately implies the requirement for competitive positioning of the tourist offer refined by new requirements and needs. Such an approach negates the insulted attitude that the mere existence and availability of natural and cultural heritage is sufficient in itself to generate tourism demand and it should include tasks of experience economy.
Keywords: experience, positioning, tourist product, tourist offer

1. INTRODUCTION
Modern tourist products, adapted for the needs of new tourists, no longer include a tourists' partnership role, but realisation of the experience. Global economic processes and overall societal progress, with an increase in knowledge and technological advancement, lead to changes in the structure of tourism demand requirements, taking into consideration the upgrading and specificities of the cultural environment. Changes occur in the creation of a tourist package travel arrangement; it becomes individualised, tourists are increasingly informed and exceptionally mobile. Consumers are looking for a specific level of particular offer components, while tourist offers team up in order to respond to such demand requirements. This is why the concept of tourism, as a set of relationships and phenomena, requires theoretical approaches of different social disciplines. Tourist cultures are becoming contradictory and multiple, constructed and reconstructed by the mediation of experiences which occur in the context of tourism space. Cultures are no longer single, demarcated and homogenous occurrences which equate with particular lifestyles (Clifford, 1992, Welsch, 1999). All cultures are subject to changes and transformations as a result of the flow of people, objects and images outside the national states' boundaries (Rojek and Urry, 1997). This is why, today, we also have a disappearance of strong links and divisions in current forms of tourism with integration of different forms, which requires and challenges the existing definitions, not only of tourism, but also of tourists, seeking their upgrading with extended interpretations. The growing market segmentation and multiplication of holiday types and attractions (Franklin, 2003) require product diversification and therefore satisfaction of heterogeneous tourism needs. A unified tourist product cannot meet the aggregate tourism offer.

By identification of tourism needs, tourist offers through experience, capital and resources create qualitative answers to the newly created requests, affecting all the factors for increase in competitiveness, recognisability and attractiveness of tourism destinations. Interdependence of dynamic, static and consequential elements is established. Dynamic elements are linked with tourist demand as they are defined through the changes of tourist motives, knowledge and aspirations. The system static elements are the reflection of the destination offer, i.e. service. They are expressed through the density and a degree of development of the destination and its services. The system consequential elements encompass the effects which arise from the development of tourism in the destination and instruments which are used to manage the development.

2. THEORETICAL FRAMEWORK

There is still a disagreement when it comes to the meaning of the term tourism. This controversy concerning the meaning is most evident in the simultaneous development of the forms of expenditure of mass tourism on one hand, and of the alternative/specific forms of tourism, on the other. (Meethan, 2001). Today, tourism includes not only the national, but also the international markets. Studying tourism is the subject of a large number of scientific disciplines. These researches are focused on the prevalence of the tourist business, including economic orientation, whose purpose is to determine and measure economic benefits and tourism multiplier effects. Theoretical approaches which study tourism only within the context of sole economic activity do not identify tourism as an important social and cultural practice with substantial positive and negative externalities on people and destinations. The starting point of these, often qualitative, studies, is the acceptance of economic analysis which provides crucial information for the comprehension of the phenomenon of tourism, but which, at the same time, also proves that this knowledge is insufficient and limiting, as it does not speak, or speaks very little, of different qualities of tourist experience (Rojek and Urry, 1997). This is why critical understanding of tourism as a social phenomenon should be included. Frequent use of the term tourist destination sometimes leads to wrong conclusions and comprehension of the term itself. Conceptual interpretation is not at all simple and depends on the starting points whether the overall tourist experience is connected with the tourism destination or whether the interpretation of tourism destination is observed exclusively from the spatial framework. Tourist destination should be a basic foundation for the formation of competitiveness, i.e. tourists' perception of competitiveness. Destinations incorporate attractiveness, accessibility and possibilities for the tourist, i.e. economic, exploitation. They can be characterised as "goods which are consumed in tourism and which encompass all the contents and activities which, interlinked, satisfy the needs of tourists" (Vukonić, 1998:40). In itself, satisfaction of the needs within the destination is realised through an optimal mix of products and services. Due to a continuous growth of tourist needs, satisfaction should be found in a wider space. This space must depend on the entire realised experience and activities which tourists accomplish in a tourist destination. Accordingly, a tourist destination does not represent the goal of the travel but the content and experience which is placed as a finished product in the tourism market. Attractive destination elements must be complemented by additional activities and tourist destination excellence measured by expectations and experiences, i.e. realised experiences. It is exactly such a diversification of needs and motives due to which people choose to visit and stay in a particular tourist destination that leads to a qualitative shift from the standard tourist offer. Therefore, the accent is on the quality of a tourist product, thus realising a qualitative differential factor in the competitive positioning of a tourist destination. Modern tourist products which are adapted to the needs of new tourists no longer include tourists' partnership roles, but individualisation and personification of the experience itself.

It is such perception that leads to a shift in the measure of tourist destination excellence, where excellence is measured by the level of the realised experience and where tourist experience is identified as the main product. Tourist typologies and categorisations are subject to changes and they are converted into more flexible categories. The modern world is characterised by countless types of mobilities, physical, imaginative and virtual, voluntary and forced, and this is why it is very difficult to define the types of tourist experiences and types of tourists. Mass communication media affects the consumer psychology which, in turn, has an increased influence on the manifestation and comprehension of the phenomenon of tourism itself in favour of critical observation of sustainable tourism structures, founded on the development of communication relationships through groups and individuals who are having increasingly more versatile needs.

2.1. Literature review

Tourism competitiveness and its influence on the category of economic growth has been elaborated in a series of scientific and professional papers, but exclusively limiting itself to the criteria of competitiveness in tourism, with the absence of alternative solutions. This is how Dwyer et al. (1999) observe the causal link of the price competitiveness in tourism and the purpose of travel. Bueno, A. P. (1999) observes the level of competitiveness in tourism through the intensity of the impact the state has on the tourism sector. In the domestic science, Horvat, Đ. and Kovačević, V. (2004) see the increase in the level of competitiveness in the formation of clusters. Consequently, the experience economy has not been systematically followed within the new perceptions of tourists, their role and the nature of tourism at the macro and micro levels. That is, competitive positioning and experience economy are observed as two different phenomena, without any interlinks. As a concept, experience economy was best defined by Pine, B.J. and Gilmore, J.H. (1998), pointing to the level of added value, which is higher in relation to the standard exchangeable value of services. Only nine years later, Haemoon Oh et al. (2007) join the methods of measurement to the experience economy, with the application on tourism. With the new perspective of the experience economy, Boswijk, A., Thijssen, T., and Peelen, E. (2005) also introduce the term of "co-creation", which is based on the so-called DART principle, best explained by Prahalad, C.K. and Ramaswamy V. (2004). Researches within the field of experience economy which are applied to tourism are rather scarce and mostly directed towards selective forms of tourism, or narrowly within the hospitality business. Hosany, S., and Witham, M. (2008) explore the experience dimensions in nautical tourism, and Oh, H. et al. direct their research towards the hospitality sector. Other researches within the field focus on researches related to implementation of the experience economy factors, or according to conceptual approaches to the experience economy. The most recent researches include the following authors. Fernando, N., and Long, W. (2012), with their presentation of a "new paradigm of tourism". Lyck, L. (2010) observes the experience economy as an instrument for realisation of the economic gain. Lorentzen, A. (2008) distinguishes the physical environment as an inseparable element in the creation of experiences. With his research, Van Doren, M. (2006) consolidates the visualisation of a product or a service in the creation of an experience and, a year later, Andersson, T. D. (2007) published his research which observes the role of tourists in the experience economy. In the Republic of Croatia, the authors who included the experience economy in their researches are Poljanec-Borić, S. and Kunst, I. (2008), who recognise the concept of the experience economy as a differential factor in the competitive positioning of a tourist destination. The perception of competitiveness of a tourist destination is directly linked to the realised experience (Ritchi and Crouch, 2003). In other words, the destination tourist product is integrated in the realised experience (Buhalis, 2000). There are very few researches which were conducted with the purpose of determining the importance of the relationship between the realised experience and the perception of a tourist destination.

In literature, experience and realisation of experience are observed as a separate element which depends on tourists' personal preferences (Jennings, 2006). The most significant researches, which are also the starting points for conduct of the researches on determination of the importance of the relationship between realised experiences and perception of destination competitiveness by tourists are the researches carried out by Clawson, M. and Knetsch, J.L. (1966) and Killon, G.L. (1992). The latter researches represent a phased approach in the realisation of experiences by particular phases and form a conceptual framework of the proposed positioning model. From the aforesaid, it can be concluded that, in scientific researches so far, both abroad and in the Republic of Croatia, the topic of this paper has not been fully, and not even partially, addressed and that there is a theoretical reason for further coverage of the topic. The use of experience economy as a foundation in the competitive positioning affects the importance of the relationship between the realised experience and the perception of a tourist destination, while the upgrade in the form of a tourist experience becomes one of the elements for elaboration of the proposal of the model of tourist destination competitive positioning.

2.2. Experience and experience economy

Pine and Gilmore (1999) indicate that the experience economy represents the fourth level in the development of economy. Maximisation of value for money is achieved, which also implies a higher level of satisfaction. Applied to tourism, the development of tourist products based on experience as a key exchangeable value requires an interdisciplinary approach. By further analysis, a distinction imposes between the understanding of experience as a separate product and an aggregated set of experience economy. Historically speaking, the category of competitiveness of the national economy has supressed one dominant category of comparative advantages. This is also perceived in observations of tourism, where added value progressively increases when competitiveness is based on the experience economy. Social organisation and a degree of the society technological development condition the priorities and forms of value exchange. Societies of different levels of development condition individuals needs of different rank (according to the Maslow's hierarchy of needs). Furthermore, social role, degree of education, motives, expectations and experiences greatly differ from person to person. Today, people who involve themselves in tourist flows are increasingly more experienced and express a larger number of needs which are more sophisticated and more complex. They are the result of societal progress and realisation of conditions for their availability. Social organisation, i.e. the society as a whole, defines generally recognised needs, and an individual, i.e. a person, creates a wish for differentiation from the rest of the society and realisation of something memorable. In other words, it is necessary to theoretically break down the experience system and category which make an integral part of the product, i.e. experience, and which are based on the motive as a fundamental choice of a specific destination. Deregulated growth of the tourist offer irreversibly diminishes the exchangeable value of the resource basis and, accordingly, also the income from tourism. Designing tourist offer on the principles of experience economy also represents a regulatory phenomenon which not only protects the resource basis but, by reduction of negative externalities, also affects the quality of life of the local population (Stiglitz, 2000). At the global level, the concept of experience economy is still insufficiently theoretically researched and implemented. The complexity in definition of impacts arises from the approach, i.e. perception of individuals and the intensity of their involvement, i.e. people at all levels. The basis for realisation of the experience economy is the experience as a complex category. The realised experience in tourist flows is individual and subjective for each tourist. Realisation of experience and its qualification depend on motivation, perception, value, significance, satisfaction and lifestyle. Experience represents a psychological category, and is the subject of psychological study.

Perception of experience is linked to the explanation of perception. As a psychological process, it is possible to associate experience with the process of the perception of stimulus. Perception is, therefore, an active process of organisation, integration and interpretation of sensory information, which enables acquaintance with and recognition of the meaning of objects, phenomena and occurrences in the environment. People do not have clear senses, but *percepts* – as senses are only elements of which a complete experience is made up of (lat. *percipere* = adopt). Perception is not only a sum of elements, but a structure of those elements, active processing of all received and already existing information, their interpretation which is based on the previous knowledge, memory, expectations, attitudes, motives, emotions and personality features (Petz, 2010). Certain people's perceptions related to the same things do not have to match, as they perceive objective reality differently. Under the influence of perceptual subjectivity, facts are less clear and less palpable. Conflict of attitudes occurs in everyday life, as objective situations do not affect behaviour, but the actual perception of that situation. The category of experience can be observed through different approaches. Exploration of experience, i.e. of realisation of experience, is deemed to be tourists' process and reaction to their involvement in different phases of travel. The realised experience is presented as a multiphase category, realised within the phase of travel planning, phase of travel, phase of stays in tourist destinations and the phase of return to the emissive countries. The perception of experience realisation and qualification is related to the products and services consumed within different phases of travel (Jennings and Nickerson, 2006). The subject of the research of experience, observed in the theoretical section, is related to the tourist product, tourist expenditure, qualification of experience and effect on the perception of tourist destination competitiveness. Within the tourism system, tourist product represents a complex concept which includes services, people, organisations and ideas with the goal of realisation of tourists' travel, stay and activities outside their familiar environment (Smith, 1994). The consumption of tourist products affects the realisation of experiences. Experience thus depends on the type of tourist product. Tourist product and realisation are observed at several levels, according to the type of tourist product, (Smith, 1994). Formal tourist product represents the product which tourists perceive as purchased by them. Generic tourist product is, in fact, a real product which is consumed, while an enhanced tourist product represents a combination of the generic product, enhanced by any other added value. Tourist product represents the result of the process in which tourists, in different phases of their travel, use services with the aim of arrival, stay and departure from the destination (information, means of transport, accommodation and attractions) (Gunn, 1994). According to the nature of product, tourist product can be considered as a phase in realisation of experience, or even experience in its overall realisation. The success of a tourist product depends on its design and tourists' perception of the product (Smith, 1994). So, tourist product represents the totality of services and products which tourists perceive as attractive and associated with fulfilment of their expectations. Tourism and expenditure during tourist flows observes tourism as a form of expenditure. Tourism, therefore, can be observed as a specific form of expenditure in which changes occur in the expenditure structure (Laws, 1995). the concept of authenticity, i.e. authenticity of contents (of products and services) which are purchased affect expenditure during tourist flows. Tourists, therefore, expect authenticity in the destination (MacCanell, 1992) by comparison with pseudo-events (Boorstin, 1964). The search for authenticity in tourist destinations can produce also negative effects and pressure on sustainability and life of the local community. Tourist expenditure, related to authenticity, is, therefore, observed in relation to modern and postmodern. Modern tourists are seeking originality which is perceived through the authenticity of the presented content, while the tourists in the phase of the postmodern are focused on activities, entertainment and enjoyment and do not care about content authenticity (MacCannell, 1976., Urry, 1990., Choen, 1995).

This suggests that tourists consume tourist products in relation to previous knowledge which, later, in the tourist destination, leads to expenditure guided by emotions and impromptu spending, looking for experiences and fun (MacCannell, 1976., Urry, 1990., Choen, 1995). Tourists expect a temporary break from everyday life through something unrepeatable, spectacular and unique. It is concluded that the activities for channelling the tourist expenditure structure within tourist destinations should be directed towards expectations and realisation of tourists' desired experiences. As subjective categories of individuals, experiences and realisation of experiences also condition their qualification. Qualification of experiences depends on tourists as individuals and their used services, perceptions and expectations. That is, qualification depends on the requirements, needs and wishes of tourists in relation to the realised benefits (realisation of experiences) (Jennings, 2006). Tourists realise experiences of different intensity which have different significance (Choen, 1979). In other words, they depend on the motivation of tourists, which affects the creation of contents. This is why a phased approach is used for qualification of experiences. It encompasses a pre-travel phase, phase of stay in the destination, and the phase of return from the destination (Vitterso et al., 2000). Also, it can be qualified through the anticipation phase, phase of travel, phase of activities in the destination, phase of return and the phase of gathering of impressions (Clawson and Knetsch, 1966, Vitterso et al., 2000). Such a phased approach is applied and adapted for the needs of determination of the relationship between the realised experience and the perception of tourist destination competitiveness. Substantial explanation of the concept of experience economy is not a one-dimensional aspect, and the most appropriate explanation of the concept is perceived in Pine and Gilmore's paper, where the experience economy is defined as the fourth phase of economic system development and where experience is the basis of exchange. Considering the incurred changes, experience economy represents an upgrade of the service economy. Experience economy represents the creation of new value (economic and social), where experience is the integral part and the starting point of the product or service, and not only their upgrade or added benefit. Taking into consideration the main dominant motive for travel as a request for the acquisition of unrepeatable, unique experience, and parallelly with an increase in travel, we come across an expansion of an increasing number of tourist products based on the experience economy. Following socio-economic trends, i.e. trends of recorded changes in the form of a demographic picture of the society, better education and a higher standard of life, changes are also noted in the structure of demand for products and services. Transition occurs from economy of services to the experience economy and increasingly frequent purchases of goods and services are replaced by purchases of experiences. Systematic activity of elements of offer must facilitate the creation of memories, and those memories then become experiences, i.e. experiences, in fact, become products, i.e. services. Such perceptions arise from the research on the behaviour of consumers themselves or users of products and services. In other words, products have two main functions and their indivisible unity is needed, with the definition of the usable and hedonistic product function. Usable functions represent what products or services are literally intended for, and hedonistic ones are what users describe as entertaining, fantastic and pleasant for perception. So, the hedonistic function depicts subjectivity and individualisation of both products and services. In 2000, Dhar and Wertnbroch prove that, by a usable function in the consumption itself of goods, a neutral position in consumption of experiences is retained, while hedonistic aspects represent a way to improve in the experiential component of expenditure itself. Despite the specified efforts, the academic literature determines a deficiency when it comes to a systematic approach of observation of the realised experience (Gentle et al., 2007). By consuming tourist services in relation to experiences, expectation and realised experience, the importance was noted of the intensity of individual perception of the actual experience and the function of use. In conclusion, the experience economy is, therefore, not a generic creation of an experience, but is based on the

individualisation of a personal experience in its social environment. The experience economy is a term by which it is aimed to conceptualise a new trend in the economic development, where the accent is put on a person. People seek their position and their own identity in the modern society through maximisation of their expectations, which have originated from motives, area of interest, degree of education and affiliation with different social groups. The term of experience economy, therefore, is a much wider concept than exclusive markets of entertainment, culture and tourism, although they are included there. Pine and Gilmore (1998) identify four dimensions of experiences, differentiated at two levels. The first level defines the level of involvement (active as opposed to passive), and the second one, a wish of an individual to participate (acceptance as opposed to refusal). Experiences, i.e. the perception and meaning of experience, is distinctively personal and broader generalisations are not possible, apart from in the case of multidimensional observations. The levels and intensities of individual's involvement differ in the same occurrences, such as a death of a relative, pleasure, birth of a child and they differently affect the realisation of experience. Within such observations we can divide them into those which are personal, personalised and those which occur within a wider social context[1]. Moreover, perceptions can spread also to those experiences for which a certain sacrifice is made in exchange for expectation, such as consumption of specific products or services. Therefore, all experiences are personal; some being more or less within a social construct of cultural. The common component of all the categories is that they are expressly subject to emotional influences and that they affect the realisation of, let us say, a new person, discovery of new things, exploring the unexplored. So, the main product in the destination is experience. It is therefore considered that tourist experience represents a unique, indivisible, unity, markedly filled with emotional factors and which contains almost immeasurable personal value. Tourism facilitates realisation of an alternative experience of time. The time which is spent far from everyday life, set routines and a familiar established environment (Wang, 2000:216). Tourists wish for and expect a unique authentic experience (MacCanell, 1976). According to Sternberg, tourists are tourists because they want to substitute, compensate their everyday lives with spectacular, foreign or ancient (Sternberg, 1997:954). Tourists wish to bring into their lives something exclusive, unrepeatable; finally, they wish to feel special and chosen. The tourism sector fulfils these needs through the offer of tourist products, given that tourist travel is still primarily consumed due to individuals' hedonism (Otto, 1996). Literature and researches which observe or explore the application of concepts in tourism can be put into two groups. The first group of researches is focused on personal and affective characteristics of tourist travel, i.e. occurrences that realise it (Hull and Harvey, 1989, Beeho and Prentice, 1997, McIntosh and Prentice, 1999, Schanzel and McIntosh, 2000). The second group studies leisure activities and high-risk activities such as extreme sports (Arnould and Price, 1993, Celci et al., 1993).Considering the complexity of dimensions in the creation of experiences and realisation of experiences, it is noted that the realised tourist experience and the realised experience represent a multidimensional category and that they consist of a larger number of complex interactions among all the tourism stakeholders. Tourists have the freedom to co-create their own, individual and unrepeatable experiences (Prahalad, Ramaswamy, 2004). In this, tourist offers facilitate, provide the conditions for and realise the context by which tourists are able to shape their own experience, i.e. to live through experiences.

3. ISTRIAN CONTY

Today, tourist destinations must, in an agile manner, fulfil an increasingly complex tourist demand, maximising the benefits which are manifested in the improvement of the quality of life of the local community and of tourists themselves. Thereby, the county characteristics are generally described.

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[1] Characteristic for the group, or general system of values.

3.1. General information

The County of Istria covers an area of 2,812.97 km² and in 2021, a with a total of 195,237 inhabitants. The County of Istria is part of the NUTS II region of Adriatic Croatia. The county is administratively divided into 41 local self-government units, 10 cities and 31 municipalities. With a development index of 108.970 and an average income per inhabitant of 4,670.67 euros, the County of Istria is the most developed county in the Republic of Croatia after the City of Zagreb. The gross domestic product (GDP) of the County of Istria in 2018 was 3,159,864.62 euros, and in the period from 2013 to 2018 it had an average growth rate of 3.2%, which ranks the County of Istria in the five most developed counties that they create about 62% of the total GDP of the Republic of Croatia. The GDP per inhabitant was 15,292.06 euros, which is approximately 20% above the average of the Republic of Croatia, for which in 2018 the GDP per inhabitant was 12,262.13 euros. When it comes to the structure of the economy by activity, in the County of Istria in 2019, the most companies were registered in trade (20.8%), construction (16.4%) and real estate business (11.7%) and providing accommodation and preparing and serving food (11.5%). In 2023, more than 20.6 million arrivals and 108 million overnight stays were realized in Croatia, and the highest number of overnight stays was achieved in the County of Istria (30 million overnight stays, which is +2% compared to 2022).

3.2. Proposal for formation of positioning model

The TOWS matrix does not represent identification of a single, best strategy, but it simply generates different strategies, of which some can be implemented. Different alternatives of strategic activities are thereby obtained. In construction of the TOWS matrix, strategic factors have been identified, such as competitive positioning with the goal of progression of value. The tendency is to carry out a transformation of the factors according to the resource basis, and in line with the requirements of the target markets and the schemes defined by the developmental model (desired direction of development), taking into consideration the realistic positioning possibilities in the market.

Table following on the next page

	STRENGTHS	WEAKNESSES
	Geographic position Consistency of domestic and international demand Accessibility by sea, land and air Climate Natural, cultural and historic heritage Tourist tradition Recognisability in markets Local population's positive attitude towards tourism development Mostly well preserved environment Strategic documentation and plans Educational institutions for staffing in tourism Professional and scientific support (research, development and innovations) High level of safety Unity in diversity Rich cultural and historical heritage Archaeological sites Gastronomic offer Potential for development of selective forms of tourism	Traditional product "sun and sea" prevails Pronounced seasonality Insufficiently differentiated offer Unfavourable structure of accommodation capacities and their insufficient quality Insufficient tourist equipment Insufficiently developed infrastructure Destination management Ownership structure of future large tourist economic subjects Partnership in tourism Traffic problems – local traffic, parking Insufficient tourist signalisation Absence of famous brands Absence of synergic effect Lack of autochthonous souvenirs Insufficient coordination of tourist agencies and cultural contents Dissatisfaction with the offer of organised tourist products Low number of tourists outside motive 2S Insufficient valorisation of cultural heritage
OPPORTUNITIES New tourist product Tourism of specific interest areas Diversification of areas and products Improvement of integral quality Possibility of year-round business Better positioning in markets Sustainable development Promotion of local cultural identity Partnership Inclusion of cultural sector in destination tourist product Expected tourism growth Spatial revitalisation	S-O strategy: Maxi-Maxi Using strengths to exploit opportunities.	W-O strategy: Mini-Maxi Overcoming weaknesses to pursue opportunities.
THREATS Conflicts of developmental options Competition of other coastal destinations Increasing number of "new" destinations in tourism market Potential pollution Visual spatial pollution Excess construction Spatial overburdening – exceeded carrying capacity of some areas Number of inhabitants in future in relation to developmental needs Unpredictable environment	S-T strategy: Maxi-Mini Using strength to remove threats.	W-T strategy: Mini-Mini Overcoming weaknesses to defend from or avoid threats.

Table 1: TOWS matrix of development of the Istrian county
(Source: Authors preparation)

Penetration to new markets with the construction of high quality image of the destination greatly facilitates filling of unfilled market niches and realisation of competitive positioning on the elements of experience economy. Today, tourist destinations must consider the development and positioning model which realises competitive advantages. Satisfaction, i.e. what has been lived through, affects the perception of competitiveness and optimises the use of the model of integral management. Modern tourist practice and trends impose satisfaction with the experienced as one of the more important factors of tourist product differentiation. In theory, such an approach is present under the title of Integrated Quality Management, by which the need for continuous improvement with an integral approach is satisfied, and which is based on starting points of tourist satisfaction. IQM combines four factors: satisfaction of tourists, satisfaction of tourist offer stakeholders, satisfaction of the local community and the level of quality of the environment. Each optimal system must also meet the condition of feedback which enables prompt action in correction and improvement of the process.

Planning, development and public tourist policies should be integrated in the system of tourist destination management through DMO and DMC organisations as a corrective of direct action. Tourist destination positioning represents a systematic process of analysing and decision making which leads tourist destination management towards the most favourable and the most profitable destination position in the minds of consumers in relation to the competition. The process of positioning rests upon the realisation of compatibility between destination characteristics and tourist demand from one or several market segments. Also the corresponding target promotion of such a position, i.e. image (Horwath Consulting, 2005). Tourist destination positioning is, at the same time, an analysis of both competitors and elements of the tourist demand. So, the task of the analysis is to learn the necessary information from tourist demand in order to form the destination image which will differentiate it, i.e. make it recognisable in relation to the competition. The destination position is also considered as the reason why the target segment of the tourism market becomes motivated for the selection of a concrete tourist destination, i.e. positioning becomes a basis for competitive advantage (Blanke, 2007). according to the aforesaid, a model of tourist destination positioning is shown. Furthermore, the model lists the categories of expected and experienced experience, which refers to the field of service quality management (Parasuraman et al., 1985). The proposed model illustrates the relationship between realisation of tourists' expectations and the characteristics of the tourist destination in relation to the competition. It assists and facilitates recognition of free market niches and new needs. It provides interaction and a partnership relationship in the co-creation of the destination tourist product and communicates with target markets through direct contact with potential tourists, thus passing a message about realised experiences and destination offer as a more attractive and more competitive offer than that of other destinations. Based on the already accepted model of competitiveness in upgrade, and taking into consideration the theoretical framework, the model of tourist destination positioning is proposed.
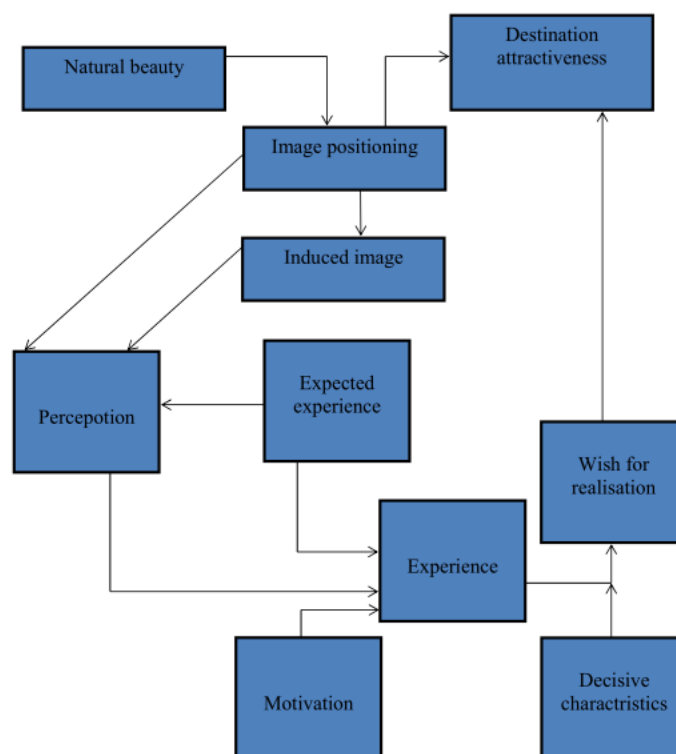
Figure 1: Model of tourist destination positioning
(Source: Author's preparation)

Tourist destination competitive advantage represents the attractiveness of a tourist destination and its domestic mentality. The image and induced image represent a communication attribute of the destination with tourists and potential tourists. Perception is affected by the level of expectation, i.e. realisation of the expected experience by staying in the destination. Furthermore, tourists' expected experiences, perception, motivation, tourist context, previous visits and demographic factors form experiences. Experience in interaction with decisive factors fulfils or does not fulfil the wish of realisation of experiences which is directly linked to the destination attractiveness as a competitive advantage. Competitive advantage is conditioned by the differential factor of the experience economy, where differentiation is realised through quality. From the above, and applied to the Istrian county, it is defined that natural beauty, as a comparative advantage, must obtain an upgrade in the form of added value for tourists. Added value is reflected in the upgrade of tourist services and contents and in the creation of a common image of the destination, taking into consideration the dominant motives for arrival which, ultimately, enables expansion of the destination target market.

4. CONCLUSION

Tourist offer must be directed towards the creation of experiences which satisfy tourists' current needs. The tourist product components, tourist product and tourist service, must be conceived in the way that they increase the level of the realised experience. That is, the value of the experience represents a functional orientation of an individual and his elementary, social and intellectual needs, with the aim of realisation of excitement in the destination. Further to the stated from the proposed model, we see that the improvement of the model corresponds to the new tourists' requirements and needs, given that an individual's skills and creativity represent a considerable resource of realisation of the experience itself, i.e. enhancement of the intensity of interactions and the perception of what is available. Positioning of the Istrian county as a tourist destination should be carried out with respect to the destination image through communication attributes, travel motive and the experience of it, affirming the principle of differentiation according to quality. The formation of a recognisable and competitive product of the Municipality, therefore, needs to be built on a common communication attribute of the entire Municipality, with the creation and development of contents in already identified zones of tourist valorisation, with the creation and enhancing the destination image as a whole and functional unity.

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ACCOUNTING PROFESSIONALS' PERCEPTIONS OF THE BLOCKCHAIN TECHNOLOGY'S POTENTIAL

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ABSTRACT

In the digital age, blockchain technology emerges as a transformative force in accounting, promising to reform financial recording and transactions. However, its integration is delayed by technical, security, and regulatory difficulties. This technology could revolutionize the accounting framework by eliminating the need for trust intermediaries, fostering greater transparency, and potentially automating audits to cut costs and time. This study explores the perceptions of accounting professionals regarding the potential of blockchain technology, focusing on their readiness for technological changes, concerns about high implementation costs, the impact of lack of training and knowledge, but also legislative concerns. Applying a questionnaire method targeting Romanian accounting professionals, it collects 307 valid responses, mainly from individuals with no prior blockchain experience. The findings reveal a significant positive correlation between the anticipation of blockchain's impact on accounting and professionals' willingness to adapt. Concerns about high implementation costs are linked to perceived technical challenges, while the lack of training significantly correlates with difficulties in understanding and using blockchain. Additionally, legislative concerns, including the lack of regulation, are significantly associated with perceived fraud risks. The study highlights the need for professional education and regulatory clarity to facilitate blockchain's integration into accounting practices. This emphasizes the pivotal role of adapting educational programs and regulatory frameworks to not only enhance understanding and application of blockchain technology in accounting but also to mitigate associated risks and barriers to its adoption.
Keywords: accounting, blockchain technology, legislative concerns, training and knowledge

1. INTRODUCTION

In the digital era, emerging technologies find applicability in numerous fields, including accounting. A notable example is blockchain technology, which promises to revolutionize how financial records and transactions are conducted (Tapscott and Tapscott, 2016). However, the adoption of blockchain in accounting is not without challenges. As highlighted by Peters, Panayi, and Chapelle (2015), there are various technical, security and regulatory issues that must be addressed before blockchain can become a common tool in accounting.

Tapscott and Tapscott (2016) argue that blockchain represents more than just a technology: it is, in fact, a paradigm shift that can affect business relationships, corporate governance and even society as a whole. They contend that the widespread adoption of blockchain in accounting and other areas will require not only solutions to technical and regulatory challenges but also a change in mindset among individuals and organizations. Nevertheless, the perceptions and attitudes of accountants towards blockchain technology can play a pivotal role in determining the pace and manner in which this technology is adopted in accounting practices. If accounting professionals perceive blockchain as a threat or an opportunity, this can significantly influence how the technology is implemented and utilized (Dai and Vasarhelyi, 2017). The readiness of accountants to embrace or resist blockchain innovations may well dictate the trajectory of its integration, shaping the future of accounting methodologies and the overall acceptance of blockchain within the industry. In the introductory section of this paper, we acquaint the reader with the purpose of our research, which centers on examining the views and dispositions of accounting professionals in Romania who have yet to incorporate blockchain technology into their routine operations. We aim to evaluate their perceptions regarding various aspects of this technology, including its efficiency, transparency, complexity, costs, readiness for adoption, and its prospective impact on automation and security within the accounting domain. Following the introduction, the paper delves into a literature review and methodology, paving the way to the final sections that present the results and discussions. This structure allows us to offer a comprehensive analysis of the challenges and opportunities associated with blockchain adoption, specifically focusing on those practitioners who are contemplating its integration into their practice.

2. LITERATURE REVIEW AND METHODOLOGY

Central tendency measures like the mean, median and mode are crucial for understanding statistical data. The mean offers an average that is suitable for symmetric data but can be misleading by outliers (Newbold et al., 2013). The median provides a midpoint that is effective for partial distributions, indicating the center of data (Starnes et al., 2010). The mode highlights the most frequent value, useful for identifying similarities in nominal data. Yermack (2017) study on blockchain's impact on corporate governance supports the necessity for innovation adaptation, highlighting the technology potential to improve corporate transparency and efficiency. This aligns with findings on accounting professionals' adaptability, showing a trend towards embracing innovative technologies. The connection between accounting and corporate governance emphasizes the importance of being proactive and open to change. Anticipating blockchain positive effects motivates professionals to adapt, underscoring the significance of preparing for technological advancements in this field. Analysis is further supported by Beck et al. (2017) work, which views blockchain as an innovation and digital transformation driver, balanced by significant challenges and investments. This reinforces the understanding that costs and complexity are significant barriers to blockchain adoption, highlighting the crucial role of evaluating costs and technical challenge perceptions in blockchain technology adoption decisions. The ICAEW (2017) report distinctly marks the crucial need for specialized training and continuous education for accountants to navigate digital advancements effectively. It calls for targeted educational initiatives that are complexly designed around emerging technologies like blockchain, aiming to boost both understanding and adaptability among professionals in the face of a dynamically changing technological and financial landscape. The report outlines a diverse array of educational strategies, from interactive workshops and seminars to comprehensive courses, intended to delve into both the theoretical underpinnings and practical applications of blockchain in accounting. Furthermore, the ICAEW emphasizes a sustained engagement with professional development, advocating for an educational framework that nurtures critical thinking and adaptability.

This approach is aimed at ensuring accountants are well-equipped to address digital transformation challenges and harness opportunities, positioning them as pivotal figures in the integration of blockchain into accounting practices. Through such a concerted effort in education and training, as recommended by the ICAEW (2017), accountants are better prepared to face the future where digital technologies significantly influence accounting standards and practices. In this research, it was used the questionnaire method, an effective data collection tool described by Creswell (2014) as a series of structured questions designed to extract relevant information from a sample of respondents. This method was selected for its efficiency in gathering data from a large number of participants within a short timeframe and for its ability to facilitate systematic analysis. The initial step in conducting this research involved identifying the target population and selecting a representative sample of accounting professionals. Through careful selection and design of the questionnaire, the research aimed to explore the complexities of professional attitudes, offering insights into the acceptance and potential challenges of blockchain integration in the accounting field. In the respondent selection process for this study, it was adopted a methodical and data-driven approach, focusing on identifying the e-mail addresses of accounting professionals through the CECCAR website (The Romanian Chamber of Certified and Chartered Accountants). This granted access to a relevant database of active accountants. To ensure a balanced and representative sample distribution for this study, we conducted a random extraction of 1000 valid e-mail addresses from active accounting firms across all counties of Romania. This process was designed to mirror the diversity and scope of the country's accounting sector. Through random selection, we guaranteed that the sample is unbiased and that each member of the target population has an equal chance of being included in the study. This method contributed to obtaining a varied and balanced perspective on how blockchain technology is perceived by romanian accounting professionals. Following the standard formula for sample size calculation, we arrived at a figure of 278. This number was derived considering factors like margin of error and confidence level, ensuring the study's findings are statistically reliable and reflective of the wider population's views. The survey, consisting of 14 Likert scale questions, was e-mailed in December 2023, offering a convenient way for respondents to engage. The timing was chosen to coincide with year-end reflections, aiming to gather diverse insights into blockchain perceptions within the accounting community.

3. RESULTS AND DISCUSSIONS
3.1. Statistical analysis
For this study, we collected 307 valid responses via Google Forms, out of which 286 were from accounting professionals who had not previously used blockchain technology. This finding is significant as it indicates that the majority of our sample lacked prior experience with blockchain, providing valuable insight into their level of knowledge and perceptions of this technology before being introduced to further information or training in the field. Among the respondents, 38.4% (118 respondents) were male, while 59.6% (183 respondents) were female and 2% of participants preferred not to disclose their gender.

Regarding age distribution, we found that 40.1% of respondents were over 40 years old, 22.1% fell within the 35-39 age group, 20.5% between 30-34 years, 14% between 25-29 years, and 3.3% were under 25 years old.

In this research, we used Likert scale questions, numbered Q1 to Q14, for clarity in analysis and referencing. We analyzed the structured and quantifiable data using SPSS v29.0.2 software, ensuring a comprehensive examination of respondent attitudes and perceptions. The application of SPSS allowed a precise data analysis, enhancing the depth and reliability of our insights into the subject matter.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
N Valid	286	286	286	286	286	286	286	286	286	286	286	286	286	286
Mean	3.74	3.63	3.30	3.34	2.68	3.69	3.45	3.51	3.36	2.39	3.43	3.43	3.75	3.81
Median	4.00	4.00	3.00	3.00	3.00	4.00	3.00	3.50	3.00	2.00	4.00	3.00	4.00	4.00
Mode	4.00	3.00	3.00	3.00	2.00	4.00	3.00	3.00	3.00	2.00	4.00	3.00	4.00	4.00

Figure 1: Central tendency indicators
(Source: own processing in SPSS v29.0.2 and Microsoft Excel)

The "N Valid" count is consistently 286 across all 14 variables Q1-Q14, ensuring no missing data and enabling a reliable comparison. The analysis shows mean responses varying from 2.39 to 3.81, indicating varied perceptions among respondents. Generally, a lower mean points to a preference for lower scale values, whereas a higher mean suggests a leaning towards higher values. The median and mode analysis further illustrates the data distribution. Medians are mostly around 3.00 and 4.00, showing that at least half of the respondents rated items at these levels or higher. The mode consistency with the mean and median underscores a central tendency around the 3.00 and 4.00 values, reflecting a concentrated distribution of responses.

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
Q1	1													
Q2	.581**	1												
Q3	.146*	.164**	1											
Q4	.404**	.389**	.289**	1										
Q5	-0	-0.02	.332**	.190**	1									
Q6	.558**	.560**	0.064	.298**	-.143*	1								
Q7	.469**	.561**	.225**	.366**	-0.04	.577**	1							
Q8	.441**	.465**	.178**	.328**	-0.1	.415**	.606**	1						
Q9	.459**	.559**	.209**	.366**	-0.04	.521**	.642**	.664**	1					
Q10	0.046	0.038	.185**	.178**	.405**	0.071	.131*	.120*	.200**	1				
Q11	.147*	0.06	.203**	.221**	.287**	.118*	.170*	0.092	-0.08	.239**	1			
Q12	.264**	.334**	.178**	.306**	.134*	.308**	.356**	.294**	.233**	.189**	.520**	1		
Q13	.283**	.336**	.224**	.268**	.175**	.299**	.354**	.495**	.414**	0.112	.298**	.407**	1	
Q14	.331**	.426**	.243**	.324**	0.024	.360**	.475**	.494**	.509**	0.113	.241**	.417**	.618**	1

**The correlation is significant at the 1% level
*The correlation is significant at the 5% level
Figure 2: Correlation matrix
(Source: own processing in SPSS V29.0.2 and Microsoft Excel)

The correlation matrix is a key tool in multivariate statistics, allowing for the simultaneous assessment of linear relationships between multiple variables within a dataset. Structured as a square table, this matrix displays Pearson correlation coefficients for each pair of variables, with values ranging from -1 to 1, indicating the degree of linear correlation (positive, negative or none) (Mukaka, 2012). Positive coefficients suggest a direct correlation, while negative coefficients indicate an inverse relationship with a zero value that reflects no correlation. Upon analyzing the correlation matrix, we observe strong correlations between Q9 and Q8, as well as Q14 and Q13, with correlation coefficients of 0.664** and 0.618** respectively. These high values signify a strong positive correlation, suggesting that responses to these question pairs are closely interconnected. Moreover, these findings indicate that the topics addressed by these questions share considerable common ground in respondent perceptions. In contrast, the weakest relationships are marked by coefficients near zero, such as between Q1 & Q5 and Q2 & Q5, where the coefficients are -0.003 and -0.015. These values indicate an absence or an extremely weak correlation, suggesting a lack of direct linkage or significant common influences between the responses to these questions.

3.2. Objectives and results

Objective number 1: Assessing the relationship between the perception of significant change in the accounting field due to blockchain technology and the willingness of accounting professionals to adapt to these changes.

- Independent variable Q7: I believe that blockchain technology will significantly change the field of accounting in the next 5 years.
- Dependent variable Q8: I am prepared to adapt to the changes brought by blockchain technology in the field of accounting.

- H0: There is no correlation between the belief that blockchain technology will significantly change accounting in the next 5 years and the willingness to adapt to these changes.
- H1: There is a positive correlation between the belief that blockchain technology will significantly change accounting in the next 5 years and the willingness to adapt to these changes.

Independent variable	Dependent variable	R	R²	F	Sig. F	t	Sig. t
Q7	Q8	$.606^a$	.367	164.952	$< .001^b$	12.843	$< .001$

Figure 3: Linear regression analysis for Q7 and Q8
(Source: own processing in SPSS v29.0.2 and Microsoft Excel)

In our study on the anticipation of blockchain impact on accounting (Q7) and readiness to adapt (Q8), data reveals a positive, significant correlation. The Pearson R = .606 suggests a moderate relationship, and R² = .367 indicates that nearly 36.7% of adaptability variability is explained by change perception. Statistical tests (F = 164.952, p < .001; t = 12.843, p < .001) strongly support this correlation, disproving the null hypothesis of no correlation. This confirms that anticipating blockchain impact is a key predictor of willingness to embrace new technologies, underscoring the need for proactive employee preparation for technological shifts.

Objective number 2: Investigating the relationship between perceptions of high implementation costs of blockchain technology and concerns about technical challenges as barriers to adopting this technology in the field of accounting.

- Independent variable Q4: The costs associated with implementing blockchain technology are high.
- Dependent variable Q12: Technical challenges (such as the need for significant computing resources) are an impediment to adopting blockchain technology.

- H0: There is no correlation between concerns about high implementation costs and perceptions of technical challenges as impediments to adopting blockchain in accounting.
- H1: There is a positive correlation between concerns about high implementation costs and perceptions of technical challenges as impediments to adopting blockchain in accounting.

Independent variable	Dependent variable	R	R²	F	Sig. F	t	Sig. t
Q4	Q12	$.306^a$	.094	29.418	$< .001^b$	5.424	$< .001$

Figure 4: Linear regression analysis for Q4 and Q12
(Source: own processing in SPSS v29.0.2 and Microsoft Excel)

The analysis highlights a positive correlation between perceived high blockchain implementation costs (Q4) and concerns about technical challenges (Q12), with a Pearson R = .306 pointing to a weak link. About 9.4% of the variability in technical challenge perceptions is explained by concerns over costs, as indicated by an R^2 = .094. Statistical tests (F = 29.418, p < .001; t = 5.424, p < .001) validate the relationship significance, supporting the positive correlation between implementation costs and technical challenge perceptions. This connection influences accounting professionals' decisions on blockchain adoption.

Objective number 3: Assessing the impact of the lack of training and knowledge in blockchain technology on the difficulties encountered in understanding and using this technology in the field of accounting.

- Independent variable Q14: The lack of training or knowledge in blockchain technology is a major obstacle in its adoption in the field of accounting.
- Dependent variable Q3: I encounter difficulties in understanding and using blockchain technology.

- H0: There is no correlation between the lack of training or knowledge and encountering difficulties in understanding and using blockchain technology.
- H1: There is a positive correlation between the lack of training or knowledge and encountering difficulties in understanding and using blockchain technology.

Independent variable	Dependent variable	R	R^2	F	Sig. F	t	Sig. t
Q14	Q3	$.243^a$	.059	17.882	$< .001^b$	4.229	$< .001$

Figure 5: Linear regression analysis for Q14 and Q3
(Source: own processing in SPSS v29.0.2 and Microsoft Excel)

The analysis of the impact of a lack of training and knowledge in blockchain technology on accounting difficulties (Q14 and Q3) showed a significant, but weak, positive correlation. With a Pearson correlation coefficient of .243 and an R^2 of .059, the study indicates that nearly 6% of the difficulties in understanding and utilizing blockchain technology are due to this lack of knowledge. The statistical tests, F (17.882, p < .001) and t (4.229, p < .001), further validate the correlation, disproving the hypothesis of no significant relationship. The findings affirm the hypothesis that a lack of professional blockchain training correlates positively with difficulties in accounting, highlighting the urgent need for educational investments.

4. CONCLUSIONS
Blockchain technology has the potential to transform accounting significantly, as pointed out by Peters, Panayi, and Chapelle in their 2015 study. It offers increased efficiency, transparency and security, creating an immutable ledger that reduces fraud and errors. Despite adoption and regulatory challenges, the advantages for accounting, like process automation and improved trust in financial data, are undeniable. Blockchain paves the way for a transformative shift in accounting, suggesting a need to explore its integration to address the modern economy needs effectively. This study investigated Romanian accounting professionals' views on blockchain through a survey distributed among The Romanian Chamber of Certified and Chartered Accountants members, ensuring sample relevance. Out of 307 valid responses, most participants (286) lacked prior blockchain experience. Accounting experts show enthusiastic interest in blockchain's potential to boost financial management efficiency and transparency.

Regression analysis indicated a strong association between recognizing blockchain advantages and an innovative adoption mindset. Supported by Yermack and Beck et al. 2017 research, the findings emphasize blockchain's role in enhancing financial information transparency, accuracy and reducing fraud risks, underscoring its value in elevating financial data reliability. Regression analysis indicates that accounting professionals foresee a significant impact of blockchain on accounting, predicting transformations in audits, asset management and data security. This positive expectation encourages a readiness for adaptation and adoption, highlighting a correlation between anticipating changes and the willingness to adopt new technologies. Reflecting on research like Yermack (2017), accountants show readiness to integrate blockchain, recognizing its benefits for efficiency and security. However, challenges such as technical complexity, high implementation costs and legislative uncertainties pose barriers to blockchain adoption, as highlighted by the analysis. The study underscores the critical role of education and training in overcoming these challenges, aligning with literature like Beck et al. (2017) and ICAEW (2017), which emphasize addressing legislative issues and developing specific skills. The findings suggest that education, training and legislative clarifications are key to navigating the challenges of blockchain adoption in accounting. The study points to the need for ongoing education and legislative adaptation to address technical and cost barriers, proposing future research to evaluate training programs effectiveness and explore solutions for reducing these obstacles. Moreover, there are ample research opportunities in this area, signaling a need for further comprehensive studies, interviews and research to delve deeper into blockchain's complexities and opportunities within accounting. This emphasizes the dynamic landscape of the field and the importance of continuous academic exploration to address its evolving challenges and potentials.

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HUMAN CAPITAL AND STATE MANAGEMENT: ESSENTIAL ATTRIBUTES TO SINGAPORE'S ECONOMIC PROSPERITY

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ABSTRACT
This paper explores how the compelling authority of Singapore has been crucial for setting positive economic trajectory of Singapore and this topic is of high importance due to implications it holds for developing countries. The previous research presents various developmental policies and their influence on the overall economic activity in Singapore and similar settings. The gap identified is the comprehensive overview of why Singapore has shown results far greater than those of other developing economies while encompassing generally similar approach. To narrow the scope of the research the following research questions have been formulated: What aspects of Singapore's rigorous state resource management contribute to its sustained economic growth and trade competitiveness on the global stage? How did the People's Action Party promote Singapore to become one of the world's largest trading hubs despite its short and turbulent history? The research on the topic was conducted by synthesizing existing information from scholarly databases. One major implication of the performed research are the geopolitical specifics of the case which limits its applicability in different settings. The two main findings of the paper have been established on the topics of social freedom and human capital. One of the two conclusions has identified human capital to be an essential factor around which the main economic processes of the developing economy should evolve creating the best possible environment for effective development and work. Another conclusion was that in a state where population is incompetent at making vital decisions a centralized unit (such as PAP) may be established to commence initial economic activity and increase competence. The unit should be composed of individuals with competencies relevant to economic management and have the nationalistic motivation to do best for the country. Those findings should be of great help for the growth of other undeveloped or developing economies.
Keywords: *Foreign Direct Investment, Global Trading Hub, Singapore's Governance Model, Singapore's Social Welfare Systems and Urban Planning*

1. INTRODUCTION
According to Yao and Zhang (2015) and Okafor-Dike (2008), individual characteristics of leaders are one of the key criteria for assessing the potential dynamic of the economic trajectory of a country that leaders can guide by implementing certain economic changes. The field of research on economic leadership investigates the impact and combinations of leadership characteristics that are most closely aligned to the positive trajectory of economic development. The importance of research in the field lies in the constant striving for economic development by all countries around the globe. There are various theories that describe traits, patterns, and policies of the leader that are most likely to result in a positive impact on the economic dynamic of a country. This chapter will focus on providing the introduction to the research by first introducing the context of the following research, followed by the research problem, research gap, aims of the research, research questions, the significance of this research, and finally, the limitations of the conducted research.

The setting for which this research is conducted is the period of rapid economic development experienced by Singapore from 1965 till the beginning of the 2020s. This time frame is of special importance not only for Singapore which in this relatively short period of time has gone from a poor, undeveloped state with permanent social unrest to the state where it is now considered to be synonymous with economic prosperity, but also to other leaders of undeveloped or developing nations all around the globe who are looking to replicate the success that Singapore has achieved. So far research has presented the readers with a vast amount of developmental strategies such as policies for attracting inward FDI, optimal utilization of the country's strategic location, available natural resources, investments in the improvement of human capital, and many more. More closely researchers look at the extent to which certain developmental strategy is applicable in various contexts of undeveloped and developing countries to evaluate the impact of geographical characteristics of the region and demographic characteristics of the population. However, the research problem or the gap of this research is that research up to date fails to identify how Singapore using similar development strategies achieved results far greater outcome. Biswajit (2016), Beng-Huat (1985), Brecher and Alejandro (1977), Chia (2015), Ergin Akalpler and Hemn Adil (2017), Leggett (2007), Mauzy et al (2002), Nam (1969), Phang et al. (2018), Rajah (2019), Saner and Yiu (2014), Wong (2003) and Zhan (2022) all provide research-based conclusions on effectiveness of some individual measures utilized by the government of Singapore. However, no research was identified to synthesize what exactly has given Singapore an edge over its neighbors who have been utilizing similar approach. A cohesive conclusion of what aspects of economic leadership and management have set Singapore apart from other developing countries could solve the problem for those and many other developing nations which are looking to take a step further their economic development. The aim of this research is to identify why and how some of the previously utilized economic decisions have had a greater impact on the economic development of Singapore than in the settings of other developing economies. Additionally, this research will identify what policies and systems were novel to the concept of economic growth prior to the case of Singapore and despite their slightly contradicting nature have had significant economic contributions to the economic development of Singapore. To focus research on the specific aspects of the investigated research gap the following research questions will be used: (1) What aspects of Singapore's rigorous state resource management contribute to its sustained economic growth and trade competitiveness on the global stage? (2) How did the People's Action Party promote Singapore to become one of the world's largest trading hubs despite its short and turbulent history? Potentially, the conclusion of the following research should be able to identify Singapore's differentiating features which have allowed it to produce greater economic results regardless of the short and turbulent history of about 55 years and its inferior starting point with no natural resources, social unrest due to multiethnic population, lack of economic processes and historical dependence on the external influence. Those features will encompass the specifics of the leadership that are essential and the actual systems implemented by the People's Action Party to achieve long-term economic growth. The significance of such a conclusion cannot be undermined as it should provide specific ideas on how undeveloped or developing countries should alter their current development strategies to set a better trajectory for economic growth of the state. This research covers Singapore as the area of investigation which is a limitation. Despite the high relevance due to vividness of utility, this is a limiting factor as any specific case limits the conclusion only to the specific geographical, demographic, and historical setting which may significantly vary across other developing economies. According to Hofstede (1980), every country varies in the metric of human role in society as an individual or more as a member of a collective. Since Singapore scores decently high on the collectivism scale that means that its population values the success of the collective higher than the comfort of an individual.

In the context of the state-implemented policies stated above this means that not all the rigorous practices applied by the authorities of Singapore would be feasible in a more individualistic state. Throughout the history of the economic spur of Singapore, the People's Action Party (PAP) has been the only party in power which is partially justified by the political oppression of opposing political parties. The population of Singapore at its early stages has willingly accepted this and some other partial freedom limiting factors as a tradeoff for the economic prosperity that the party has consistently delivered on their promises. The limitation of the research due to specifics of geographical location is justified by the superior strategic location of Singapore. Despite its lack of natural resources Singapore has successfully utilized the benefits of its strategic location connecting sea trading routes between Europe to South East Asia which was one of the tools used by the People's Action Party (PAP) to accelerate Singapore's economic growth (Busse et al., 2012). The second section of the paper will cover the specifics of the methodology used to obtain the information necessary for the argumentation. The third section will evaluate available literature on the most widely utilized developmental economic policies and their implementation in Singapore, fourth section will be used to discuss how a combination of the discussed systems and policies in Singapore has been different from other developing economies. Additionally, the fourth section will include a discussion on the extent to which those findings are applicable to other developing economies. Finally, in the fifth section conclusion of the research will be presented followed by a full list of references.

2. DATA AND METHODOLOGY

Research was performed based on the data available in the secondary sources. For the purpose of data collection on the topics of developmental policies and their utilization in the specific case of Singapore such as inward and outward-oriented FDI, development of human capital, Central Provident Fund (CPF), Monetary Authority of Singapore (MAS), and influence of People's Action Party on price and supply of labor, the following search strings were used:
("Singapore early FDI") AND ("Trade flow and trade restrictions of Singapore") AND ("Affordable housing keep wages low in Singapore") AND ("People's Action Party") AND ("Human capital improvement Singapore") AND ("When did south east asia start rapid economic growth?") AND ("Influence of strong leadership on economic growth") AND ("When did south east asia start rapid economic growth?"). To ensure the quality and relevancy of the collected information the following criteria were used in the source selection process: Scholarly reviewed sources, related to the discipline of economics, and by year of publication from 1965 onwards.

Table following on the next page

Source	Name of the Article	Conclusion
Akalpler, E., & Adil, H.	The impact of foreign direct investment on economic growth in Singapore between 1980 and 2014	In case of Singapore personal savings funds are relatively small and can't significantly enlarge economic activities hence FDI becomes an important factor for development
Lim, S. et al.	Measuring human capital: a systematic analysis of 195 countries and territories, 1990–2016	Singapore increased from rank 43 to 13 between 1990 and 2016 in human capital tracker
Chia, S. Y.	Globalization and regionalization: Singapore's trade and FDI. The Singapore Economic Review	Lee Kuan Yew had a specific way of developing industry of Singapore by attracting FDI and encouraging foreign experts to educate local workforce
Chia, N. C., & Tsui, A. K.	Nexus between housing and pension policies in Singapore: measuring retirement adequacy of the Central Provident Fund.	Despite the controversial opinion of the media regarding mandatory savings fund, CPF was one of the key reasons to economic prosperity of Singapore citizens
Mauzy, D. et al.	Singapore Politics Under the People's Action Party	PAP nationalistic leaders and Lee Kuan Yew believed that you either dominate or you are being dominated (pg. 51)
Biswajit M.	Investment in Human Capital and Economic Growth in Singapore	Long-run relation between human capital investment and labour force employment in the economic growth in Singapore over the period from 1981 to 2010, not immidiate effect (lag of about 4 years)

Table 1: Overview of the most relevant articles that were used and conclusions
(source authors research)

Data Base	Keywords Searched
Google Scholar	"Human capital improvement Singapore", "When did south east asia start rapid economic growth?" "People's Action Party"
RITlibraries	"When did south east asia start rapid economic growth?", "Influence of strong leadership on economic growth"
EconLit	"Singapore early FDI", "Trade flow and trade restrictions of Singapore" "Affordable housing keep wages low in Singapore"

Table 2: Overview of the most relevant databases and keywords that were used
(source authors research)

3. LITERATURE REVIEW
3.1. History of economic development
Up until the 1960s the world was split into more and less economically developed countries. By that metric regions such as Europe and North America were considered more developed while Latin America, Africa, and Asia were considered less developed. In the 1960s however, the undeveloped part of the world also split as Asia adopted a different approach to escalating their economic growth. Radelet (1997) has developed four key arguments as to why at that time Asia had developed a completely different development trajectory. Those four key reasons are: (1) had significant potential for growth (cheap and high-quality labor), (2) favorable geographical and structural characteristics, (3) favorable demographic changes following WWII, and the most important one being (4) conductive investment and trade environment. The reason why the fourth point is key for understanding how the two regions have set different trajectories is the way undeveloped and developing countries choose to coexist with the world economy. The majority of those countries have decided to protect their domestic production from foreign competition by any means utilizing protectionist policies and profligate fiscal policies. By creating a negative environment those countries have reduced motivation of foreign business to engage in business in the area. Limited access to international markets would limit investors only to the specific regions which has daunted investors away. By the means of such actions, those countries have limited their ability to attract inward FDI and experience the benefits of being an international trading hub. As a consequence, there was very little or no economic growth, with stagnant wages and no significant improvement in the living standard of the population. Countries in the region of South East Asia on the other hand have decided to do the very opposite of what has been done by the rest. Due to very limited natural resources in the region especially Singapore, countries in the region have decided to open up for the world economy by facilitating trade and investment opportunities in the region.

3.2. FDI and trade policies
One of the key measures of economic development is the growth of Gross Domestic Product (GDP). Increasing GDP frequently implies improving the efficiency of the economic performance of the country. That is why today many undeveloped or developing regions are striving to make economic processes more efficient and consequently increase useful output reflected in the positive dynamic of GDP. However, in order to make effective changes undeveloped countries frequently require external investment and expertise to improve the state of human capital and improve production efficiency by acquiring more production capital. That is exactly how Singapore and many other Southeast Asian countries have started their initial economic processes. Many researchers conclude the following: "in terms of foreign investment, it is the direct investment that should be actively sought for and doors should be thrown wide open to FDI. FDI brings huge advantages (new capital, technology, managerial expertise, and access to foreign markets) with little or no downside" (Bajpai and Sachs, 2000, p. 1). The conclusion above was established as a result of an analysis of India in the 1990s. At the time country started to fully experience the benefits of inward FDI expressed as the rapid growth of GDP which was rather impossible before due to pervasive factors and product market distortions as the result of nonconductive FDI and trade policies. Busse and colleagues (2012) similarly conclude in the context of other less developed countries in the region that by eliminating any form of behind-the-border restrictions and investing in trading channels such as ports and roads, the country reduces costs of operations for potential investors who bring in the necessary capital, expertise, and money to increase economic activity in the region. Despite all the positives like many Brecher and Diaz-Alejandro (1977) identify FDI to be much less effective or even harmful if the distortions in the financial market are present.

On the other hand, Agrawal (2000), Athukorala (2003), and Blomstrom and Sjoholm (1999) are consistent in identifying FDI as being a lagging yet positive contributor to the economic growth of a country, but are hesitant on the directionality of relationship. The majority of them have provided hypotheses on the potential intermediate variables and provide argumentation on the scope of functions that FDI positively contributes to. Specifically, in the case of Singapore, Ergin Akalpler and Hemn Adil (2017) find strong evidence in the absence of the long-run relationship between FDI and economic growth but identify the short-run effect. This exactly why PAP has employed maximum efforts to attract inward FDI in order to commence economic activity. Other conclusions of their research identify the negative potential of the FDI in the scenario that the state doesn't impose firm policies regarding the allocation and utilization of the obtained FDI. The potential negative outcomes mainly evolve around the increased dependence of the economic processes of the state on the external investors and consequently their increased influence in the region. This is the case as effective policies allocate inward FDI to the development of human capital and accumulation of physical capital in a way that may boost productivity and useful output of the economy but is also sustainable in the long run. Further on Wong (2003) investigated how the role of FDI has changed along the different stages of economic development of Singapore. The main conclusion of the research revolves around the changed directionality of FDI. For example in the early stages of development between the 1960s and 1990s when Singapore was considered a developing economy, Singapore was highly reliant on the FDI to maintain positive development of internal processes of developing local human capital and acquiring necessary capital for production and manufacturing processes. Chia (2015) and Wong (2003) argue that since the 1990s when Singapore elevated to a more developed state the relationship between the economy of Singapore and FDI has started to change. Firstly, the country turned to high-tech service-oriented startups making their output less reliant on the need for physical capital. Further on government has realized that fitting the production within the country limits its ability for further economic growth and has shifted its processes to develop its own entrepreneurial talent and expand its useful output outside the physical borders of Singapore. As a consequence, Singapore has become a much more outward FDI-oriented state using its financial capital to invest in ventures lying outside the country.

3.3. Human Capital

The PAP since the first election has foresaw rapid economic growth which relied on external entities investing and doing their business in Singapore. Abbas and Nasir (2001), Asteriou and Agiomirgianakis (2001), and Al-Yousif (2008) all found a firm association of some sort between the quality of human capital and the economic growth of a country. According to Saner and Yiu (2014), since the two variables closely align, PAP from the very start, as part of their plan had an idea to attract foreign businesses by providing high-quality human capital at competitive prices. The initial plan for increasing the quality of human capital relied on educating the local population. Saner and Yiu (2014) also argue that to avoid allocating a large proportion of a small initial budget to the purpose of developing educational institutions, PAP has managed to diversify sources of funding by utilizing public investments and by incentivizing private investment in public education. As an example of the policies used to improve the state of local human capital, the government has announced increased subsidizing for the companies that were willing to share their expertise with the local labor force. However, PAP initial initiative of organizing large scale, public technical and vocational schools didn't turn out to be as successful as the following the attempt. After the failure of the first attempt, Singapore devoted increased effort to the establishment of a more successful New Education System (NES) in 1979 (Biswajit, 2016). The NES offered various pathways for learning including innovation, creativity and research.

As the summary of the adopted educational reforms Biswajit (2016) provided consistent data that newly adopted educational reforms in Singapore have significantly increased literacy rates. For instance, between 1991 and 2012 the tertiary level of education went up from 6.7% to 29.4%, the secondary level of education from 46.9% to 49.9%, and the education level up to primary has dropped from 46.4% to 20.7%. Later by evaluating the dynamics of economic growth during and after the introduction of NES, Biswajit (2016) concluded that in the case of Singapore, economic growth is a lagging indicator (for about 4 years) of the development of human capital. Eventually, educational reforms and increased expertise gained from foreign businesses have increased the attractiveness of the local human resources for attracting more foreign businesses.

3.4. Labor Market
Owing to constraints of available resources in the area covered by the city-state of Singapore, at any stage of economic development main part of Singapore's economic processes relied on human capital. The caliber, volume, and cost of human labor were all essential factors that enabled Singapore to attract FDI and become an established trading hub in the region. At the initial stages of economic development, Singapore had no means of attracting high-skilled workers and talent from abroad which is why it has heavily invested in increasing the efficiency of work of the local population by investing in education, healthcare, and affordability of housing. Nevertheless, as Singapore's economic condition has ascended up the echelons some adjustments were necessary to maintain the competitiveness of the labor force. To facilitate further economic progress, the government of Singapore had to ensure that the price and quality of labor remained enticingly competitive. With the rapid improvement of labor force quality and accelerating urbanization, the labor force usually finds itself compelled to increase wage demands to maintain and improve spending habits. With Singapore's reliance on price and quality competitive edge of human capital in attracting foreign investment, the government was incentivized to alter such dynamic. As a means of dealing with the ongoing trend, the government of Singapore has adopted the following three policies: (1) Centralized control over visa and immigration of foreign talent, (2) Differential fairness between high and low-skilled members of the labor force and (3) Establishment of Central Provident Fund as one of the ways to ease the monetary requirements of an average household. One of the key reasons for the growing price of labor is the growing demand for the scarce resource of highly skilled labor as more investors enter Singapore. To deal with the matter government has organized a centralized unit to deal with labor management named the Ministry of Manpower (MOM). According to Leggett (2007), the growing influence of MOM in the labor market correlates to the overall economic growth of Singapore identifying it to be one of the essential factors for economic success. The role of MOM is to strategically leverage market competition to maintain low labor prices, recognizing labor prices to be of high importance in attracting foreign investment to Singapore. Awareness that the total labor supply of labor in Singapore is comprised of the local population and foreign talent makes MOM incentivized to utilize immigration policies as a useful tool for attracting foreign talent. Foreign talent, on the other hand, is an effective mean of effectively adjusting labor prices, maintaining Singapore as an attractive investment destination. Immigration policies as a labor market manipulation tool grew in their effectiveness as Singapore was becoming an attractive place to live. That is why Rajah (2019) identifies the 1970s to be the period when Singapore experienced the biggest influx of foreign talent as at that period of its economic history, Singapore was globally recognized as a state of rapid economic development and could utilize this status to attract high-skilled foreign talent. Furthermore, alongside the influx of the necessary amount of foreign talent, Singapore has directed efforts towards recalibrating the population mindset to grow into high-skilled individuals motivated to contribute to the advancement of the nation and benefit from it.

One of the most controversial concepts developed to encourage such a shift in mentality is the development of the concept of "differential fairness". Zhan and colleagues (2022) provide a comprehensive overview of the sharp line, the government of Singapore drew between high and low-skilled workers which included both local people and immigrants. Discrimination in various domains, including family reunion opportunities, citizenship acquisition, access to public resources, and more, have contributed to an increased awareness of the advantages associated with being recognized as a highly skilled individual, leading to an escalation in overall motivation to reach such status. Despite controversial social views on this policy, the policy has demonstrated significant effects in its early stages of economic development in Singapore. Furthermore, since the start of the 21st century, adjustments have been made to render it more inclusive, irrespective of individuals' skill levels. One of the common issues faced by states experiencing growth of population, rapid economic growth and urbanization is increased demand for housing in the urban regions. An increase in demand for housing consequently significantly increases prices for housing incentivizing the population to increase salary demands. To deal with the issue, the government of Singapore has also come up with a way to deal with the issue by introducing centralized institutions to tackle the issue. The two institutions Housing Development Board (HDB) and Central Provident Fund (CPF) were the two main institutions dealing with the management of larger expenditures of the population such as housing purchase, healthcare, and education. Phang and colleagues (2018) identify CPF to be an expanded version of the British CPF which was used to collect 5% of everybody's salaries to contribute to their pensions in the future. Singapore has gone further and developed an awareness that by means of taxation government is limited in assisting its population with larger investments including housing, healthcare, and education. This is why CPF established a mandatory rule for every employee and employer to contribute 25% or more to their mandatory personal accounts used to complete those larger investments. The role of HDB however is to specifically tackle housing matters in Singapore. Raslim and colleagues (2020) provide evidence that funds from CPF have enabled HDB to provide over 73% as a percentage of the total supply of housing in Singapore putting it far above its closest competitors. The decreased need for larger personal expenditure was used to decrease wage demands again increasing the attractiveness of Singapore's labor force and further boosting FDI intake.

3.5. Leadership and Political Structure

The economic success of Singapore is comprised of various contributions such as political stability, social composition, and strategic location. However, its initial economic condition isn't highly rated due to the low amount of natural resources, historical dependence on foreign influence, social unrest due to the multiversal population, and many more. Which is why despite the utilization of a wide range of developmental policies, the main part of the economic expansion is attributed to the proficiency of state management. Yao and Zhang (2015), Okafor-Dike (2008), and Brown (2020) all provide evidence of a direct relationship between various leadership characteristics and the economic performance of the state. Specifically, Brown (2020) provides evidence that an election of a leader proficient in the field of economics (such as Lee Kuan Yew) shows an average of 1.5% increase in economic growth, unlike the non-economic leader who usually show a 1.5% fall in economic growth. However, Glaeser and colleagues (2004) provide contradicting results, indicating that political proficiency is only a second hand reason for rapid economic development. Instead, their investigation provides evidence that the primary foundation for economic growth is the social capacity and human capital of the state. One of their key arguments suggests that a dictatorial leadership style at the early stages of economic growth is much more likely to provide major results in time much shorter than if all the democratic procedures were undertaken.

This conclusion holds one of the key remarks Mauzy and colleagues (2002) and Beng-Huat (1985) provide as an interpretation of the economic success of Singapore. Both investigations outline elitism, pragmatism, meritocracy, socialization, multiracialism, and the overall practice of prioritizing maximum utility over maximum satisfaction to be the core principles by which PAP has been able to channel social capacity and human capital. The key ideology stated by the most influential figure in the history of Singapore, Lee Kuan Yew: "the conflict of theory of management: you either dominate or you are being dominated" (Lee, 1957, pg. 51) adds to the idea of the success of the autocratic leadership style in Singapore. By the leader's and party's perception, this ideology should create a permanent sense of insecurity that everything could be taken away, leading to a permanent struggle for improvement (Mauzy, 2002). Such ideas, together with aligning policies enforcing certain centralized decisions such as mandatory salary contributions, one-party rule, and many more are the key arguments for which Singapore is being recognized as a non-democratic state.

4. DISCUSSION
4.1. Implications of the literature review
The review of the available literature on the developmental movement of Singapore and some other undeveloped or developing countries creates an overview of what policies are found to be most effective generally in accelerating economic growth. The contrast with other undeveloped or developing economies has provided an understanding of how Singapore's path turned out to be much more effective and rapid than some other states. One of the key takeaways of the literature review is that the majority of policies utilized by Singapore such as: attracting vast amounts of FDI, development of local human capital, manipulation of immigration policies for increased labor competition, and many others are not novel in propelling the undeveloped or developing economy. What sets Singapore apart is the effectiveness of the usage of any available opportunity which would not be possible without the rigorous management of the PAP. From the recognition of the opportunity to utilize the global trend for openness to international trade to the effective development of the local entrepreneurial talent to expand beyond the physical borders of the state was based on the maximum effectiveness of the leadership unit. The leadership identified to be just the second major influence on the economic growth is still essential for understanding why it was key in the occurring transformation of Singapore's economy. The initial members of the People's Action Party including Lee Kuan Yew have shown elite proficiency in the areas of economics, law, and political science acquired at some of the world's best universities. This proficiency aligned with the nationalistic intention to do best for the country has enabled the maximum utility of every applied policy or organized institution. Another major thesis of the ideology carried by PAP is that once elected the leaders shall be given full trust to make complex management decisions instead of inquiring additional input from the public which may decide upon self-interest or ignorance (Mauzy, 2002). Despite the controversial views on the management of inner politics by the PAP, its effectiveness has prevented the local population from mutinizing against the party due to the partial limitation of their freedom. In exchange for the trust, PAP has consistently delivered on its promises and propelled the economy of Singapore to the upper echelons of the world. An additional argument that speaks for the PAP's pressure on opposing parties was voiced by the PAP's representatives multiple times claiming that in order to fully implement ideas and benefit from their outcomes a much larger time period than usual time one party is in charge is necessary. This may be identified as one of the key findings of the reviewed literature. The approach utilized by Singapore which relied on centralized approach in decision making is hardly possible in nations with lower extent of collectivistic approach. This acts as a major limitation of the conclusion, but makes it even more applicable for the countries with a similar population mindset.

4.2. Suggestions to the leaders of undeveloped/developing countries

Evaluation of historic examples of rapid economic growth such as Singapore carries vast amounts of suggestions for the countries that can identify their state to be similar to the example and are willing to develop in a similar way. One of the major conclusions that are largely applicable to undeveloped countries is that while human capital possesses a lack of competence to democratically decide their future, a competent unit of leaders may be assembled. This will frequently propel economic progress as the perception of unrestrained freedom among the masses coupled with reduced competence for adequate decision-making will reduce the potential of competent people to act and could even cause social unrest if the masses would perceive certain decisions to be limiting. Another important conclusion that may be attributed as a build-on for the previous implication is the desired motivation of the leadership unit. In the case of leadership with either a democratic or dictatorial level of power, it is important that leaders possess strong nationalistic characteristics which exposes them to having the interests of the nation as priority instead of motivation to fight to be reelected or to simply work for the wage. Motivation would increase their openness to ideas that would create maximum benefit for the economy and the people. In the case of Singapore, the starting point is quite inferior to the majority of other cases due to social unrest, poor labor force quality, low amount of natural resources, war consequences, and many more. It is one of the reasons why its case is so special as the only resource it had available was human resources which was used to the maximum to kick off and accelerate economic processes in other fields of the economy. Hence, one of the major factors used to attract trading and FDI into the region was the price of labor and business/trade conductivity. The implication that is of high value is the way the government of Singapore has tackled the increasing wage demands. Their estimations have identified a growing demand for healthcare, education, and housing to be one of the primary causes of increasing wage demand. Hence, they have established the Central Provident Fund and Housing Development Board to make coverage of healthcare and education expenses through mandatory salary contributions. The housing issue was covered by the HBD by providing state-built housing opportunities at relatively low cost. Evidence provided above supports the idea that a competent leadership unit is capable of dealing with majority of the challenges faced by the undeveloped or developing economies.

4.3. Limitations

The literature review and its outlined implications are based on an analysis of 25 articles identified on the relevant topics reviewed in the paper. Despite the general similarity of contexts within the scope of undeveloped and developing countries and Singapore, this may be seen as a limitation as there is much more out there regarding the topic of economic leadership and developmental practices utilized by the countries to economically propel. Future research could build on the different subheadings discussed in the literature review as well as some topics just briefly identified under those subheadings. Another limitation of the implications and suggestions outlined above is the specifics of the Singapore case. An example of Singapore is comprised of various historical, demographic, geographic, social, and political factors which make some of the discussion points applicable to other countries. More specifically, according to Hofstede (1980), Singapore scores 43 points on the individualism versus collectivism scale which means that it can be seen as a highly collectivistic state. That is another limitation on its own as high collectivism implies that the population is ready to sacrifice personal comfort (reduced freedom and differential fairness) for the possibility of collective benefit. This reduces the utility of some of the findings as some of the key aspects Singapore's economic success are being attributed to the dictatorial style of leadership utilized to ensure maximum effectiveness of the applied policies.

In the context of more individualistic country's population may be unwilling to accept any personal sacrifice which may lead to mutiny and rebellion. Hence, it is worth evaluating the extent to which some of the policies limiting personal freedom are applicable in the context of other countries.

5. CONCLUSION

The establishment of Singapore as one of the world's wealthiest countries during its short and turbulent history can be greatly attributed to the rigorous leadership of the People's Action Party and the proclivity of the population to the autocratic style of leadership. Competence and nationalistic attributes of the people in charge of the party over the course of almost 70 years have established institutions and applied policies, carefully monitoring their implementation for maximum possible effectiveness. Some of the utilized policies and established institutions to propel the economy of Singapore were: the establishment of CPF and HBD, attracting vast amounts of FDI, investment in the development of local human capital, manipulation of immigration policies to attract foreign talent, and many more. However, despite the importance of all the factors for the establishment of Singapore as one of the worlds' wealthiest states, human capital was primal along all the stages of economic development. At the starting point of Singapore's economic development, possibility to alter certain economic processes and power in general lied among the people who have represented the most competent minority. Their leadership and development of all aspects of the Singapore's economy as well as human capital as the key element has allowed them to start developing a more democratic approach as people have grown more educated and competent to make important public decisions. Overall, the success of Singapore is no coincidence, and the pragmatic principles of the PAP from the very first day build on that proposition. Many implications may be extrapolated and applied to other undeveloped and developing countries.

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SEASONAL, FRICTION AND STRUCTURAL UNEMPLOYMENT AND THE THEORY OF EFFICIENT WAGES - THE CASE OF SERBIA

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ABSTRACT
The unemployment presents major consequence of the global economical crisis. Rising number of unemployed shows the level of recession of the economy in one country. Being very important social issue, governments are trying to reduce the unemployment through different policies, in order to recover a country's economical system. If they want to increase the number of employed, a government needs proper assessment of the unemployment rate and the structure of the unemployed workforce. While unemployment in rich developed countries is high, its magnitude is fading in comparison to the level of unemployment in poor developing countries. Most of the one billion workers are identified by the ILO as unemployed or underemployed work in the rural and small service sectors of the Third World. The nature of this excess work is complex, as is its solution. It has both "structural" and Keynesian characteristics, and its solution requires a combination of faster capital accumulation, more labor-intensive production techniques, Keynesian policies to maintain aggregate demand in the face of economic shocks, and deliberate government policies to promote growth. Through investment in labor-intensive public infrastructure projects that absorb surplus labor and at the same time they increase the productive capacity of the economy Keynes would recognize the role of the state in developing countries, as he did in the case of demand-deficit unemployment in developed countries, although the nature of the recommended policies would be different. The Republic of Serbia, as a country with high unemployment rate compared to the other countries in Europe, is trying to address this important issue.
Keywords: *Unemployment, Wages, Labor Market, Serbia*

1. INTRODUCTION
Any phenomenon where the interest of citizens arises in terms of understanding it and managing the consequences that arise due to it is something to devote scientific attention to. In economic science, but also in others, a special place is occupied by unemployment and his own negative consequences, which are particularly important for every society, and therefore for the society of the Republic of Serbia. To understand the problems of unemployment and the employment policy, it is necessary to process the change of this phenomenon, which is characterized by great technical changes and globalization, and it is especially necessary to see this problem as a growing one in the modern world. How and what kind of experience there is to solve that problem is very important for the shaping of policy and practice in the Republic of Serbia. Inequalities and unemployment represent major challenges and research on this problem has gained importance only in the last few decades. It has also become a key issue in politics. All this surveys and statistics show that unemployment is reaching a height higher than in any period before, even since the Second World War. An important component of surplus labor in poor countries is disguised unemployment in agriculture, which takes the form of large numbers of workers working very few hours (suboptimal shift) at least in non-harvest times. This reduces labor productivity and is a major cause of poverty.

The possibility of employment for all who want to work is one of the characteristics of a civilized society and it should be possible. The task is not easy, but creating new jobs should be one of the highest priorities of any government in the 21st century where unemployment (and underemployment) is a serious phenomenon. But the nature of unemployment differs between developed and developing countries, and the challenge is also different. In rich developed countries, it is necessary to revive and emphasize the concept of involuntary unemployment, as well as the role of demand management.

2. CONCEPT AND TYPES OF UNEMPLOYMENT

It is possible to point out two theories related to the functioning of the labor market:
- neoclassical model, and
- model of incomplete competition.

The neoclassical model refers to the assumptions that the labor market is perfectly competitive and that the price of labor is freely formed depending on the supply and demand for labor. In addition, in this model, the migration factor is separated from other influences, which means that there is no obstacle in the movement of labor between regions. In this market, the demand for labor is made by employers who, conditionally speaking, are "buyers" of labor. In addition to them, the offer consists of workers who can be labeled as labor force sellers (Radovanović, V., Maksimović, M., 2010). In the market, each of the mentioned parties tries to make a transaction that is in the interest of that party, achieving the greatest possible benefit for itself. Employers' primary goal is to make as much profit as possible, while workers aim to make as much wages as possible. Depending on the supply and demand for labor, the general level of labor prices is established, thus leading, in the long term, to a state of equilibriumThe excess supply of labor is eliminated from the market in such a way that the price of labor is reduced. However, this model that is presented in practice does not work because the completely free operation of the labor market is rarely, if not never, encountered in real life. Suprotno, iskustva pokazuju da u stvarnosti, tržište rada funkcioniše specifično i taj način je mnogo bliži modleu nepotpune konkurencije. In comparison to the market of goods, capital or services, the specificities of the labor market are particularly noticeable if it is about the free operation of market laws, and it is often pointed out that this market is imperfect (Radić, 2005). The model of incomplete competition is based on the assumption that the market in general, and the labor market in particular, is not sufficiently competitive. The competitiveness of the labor market undermines the existence of trade unions, state interference in the process of collective bargaining between employers and employees, and insufficient labor mobility. This model corresponds more to reality. Basic information about the labor market can be obtained based on three basic indicators of the labor market, namely: (Krstić, G., Šoškić, D., 2017):
- activity rate;
- employment rate, and
- unemployment rate.

2.1. Unemployment

We see different definitions of the term unemployment, but what we can primarily point out is that this term means that someone is "out of work", i.e. "no paid work" (Gidens, 2007). The active population (labor force) in a country is actually all employed and unemployed people aged 15 to 64. This term refers to persons who have a residence in the country, and also to persons who are employed in the territory but do not live there. The unemployment rate is the percentage of unemployed persons in relation to the total number of active residents. The unemployed are people who can work or are looking for work, regardless of whether they receive income or not.

The administrative unemployment rate is what refers to the list of all unemployed persons registered in the state services that deal with this issue. Figures taken from surveys conducted regularly on a representative basis of the population contribute to the fact that the adjusted unemployment rate can be calculated. Nezaposlenim Unemployed (ILO) is considered to be any person who declares that he is unemployed, looking for work and is ready to work.

2.2. Types of unemployment
Based on the literature analysis, we find that unemployment is most often divided into:

- **Frictional Unemployment**. It is present in every economy and includes that segment of total unemployment that causes job changes, job searches after graduation, and pause during illness. Frictional unemployment occurs when unemployed people decide to leave their jobs voluntarily, either to rest, study or find another job. The said unemployment, therefore, depends on the personal situation of each worker. The reasons for leaving a job depend on each person: from studying, taking care of relatives, to changing the place of residence, even going through a simple disagreement in the conditions of the current position. This last case is called searching (or waiting) unemployment. It occurs when you are looking for another job in the same sector, but with a better wages. Frictional unemployment is one of the reasons why full employment is not achieved (at least not in the Keynesian sense). In this way, we can agree that the actual unemployment rate itself is less than the frictional (or voluntary) unemployment rate. Another reason for not reaching full employment is structural unemployment. This is what produces a contradiction between what companies are looking for and the knowledge or skills that workers offer. Frictional unemployment can also occur when there are technological changes in the economy (Boianovsky, M., Trautwein, H.M., 2010). In addition to being based on the time of searching for new jobs by the unemployed (Yánez Contreras, M., Cano Hernández, K. , 2012).

- **Structural unemployment** – it has a permanent character, and it occurs because major changes occur in the economy, not only in circumstances that have an impact on individuals. This type of unemployment occurs when in the labor market, demand and supply are not optimal or are not in balance, given that the workers who offer their services do not meet the required conditions or because the demand cannot be efficiently used by the labor supply. Structural unemployment changes depending on what the region or economic sector takes and constantly mutates depending on the supply and demand for work (Arroyave, 2020).

- **Seasonal unemployment** occurs in activities where the volume of production is linked to certain weather conditions and seasons. (Bolčić, 2007). The case of seasonal unemployment is considered a religious part and is in a certain way related to cyclical unemployment, because some of its factors are similar, such as the demand for certain products and services, according to changes in the demand for labor. Even with all this, it is linked to what we know as the tourism and agriculture sector, which is taken as a reference par excellence. In the case of tourism, employment oscillates between the summer and winter months. In agriculture, the difference is marked by the dates of sowing and harvesting, because each sector requires a certain number of workers and logically creates jobs, while when these dates end, lack of consumption and other requests for services, generate unemployment, in order to stabilize the economy. Usually, this type of unemployment can be identified in the agriculture and tourism sectors, because they depend on the seasons to be able to achieve it, because it is related to the economic activities in which they are located.

3. EFFICIENCY WAGE THEORY

The theory of effective wages was developed by New Keynesians and in such a model they tried to explain why unemployed workers are not able to lower wages to a level that can ensure full employment. Based on the model of efficient wages, this is not in line with the interests of companies, because wages correlate with productivity and the level of costs. Such an attitude is certainly not new to economic practice, because as early as 1914, H. Ford was aware of such a fact and paid 5 dollars to workers (Fabris, 2013). However, such a thing is not incorporated in economic models. Classical theory of wages (Smit, Rikardo): The focus is on the long-term natural wage. This is fundamentally determined by the level of existence, which is not only biologically but also socially determined, and therefore historically variable. The property of wages that tended to the subsistence level was justified is a strong population growth (Thomas Malthus), which occurs as soon as the social situation of workers improves significantly. As a result, wages were reduced to their previous level. The short-term market wage is derived from the supply and demand for labor and sometimes fluctuates around the natural wage (subsistence wage theory). Marx's Theory of Wages: Marx saw another reason for the tendency of wages to remain at subsistence level in the long run: the accumulation of capital and the labor-saving character of technical progress create an industrial reserve army, which means that wages cannot leave subsistence levels in the long run.

In order for a company to maximize its profit by offering an efficient wage, two conditions must be satisfied:

- that there is a unit elasticity of work effort in relation to the height of the wages. (Figure 1). The labor effort curve € indicates the relationship between the effort of the worker and the real wage. The real X is the amount of wages that the company is willing to offer depending on the effort of the worker. The optimum point is at point M where line X is tangent to curve E. U At the same time, at such a point, labor costs per unit of efficiency are the lowest, i.e. the unit elasticity of work effort appears in relation to the real wage.
- It is also necessary to satisfy the condition that the company could maximize profit in terms of employing workers to the point where the marginal product of labor and the effective wage are equal. Due to the fact that companies pay the effective wage w*, and it is above the equilibrium level, then will occur involuntary unemployment (U). If there is a negative shift in the aggregate demand for labor (moves Dl1 to Dl2) the effective wage w* will not be changed (because it is independent of the level of employmentIn that situation, involuntary unemployment only increases from the level of L1 to the level of L2. (Figure 2).

Figure following on the next page
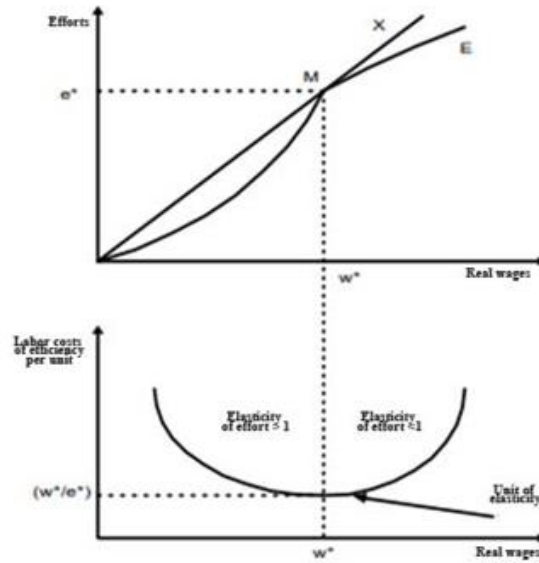
Figure 1: Efficiency wage equilibrium (Fabris, 2013)

- There are several reasons that can justify paying wages above the market equilibrium level. That's why we explain some of the most important ones:
- Cost minimization through staff turnover.: Finding and selecting new employees is expensive for companies. So, to reduce employee turnover, companies might be willing to pay higher wages. In this way, workers will work harder to keep their jobs.
- Increasing worker productivity: A higher salary is a motivation for employees who feel recognized and appreciated for their work. Likewise, when they see that they are receiving a salary above the market equilibrium, they will value their job more and try harder to keep it.
- Trust in employees: There are jobs where the employer needs to have a lot of confidence in his employees. For example, let's look at the case of keeping large sums of money or trade secrets. So, to prevent workers from leaving their employer, the latter offers them a high salary, so it is very expensive for them to lose their jobs.
- Improving nutrition: In the case of poor countries, higher wages may allow workers to eat better and thus be more productive.
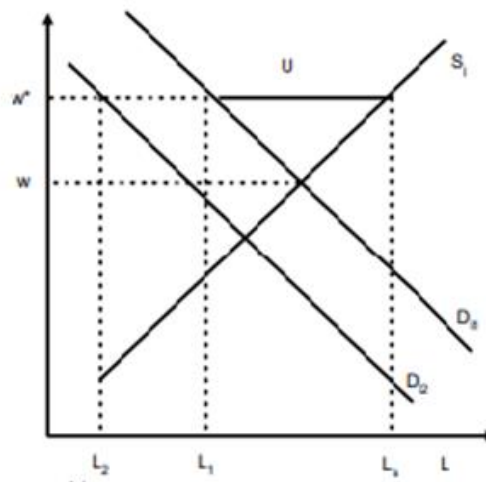
Figure 2: Involuntary unemployment and the efficient wage model

4. KEY INDICATORS OF THE LABOR MARKET IN SERBIA

The unemployment rate represents the share of the unemployed in the total labor force, and can be expressed by the formula:

$$UR = \frac{n}{n+z} * 100$$

wherein, UR - unemployment rate, n - the number of unemployed persons registered with the Employment Office, z – number of employees in Employment Office.

By years	Activity rate	Employment rate	Unemployment rate	Rate of the population outside the labor force
2018	54,5	47,6	12,7	45,4
2019	54,6	49	10,4	45,5
2020	52,2	47,1	9,7	47,8
2021	54,7	48,6	11	45,3

Table 1: Movement of basic indicators on the labor market in the period 2019-2021 (Pantelić, V. et. al, 2022) (Pantelić, V., et. al, 2020)

Based on table 1, it can be seen that the three basic indicators of the labor market - the participation rate, the employment rate and the unemployment rate show a clear trend that has been increasing since 2018. However, we can emphasize that the employment rate is below the goal of the Lisbon Strategy from 2000, which foresees an employment rate of 70%. In Serbia, about 60% of the population of working age is employed (15-64 years). The unemployment rate decreased in the observed period, and at the same time the activity and employment rates increased. However, in order to be able to assess the state of the labor market, apart from these general rates, it is necessary to take into account the structure and quality of employment. Also, it is important to mention that, although there have been improvements in the labor market in the previous period, the basic indicators - activity rate, employment rate and unemployment rate in Serbia are worse compared to the EU-28 average. The Government of Serbia makes a decision on the minimum price of work, as many countries of the world have regulated that no worker can be paid less than the minimum price of work. Minimum wages and salaries are determined by collective agreements for the corresponding category of work. Classical unemployment is unemployment that arises when wages are deliberately maintained above the level at which the labor supply and demand curves intersect. Equilibrium unemployment represents the employment rate when the labor market is in equilibrium.

5. CONCLUSION

It is clear that in economic and social policy, to eradicate the problem, it is necessary to know all the aspects related to it, in order to be able to implement an effective strategy. In the phenomenon of unemployment, it is first important to know its typology, that is, whether it is caused by factors related to the economic cycle or economic activity in general, which in this case would be cyclical or imbalances.

In the structure of job demand and supply, structural unemployment occurs when unemployment lasts while looking for a new job, unemployment is said to be frictional. The basic indicators of the state of the labor market in Serbia - activity rate, employment rate and unemployment rate, despite the recovery in the previous few years, during the observed period were worse in comparison to the EU-28 average. In addition to the fact that the employment rate of 55.2% is still low compared to European conditions, the quality of employment in Serbia is at lower levels than in the EU-28, where the average employment rate is around 65%.

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TAX COMPLIANCE COSTS AND SMALL BUSINESSES COMPLIANCE BEHAVIOUR IN ZIMBABWE

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ABSTRACT

The purpose of this study is to investigate the relationship between small businesses' compliance costs and tax compliance. From a methodological standpoint, this study recruited small firms that are registered for presumptive tax to respond. An online questionnaire was used to gather data for the cross-sectional study from managers and owners of small firms operating in different Zimbabwean economic sectors. Amos version 26 and SPSS were utilised for the quantitative data analysis. We discovered that there is a significant negative relationship between compliance costs and tax compliance with the presumptive tax system after analysing a sample of 219 small firms. According to our findings, small businesses face significant expenses related to tax compliance, which impedes their efforts to comply with presumptive taxation. The current study demonstrates how compliance costs have a direct impact on how tax compliance is understood in the context of the presumptive tax. Compared to earlier research on small businesses that are registered and unregistered, this study provides a unique method of deriving results. In order to help small businesses understand the importance of tax compliance and how to manage its costs, the study suggests that representatives of the Zimbabwe Revenue Authority (ZIMRA) hold workshops and awareness campaigns about the handling of tax matters. In an effort to provide government and tax officials with essential information on the critical elements that propel compliance in presumptive taxation, the study strives to inform policy.
Keywords: Compliance costs, tax compliance, small businesses, presumptive taxation

1. INTRODUCTION

According to Bruce-Twum (2023), small and medium-sized enterprises (SMEs) comprise the majority of businesses in emerging markets. The International Trade Center on Small and Medium-Sized Enterprises in Zimbabwe (2023), reports that small firms comprise 90% of all entities in Zimbabwe and account for over 60% of the country's GDP. Musimenta (2020) claims that in order to finance their budgets without depending on unpredictable foreign money, governments in developing nations are looking for strategies to increase the effectiveness of tax revenue collection. Our research focuses on small firms because, as noted by Schoonjans, Van Cauwenbergeô, Reekmans & Simoens (2011), they are becoming more and more significant for the economy in many nations, particularly with regard to employment. Bruce-Twum (2023) argues in favor of this viewpoint, claiming that SMEs are crucial for promoting growth, creating jobs, and lowering poverty. Small firms that are subject to taxation pay substantial expenses to comply with tax laws (Schoonjans et al., 2011). Even if the majority of developing countries are defined by the informal sector, tax compliance has remained low due to the costs of compliance and complexity of the tax system (Musimenta, 2020). Due to the burdensome expenditures associated with tax compliance, small firms may choose not to completely cooperate or may even be forced to close their operations (Bruce-Twum, 2023).

Tax compliance levels among small firms may be lower than anticipated due to high compliance expenses, as many of these entities may believe that the tax system is unfair (Mahangila,2017). There are several factors that contribute to tax compliance. One of the numerous factors influencing tax compliance is compliance costs (Bani-Khalid, Alshirah & Alshirah, 2022). The costs associated with tax compliance might be in different forms. According to Ghani, Hamid, Sanusi, and Shamsuddin (2020), there are two primary types of tax compliance costs that taxpayers may incur: gross monetary compliance costs and psychological compliance costs. In addition to actual expenditures, gross monetary compliance costs also include opportunity costs associated with the time and resources needed to comply with tax regulations. On the other hand, psychological expenses include the evaluation of the stress and anxiety resulting from filing of tax returns (Ghani et al., 2020). In order to avoid fines for non-compliance, many small enterprises hire external tax advisers (Musimenta, 2020). Tax compliance costs consist of three main components, according to Rantelangi and Majid (2018): financial costs (money spent on tax professionals like tax agents and accountants as well as expenses related to taxation guides, books, and communication); time costs (mainly on record keeping for tax purposes, completing the tax return, and time spent dealing with tax authorities); and psychological costs (mainly on the stress associated with dealing with tax authorities), such as anxiety, stress, and frustration in handling complex tax matters. When it comes to small firms' compliance under a presumptive tax system, compliance costs are prioritized for the purposes of this study, particularly in Zimbabwe. According to Olusegun (2021:134), tax compliance costs are expenditures borne by taxpayers as a result of their obligation to comply with applicable tax laws. Certain tax revenue office programs may inadvertently raise compliance costs and result in a decrease in tax compliance. Therefore, not all of them will help small businesses with their compliance costs (Smulders & Naidoo, 2013:275). Mahangila (2017) made the case that the costs of tax compliance can be high and regressive. This suggests that high compliance costs may reduce small enterprises' profitability and willingness to voluntarily comply with tax laws, which may hinder government efforts to stimulate the economy. Tax compliance is the extent to which taxpayers abide by or do not abide by the tax laws in their country (Manual & Xin, 2016). In support of this view, Abdul-Jabber and Pope (2008) contend that tax compliance refers to a taxpayer's compliance with tax reporting requirements, which include filing all required tax returns on time and accurately reporting tax liability in compliance with applicable tax regulations. The relationship between presumptive tax compliance and compliance costs has barely been studied. Using a self-assessment system (SAS), Ghani et al. (2020); Musimenta (2020); Bruce-Twum and Schutte (2021) examined the link between compliance costs and tax compliance among the self-employed with regard to the impact of compliance costs on tax compliance. The effect of tax compliance costs on SMEs' tax compliance was also examined by Olusegun (2021). Nevertheless, compliance under a presumptive tax system as determined by compliance costs was not examined in these studies. Furthermore, these characteristics have been the subject of very few, if any, studies, particularly in developing economies such as Zimbabwe. With the intention of broadening the empirical evidence, we examine the association between presumptive tax compliance costs and the level of compliance of Zimbabwean small businesses across the different economic sectors. Nonetheless, the relationship between compliance costs and presumptive tax compliance remains unidentified. Subsequently, knowing whether tax compliance costs impact small businesses' tax compliance under a presumptive tax system is useful when considering how to address their non-compliance. The lack of knowledge regarding the impact of compliance costs on small firms' presumptive tax compliance in Zimbabwe is the driving force for this study. Furthermore, small enterprises incur costs under the presumptive tax system. Thus, in light of a presumptive tax system, this study investigates the impact of compliance costs on small businesses' compliance.

By proving the relationship between compliance costs and presumptive tax compliance, the study seeks to advance the body of knowledge in the field of taxation. The study is also significant to tax authorities because their goal is to continuously change the tax system in order to lower tax compliance costs and raise tax compliance levels. Therefore, when tax authorities are making decisions about addressing and resolving tax compliance concerns among small enterprises in the future, they need to know about compliance costs. Subsequent investigations may delve into qualitative approaches to minimise compliance costs, given their perceived importance in enhancing small businesses' adherence to tax laws. The remainder of this study is as follows: Section 2 discusses the conceptual framework and hypothesis development. Materials and methods are presented in section 3. Section 4 presents the results and discussion of the findings. Finally, the conclusions are provided in section 5. The next section discusses the conceptual framework and hypothesis development.

2. CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT

This section covers the literature on the study's important variables, which include tax compliance and compliance costs. The conceptual model and research hypothesis are developed using the literature review as a guide.

2.1. Tax compliance

Tax compliance is the willingness of the taxpayer to abide by tax regulations, report accurate income, claim accurate deductions, reliefs, and refunds, and pay all taxes on schedule (Obaid, Ibrahim & Udin, 2020). According to Twum, Amaniampong, Assabil, Adombire, Edisi, and Akuetteh (2020), tax compliance discusses the making, creation, submission, and timely payments of tax to tax authorities. Notably, tax compliance is defined as reporting the whole of all accruable incomes and payments made for all taxes that are legally needed, whether a corporation taxpayer is filing alone or through a partnership (Obaid et al., 2020). There is a relationship between the state and individuals concerning the creation and administration of taxes (Twum et al., 2020). Whether an individual is self-employed or employed by a firm, they are legally required to comply with tax laws (Werekoh, 2022). In the context of this study, tax compliance pertains to the act of disclosing and fulfilling tax obligations in order to adhere to tax regulations (Mahangila, 2017).

2.2. Compliance costs and tax compliance

Small business owners must be aware of the many compliance procedures and standards in order to pay the proper taxes (Kamleitner, Korunka & Kirchler, 2012). The cost of tax compliance refers to the sum of money that small firms must spend in order to implement tax payments (Rantelangi & Majid, 2018). Small businesses may incur compliance costs in a variety of ways, such as waiting periods, postponements, superfluous regulatory requirements, and corruption (Klynveld Peat Marwick Goerdeler, 2016). Furthermore, according to Rantelangi and Majid (2018), small businesses incur three primary costs related to tax compliance: financial, time, and psychological costs for the taxpayers. First of all, financial expenses comprise the cost of hiring tax professionals, such as accountants and tax agents, as well as incidental fees and costs for books, communications, taxation guides, and other materials. Second, small businesses have to invest a lot of effort in keeping records for tax purposes, filing tax returns, and interacting with tax authorities. According to Rattelelangi and Majid (2018), psychological costs encompass third-party charges such as the strain incurred from handling intricate tax matters. The impact of compliance costs on tax compliance has been shown in several studies. Some studies found either no association or a positive correlation between tax rates and compliance, despite a vast body of data suggesting high tax rates are adversely correlated with tax compliance and positively correlated with tax evasion (Saad,

2009). Rantelangi and Majid (2018) came to the conclusion that a taxpayer's propensity for tax noncompliance increases with the cost of compliance that the taxpayer is willing to bear. In support of this assertion, Ayuba and Saad (2016) come to the conclusion that there is a negative correlation between tax compliance and compliance costs. Based on the previously discussed considerations, the following hypothesis is proposed:

- H_1: There is a significant negative relationship between compliance costs and presumptive tax compliance

3. METHODOLOGY
3.1. Measurement scale
An online survey was used to gather the data using a questionnaire. Two successful steps were taken to collect the data. Before the fieldwork began, the questionnaire was tested on twenty managers and owners of small businesses. Managers and owners of small businesses were thought to be able to offer input regarding the representatives and the appropriateness of the questions. After that, the survey instrument was modified for the final version. The Likert scale, which ranges from strongly disagree to strongly agree, was used in this study and was used in previous studies (Zimuto, 2018); Munyanyi, 2018). According to Cooper and Schindler (2014), the most commonly utilised variant of the summated rating scale is the Likert scale, which was created by Rensis Likert. A five-point Likert scale was employed by the researchers to elucidate the causal relationships between the various research topics (Stockemer, 2019:43). The rationale for the use of a five-point Likert scale in this study is that it offers a balanced rating scale with an equal number of options for both positive and negative responses on each item (Cooper and Schindler, 2014).

3.2. Sample size
An online survey yielded 219 valid responses. The small business owners and managers were selected to take part in the survey from different economic sectors of the country's 10 provinces. The study's sample size was supported by those used in related studies. For instance, Bani-Khalid et al. (2022) investigated the determinants of tax compliance intention among Jordanian SMEs and used a sample size of 377. Another study by Schoonjans et al. (2011) focused on a survey of tax compliance costs of Flemish SMEs by looking at their magnitude and determinants employing a sample size of 184. Le, Tuyet, Hanh and Do (2020) used a sample size of 376 when evaluating factors affecting tax compliance among Small and Medium-sized Enterprises in Vietnam.

3.3. Data analysis
In this study, structural equation modelling (SEM) and descriptive statistics were used. The representativeness of the targeted small business owners subject to the presumptive taxation was assessed using descriptive statistics such as the mean and standard deviation. The SEM enables the testing of single parameter assumptions for data compatibility as well as the testing of complicated models for overall compatibility with the data (Werner & Schermelleh-Engel, 2009). Moreover, SEM was applied to confirmatory factor analysis (CFA) in order to evaluate the degree to which collected data support a proposed hypothesis (Salkind, 2010). At first, item-total correlations using the Cronbach alpha coefficient were estimated. Secondly, the data was reduced and summarized using explanatory factor analysis (EFA) to make associations and patterns simple to read and comprehend. Subsequently, the measurement model's convergent validity, construct reliability, and goodness-of-fit were assessed using CFA.

It was decided that the measurement model was required in order to verify the reliability and validity of the variables and scales for further study. Finally, we conducted the structural model analysis to test the research hypothesis.

4. RESULTS AND DISCUSSION
4.1. Scale reliability

To ascertain whether respondents' answers to the questionnaire items were consistent with one another, a reliability analysis was performed. Shelby (2011:142) uses Cronbach alpha to support the assumption that an alpha of 0.650 to 0.700 is a suitable scale for human dimension research. Some researchers argue that a good scale should have a cut-off of 0.800, but Carsamer and Abbam (2020:374), on the other hand, were more lenient and suggested that a value of at least 0.600 be considered acceptable for reliability assessment. Cronbach's alpha values were greater than 0.700 for compliance costs (CC, $\alpha=0.840$) and presumptive tax compliance respectively (PTC, $\alpha=0.857$). Eight items were utilized in the EFA following the reliability assessment using the Cronbach alpha. The findings of the EFA validity test for the scales indicate that Bartlett's Test of Sphericity Sig = 0.000 < 0.005 and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0.864. In line with similar studies, EFA is conducted when KMO test scores are more than 0.600 (Tabechrick & Fidell, 2013 referenced by Watson, 2017; Mohamad & Ali, 2017). This is regarded as outstanding, indicating that factor analysis was appropriate and consistent with prior studies. This is similar to the findings of Mohamad and Ali (2017:4), who determined that the KMO of 0.713 was high enough to be used for factor analysis. Comparably, the factors reported by Bidin and Marimuthu (2016:201) had KMO values higher than 0.600, indicating that the factor analysis model was suitable. Table 1 and 2 display the results of the EFA and reliability test.

Variables	Cronbach Alpha	KMO
Compliance costs	0.840	
Presumptive tax compliance	0.857	
		0.864

Table 1: Reliability assessment
(Source: Field data)

Variable	Factor Compliance costs	Factor Presumptive tax compliance	Commonalities
CC1	0.846		0.774
CC2	0.871		0.804
CC5	0.722		0.698
CC6	0.866		0.814
PTC1		0.708	0.664
PTC2		0.762	0.819
PTC3		0.806	0.816
PTC4		0.661	0.708
Cumulative variance explained (%)		61.403	

Table 2: Reliability assessment
(Source: Field data)

4.2. Reliability and validity assessment under confirmatory factor analysis

The convergent validity, construct reliability, and goodness-of-fit of the measurement model were tested in this study using CFA, which was employed following EFA. To evaluate the reliability and validity of the scales for latent (unobserved) variables, a measurement model was considered necessary. Item loadings with scores less than 0.40 should always be eliminated (Hamid, Sami, and Sidek, 2017). Furthermore, items with scores less than 0.50 should also be deleted if this contributes to an increase in the composite reliability, average variance extracted (AVE), and Cronbach alpha. Based on the information provided above, items with loadings less than 0.50 were eliminated in this study. Items CC3, CC4, CC7, and PTC4 were eliminated from this study in order to increase composite reliability scores and due to low loadings. Consequently, in order to increase the measurement model's validity and reliability, items with low factor loadings were removed from the study. CFA results are displayed in Section 5 and Table 5.

4.3. Descriptive statistics of small businesses

The representativeness of the targeted small business owners subject to a presumptive tax system was assessed using the mean and standard deviation. Moreover, background data regarding small firms was summarised through the use of the mean and standard deviation. The researcher was able to compare data across respondents and research constructs because to the summarized information supplied by the mean and standard deviation. This phase was essential for carrying out other actions, such as examining the validity and dependability of the input prior to looking into the suggested study hypothesis.

4.3.1. Descriptive statistics for compliance costs

The burden that modern taxation systems place on taxpayers, especially those in the small business sector, can be lessened (Lignier & Evans 2012:615). According to Lignier and Evans (2012), compliance costs encompass various expenses such as efficiency costs, operational costs, profits taxes, and expenditures incurred for adhering to tax regulations. The purpose of this survey was to find out how much respondents agreed with various statements about the costs of compliance with presumptive taxation.

Compliance costs (CC)		N	Mean	Std Dev
CC1	We get assisted in filing of tax returns	219	4.40	0.601
CC2	We spent more hours each month filing tax returns to comply with presumptive tax regulation	219	4.39	0.543
CC3	We rarely hire the services of accountants and tax advisors on an annual basis	219	2.87	1.257
CC4	Tax software is integrated with our accounting system at zero cost	219	2.44	1.075
CC5	Presumptive tax rates are significantly lower	219	4.31	0.725
CC6	Registration requirements are simple and convenient for a new small business operator	219	4.45	0.499
CC7	Our business has been expanding since we registered for presumptive tax	219	3.02	1.348

Table 3: Compliance costs
(Source: Field data)

As depicted in Table 3, the sample respondents agreed that they got assistance in the filing of tax returns, as indicated by a mean score of 4.40. Further investigation was affirmed by Table 3 that most small businesses spent more hours each month filing tax returns and respondents confirmed this with a mean score of 4.39.

When asked whether they rarely hired the services of accountants and tax advisors per annum, sample respondents reported neutrality as shown by a mean score of 2.87. It is equally interesting to observe that the sample respondents revealed that the tax software was not integrated with their accounting system, as shown by a mean score of 2.44. Furthermore, the sample respondents perceived that presumptive tax rates were significantly lower, as represented by a mean of 4.31. The same sentiments were affirmed by the majority of sample respondents that the registration process for the presumptive tax system was simple and convenient to a new small business operator, as supported by a mean score of 4.45. This suggests that small business operators seemed to have no problems with the process of registration under the presumptive tax system. However, it is worrisome to note that the sample respondents confirmed that small businesses were not growing and expanding since they had registered for presumptive tax, as supported by a mean of 3.02. This suggests that small businesses viewed the expansion of business operations as not linked to the registration status under the presumptive tax. Most respondents reported neutrality, and that could be attributed to a higher standard deviation (1.348) showing that there were mixed reactions regarding the growth of the firm under a presumptive tax system. A further look at the mean scores for the statements on compliance costs shows that small businesses incurred substantial compliance costs in handling tax matters. The table below reports on the use of information technology among small businesses.

4.3.2. Descriptive statistics for presumptive tax compliance
Complying with tax laws is complicated because human behaviour is involved (Oluka, Chiwawa & Kader, 2021:456). This study sought to establish the degree to which sample respondents agreed with statements relating to the level of compliance with the presumptive tax system.

Presumptive tax compliance (PTC)		N	Mean	Std Dev
PTC1	Staying up to date with changes in presumptive tax legislation improves our compliance	219	2.34	1.257
PTC2	We have a good record of correct declarations for presumptive tax	219	2.76	1.097
PTC3	We meet deadlines for filing and payment of presumptive tax	219	2.86	1.098
PTC4	We surround ourselves with great advice to comply with presumptive tax requirements	219	3.45	1.208

Table 4: Presumptive tax compliance
(Source: Field data)

To interpret the results, a higher value indicates the presence of compliance with the presumptive tax. As illustrated in Table 4, the sample respondents from small businesses indicated that they did not keep themselves abreast of changes in presumptive tax legislation. This is supported by a mean score of 2.34, suggesting possible low compliance. In another related statement in Table 4, the sample respondents disagreed that they did not have a good record of correct declarations for presumptive tax, as represented by a mean score of 2.76. In addition, the sample respondents from small businesses reported neutrality when they were asked whether they met deadlines for filing and payment of presumptive tax, as supported by a mean score of 2.86. In terms of surrounding themselves with great advice to comply with presumptive tax requirements, the sample respondents indicated that was not present within their businesses, as shown by a mean score of 3.45. These mean results are more or less neutral, implying that compliance with the presumptive tax system was not present among small businesses.

4.4. The measurement model

The study employed the composite reliability values as suggested by (Hamid et al., 2017) to test for internal consistency reliability. It is acceptable to have composite reliability and Cronbach alpha values more than 0.70 (Hamid et al., 2017:2). By examining the cross-loadings in the original measurement model, each item's dependability was evaluated, and it was discovered that the factor loading values were greater than 0.50. The original measurement model underwent additional modifications until a satisfactory level of fitness was reached. All factors with loadings less than 0.60 must be eliminated in order to achieve this. Having said that, a good model fit was obtained, and convergent and discriminant validity were used to verify the validity of the preserved items. As advised by Simon et al. (2010), the remaining indicator values are greater than the minimal permissible level of 0.5. Convergent and discriminant validity were used to evaluate the measurement model. Item composite reliability and the average variance extracted (AVE) are used to verify convergent validity. The findings demonstrate that the AVE values are higher than 0.50 and that item values for composite reliability exceed 0.70. Convergent validity was therefore verified in this investigation. The convergent validity results are presented in Table 5.

Research variable	Measurement item	Cronbach alpha	C.R. value	AVE value	Factor loading
Compliance costs (CC)	- CC2 - - CC5 CC6 -	0.840	0.859	0.607	- 0.684 - - 0.682 0.973 -
Presumptive tax compliance (PTC)	PTC1 PTC2 PTC3 -	0.857	0.872	0.636	0.673 0.904 0.929 -

Table 5: Convergent validity
(Source: Field data)

The Fornell and Larker criteria is used to verify the discriminant validity. Discriminant validity is attained when the diagonal values in bold (the square root of AVE) are greater than the values in its row and column, in accordance with the guidelines provided by Fornell and Larker (1981). This is accomplished by comparing the correlations with other factors using the square root of the AVE of a variable (Twum, et al., 2020). Table 6's findings demonstrate that the variable co-efficient is lower than the diagonal value indicated in bold. This attests to the achievement of discriminant validity. Therefore, in order to determine the correlations between compliance costs and presumptive tax compliance, a structural model study was carried out.

	CR	AVE	CC	PTC
CC	0.817	0.558	**0.747**	
PTC	0.872	0.636	-0.36	**0.797**

Table 6: Discriminant validity
(Source: Field data)

4.5. Structural model analysis

Following verification of the validity and reliability of the measurement model and the structural model, the path relationships between the study variables were examined.

According to the findings, the structural model was deemed valid and reliable and was able to obtain a satisfactory fit. The relationship between compliance costs and presumptive tax compliance was examined using the structural model. The structural model generated using SPSS Amos is shown in Figure 1.
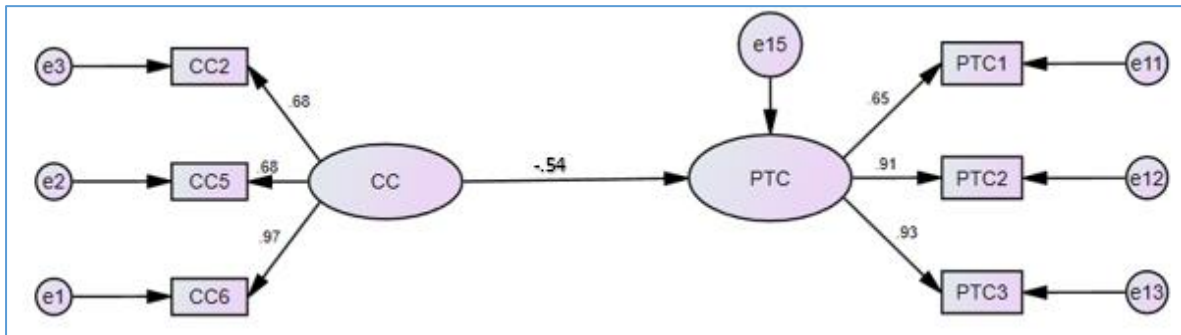
Figure 1: The structural model
(Source:Field data)

4.6. Hypotheses testing results

Hypothesis number	Path	Path Co-efficient (β)	T-value	P-value	Decision
H_1	CC⟶PTC	-0.535	-4.321	***	Supported

Table 7: Hypotheses testing results
(Source: Field data)

Considering the effect of tax compliance costs on presumptive tax compliance (H_1), the result in Table 7 revealed that compliance costs have a significant negative relationship with presumptive tax compliance (t = -4.321; p < 0.001; β = -0.535). Therefore, the hypothesis was accepted. A plausible explanation for this result may be related to money spent on tax consultancy, time spent on dealing with tax matters, tax rates and psychological costs. This result is consistent with Ayuba and Saad (2016:44) and Kamleitner et al., (2012:338) who discovered a negative relationship between compliance costs and presumptive tax compliance. The finding aligns with the tenet of the economic deterrence theory, which posits that rational individuals underreport income in response to the tax rate, penalties and costs incurred to maximise their savings (Nkundabanyanga, Mvura, Nyamuyonjo, Opiso, & Nakabuye, 2016; Bello & Danjuma, 2014). This supports Leoprick's (2009) finding that formalisation and voluntary tax compliance are facilitated by low compliance costs. This finding is in line with that of Rantelangi & Majid (2018), who discovered that a taxpayer's propensity to engage in tax evasion increases with the amount of compliance costs they bear. However, not every program the tax revenue office introduces lowers the expenses associated with compliance for small firms; in fact, some may unintentionally increase the burden associated with compliance, which would lower tax compliance (Smulders & Naidoo, 2013:275). On the contrary, Abdul-Jabber (2008) discovered no correlation between expected tax compliance behaviour and compliance expenses. The rationale might have to do with a tax region that is sensitive; nevertheless, it is unknown how truthful the respondents were in expressing their potential compliance behaviour. This is consistent with the findings of Manual and Xin (2016), who found no significant relationship between tax compliance behaviour and tax compliance costs. Musimenta (2020) came to the conclusion that there is a significant negative correlation between compliance costs and tax compliance.

This could be the case because, even when a taxpayer engages outside professionals, internal expenses such as creating books of accounts which require more staff and time remain in place (Musimenta, 2020). The same sentiments were echoed by Mahangila (2017) who reported that at the low tax compliance costs levels, both men and women may comply more when tax compliance costs are low than when their tax obligations are at higher levels.

5. CONCLUSION

The paper primarily aimed to investigate the influence of compliance costs on the tax compliance of small businesses under a presumptive tax system. On the basis of the study results, it can be concluded that higher compliance costs among taxpayers lead to a decrease in compliance levels with the presumptive tax system. The negative path coefficient suggests that most small business firms incur a high tax compliance burden which leads to a decrease in compliance with the presumptive tax system. More specifically, the study findings indicate compliance costs as a significant predictor of presumptive tax compliance. Therefore, the study hypothesis (H_1) was supported. This study recommends that, in the long term, small business owners and managers should possess tax skills so that tax tasks can be performed in-house. This could potentially reduce compliance costs, which would, in turn, increase presumptive tax compliance. To achieve such expertise, the government should provide more workshops on tax issues. These would provide platforms for interactions and consultations with relevant small business operators to gather reliable compliance cost data and views of small businesses. In an attempt to encourage presumptive tax compliance, the tax authorities should consider strategies of reducing tax compliance costs for small businesses. Furthermore, the government should create an environment where small business operators possess the knowledge of handling tax tasks. A contribution to tax literature was made from this study. The study provides new insights into compliance costs as a predictor of presumptive tax compliance. The findings from this study extend the dimensions of compliance costs at the same time providing an update to the existing tax literature. This study contributes to the empirical findings by broadening the knowledge base on the association between compliance costs and compliance behaviour of small businesses. The huge compliance costs experienced by small businesses have a negative effect on voluntary tax compliance. The implication of this to the government is a loss of tax revenue because of low tax compliance levels. This is because the social contract is damaged as the legitimacy of the state weakens. Thus, this research provides useful and valuable insights for tax policymakers in the process of reducing compliance cost burden to achieve voluntary tax compliance. The findings of the study indicated that compliance costs are a key factor in any presumptive tax policy review or development. Thus, the findings are useful to tax authorities when designing strategies to minimise tax compliance costs and improve compliance levels among small business operators.

6. LIMITATIONS OF THE STUDY

Similar to previous research, this study has a number of limitations. First, there hasn't been any effort to offer research on how to lower compliance costs. The second point is that, although the study methodology can be used by researchers, care should be taken when extrapolating the findings due to the study's narrow geographic scope. The study concentrated on compliance costs and presumptive tax compliance in the context of Zimbabwe. Finally, this study solely depended on a dataset obtained from an online survey, which could have led to the occurrence of biased and dishonest data. The combination of quantitative and qualitative data collection methods can help to mitigate this.

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THE INFLUENCE OF MARKETING COMMUNICATION OF THE FITNESS INDUSTRY ON SOCIAL NETWORKS ON CONSUMER ATTITUDES

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ABSTRACT

Marketing communication, as a process of transferring messages, information and values between organizations and its target groups for the purpose of promoting products, services or ideas, aims to influence the perception, attitudes and behavior of the target group in order to achieve the organization's marketing objective. The development of the Internet, mobile devices and digital technologies has enabled people to access information and services through an online platform. In such an environment, social networks are developed that allow people to connect, communicate and share information with others around the world. They have become extremely popular in recent years and have a significant impact on consumer attitudes and in the fitness industry as well. The fitness industry is a dynamic and competitive sphere that deals with the promotion and provision of products and services related to physical activity, fitness and health. As in any industry, marketing communication is critical to success in the fitness industry. Social networks play a significant role in the fitness industry. Clients and trainers form a fitness community in which they share their progress, goals and challenges and provide support, inspiration and the opportunity to connect, but also create new attitudes and perceptions about the fitness industry. Based on the above facts, a study was conducted that analyzes the impact of the fitness industry's communication on social networks on changing consumer attitudes and changing the quality of their lives.
Keywords: social networks, communication, influencers, marketing, fitness, attitudes

1. INTRODUCTION

Social media has become a powerful marketing tool in the digital age. Companies provide direct access to people all over the world and use social media to promote products and services, connect with customers, and promote products (Pinto, Yagnik, 2017). One of the main advantages of using social media in marketing communications (Kesić, 2003) is the ability to target a specific group and connect with a large number of people. Because there is so much information available on social media, companies can tailor their messages to their target audience and create meaningful interactions. Effective social media marketing requires understanding your target audience, tailoring content to specific websites, and monitoring social media trends and changes (Reynolds, 2011). However, it does indicate that we are in an era of more direct marketing where the target audience consists of people we spoke to.

Social media is the best platform for this type of communication, especially when it comes to marketing activities (Ružić, Biloš, Turkalj, 2014). The level of engagement that social media provides is something that traditional marketing channels cannot provide. The company can communicate with customers in real time, respond to comments and suggestions, and build relationships that create loyalty (Štimac, Bilandžić, Ham, 2021). This level of engagement is critical in today's competitive market, where customers value personalized experiences and genuine interactions with brands. Additionally, social media provides businesses with a platform to share valuable content such as articles, videos, and infographics that educate and inform their audience. By providing useful information, companies can position themselves as leaders in their field and build trust in customers (Sečan, Dobrinić, 2020). Social media is a powerful platform for marketing and viral creation (Stelzner, 2019: 11). Original and interesting content shared on social media can quickly attract attention, reach more people, promote products and achieve viral reach. Compared to traditional marketing channels such as television or billboard advertising, social media marketing is inexpensive and offers a high return on investment. Marketers can launch marketing campaigns, track metrics, and coordinate marketing efforts in real time to increase effectiveness and impact (Ražnjević, 2019). Therefore, social media marketing communication has become an important strategy for companies that want to remain competitive in today's environment. By leveraging the power of social media, businesses can communicate with their customers, build brands, and promote their products effectively and efficiently. So the benefits of social media marketing are two forms of communication: relatively low advertising costs, quick thinking, the ability to communicate with a specific group in a short time, the ability to increase product awareness, launch new products, and control creativity and imagination. As the digital landscape continues to evolve, companies that leverage the power of social media will be well positioned to succeed in the future. The rise of social media has changed the way we interact, communicate and share information. In the reproductive industry, social media has become a powerful tool to connect people, share information, and promote better health (Grbavac, Grbavac, 2014). With the advancement of technology, fitness enthusiasts and professionals have found new platforms to connect with like-minded people, share experiences, and find motivation and support. One of the most important benefits of social media in the fitness industry is the community awareness it creates. Users can connect with others who share their health goals, challenges and successes. This sense of community provides a support system that can be crucial in achieving recreational goals and overcoming obstacles (Burazerović, 2022). Whether it's online forums, Facebook groups, or the Instagram community, people can benefit from the wealth of knowledge, motivation, and inspiration from others in the fitness industry. Social media is a platform where fitness professionals can showcase their skills, build their brand and attract customers. By sharing exercise tips, nutrition tips and success stories, trainers and fitness professionals can position themselves as industry leaders and attract a loyal following. This can lead to client referrals, marketing partnerships and business deals in the fitness industry. Moreover, social media has the power to change consumer attitudes and perceptions (Drayer, Dwyer, 2010). With the rise of fitness and wellness platforms such as Instagram and TikTok, consumers are exposed to a wide variety of fitness, health and fitness products. This encounter can change their lives and well-being, their beliefs and behavior. In addition, social media provides a platform for brands to promote their products, connect with their customers and gather feedback on their offerings. As a result, social media has become a part of the fitness industry and offers numerous benefits to individuals, professionals and businesses. From creating public awareness and support to consumer behavior and attitudes, social media has the power to change the way we approach health. By harnessing the power of social media, individuals and businesses in the reproductive industry can connect, engage and thrive in this evolving landscape.

2. SOCIAL NETWORKS IN THE FITNESS INDUSTRY

Social media have become an important part of our everyday life (Grbavac, Grbavac, 2014:206). With the rise of social media such as Facebook, Instagram and Twitter, fitness enthusiasts are now finding new ways to share their journeys, connect with like-minded people and stay motivated to achieve their fitness goals (Coughlan and all, 2006). The fitness industry is a thriving sector that caters to individuals who want to improve their physical health and well-being through exercise and lifestyle changes. With the rise of social media and online platforms, consumers are constantly bombarded with information about the latest fitness trends, diets and exercises (Andreasson, Johansson: 2014). As a result, consumer attitudes towards the fitness industry have evolved over time, with a greater emphasis on authenticity, personalization and inclusiveness. One of the most important benefits of social media in the fitness industry is the community awareness it creates. Clients and coaches can create an online community where they can share progress, goals and challenges. In addition to physical fitness, increasing attention is being paid to nutrition, mental health, mindfulness, recovery and other aspects of a healthy lifestyle (Andreasson, Johansson, 2014:95-97). This sense of community provides support, encouragement and motivation to people starting their fitness journey. The fitness industry has seen great growth and change in recent years, and consumer attitudes play a significant role in changing the course of the industry. As people become more aware of the importance of health and exercise, the demand for products and services increases. One of the most important factors influencing consumer behavior in the fitness industry is marketing communications (Kotler et al, 2006). Fitness brands and companies rely heavily on effective marketing strategies to achieve their goals and promote their products and services. From social media to partnerships and collaborations, marketing communications play a key role in attracting and retaining customers in the fitness market. Therefore, social media in the fitness industry is also a platform where trainers and fitness professionals can showcase their skills and create a personal brand (Šerić, 2017). By sharing training tips, nutrition tips and success stories, trainers can attract new customers and build loyalty in their channel following. Collaboration with mega-influencers is extremely valuable for brands that want to achieve rapid and massive reach with global influence. In addition, social media has become a powerful tool for changing consumer perceptions of the fitness industry. This online community not only provides support and motivation, but also creates new ideas and concepts about healthy living (Glassner, 1989:73). The rise of online fitness and fitness instructors has also contributed to changing consumer attitudes in the industry. Influencers have significant influence over their followers, influencing purchasing decisions and changing perceptions of health and lifestyle. As a result, consumers are increasingly turning to social media for advice and exercise, resulting in industry growth. As a result, consumer attitudes play an important role in shaping the fitness industry, directing products and services, and changing marketing strategies (Kotler, Keller, 2008). With the rise of social media and the online community, consumers are becoming more informed and empowered than ever before, creating new opportunities and challenges for companies in the reproductive industry. As the industry continues to evolve, understanding and adapting to consumer sentiment will be key to success in this competitive market. Another important element of marketing communications in the fitness industry is strong partnerships. By working with social media and brand experts, companies can reach more people and benefit from the trust and influence of their followers (Novak, Bartoluci, 1996). Partnerships with sponsors through sponsorship, product placement or product ambassadorship can help companies increase product awareness and sales. All in all, effective marketing communication is key to reaching the fitness industry. By building a strong brand, connecting with customers and building strong partnerships, companies can differentiate themselves in the market and attract and retain loyal customers. With the right communication strategy, fitness industry companies can achieve their marketing goals and be successful in an increasingly competitive market.

3. RESEARCH METHODOLOGY AND RESULTS

In order to demonstrate the impact of social media marketing communication in the fitness industry on consumer attitudes, the following research was conducted. The mentioned facts will be researched and presented with the help of a survey questionnaire. The survey questionnaire was created using the Google Forms tool. The goal of the survey questionnaire is to determine information related to physical activity and nutrition of an individual, their opinion on the communication of fitness trainers on social networks, and the influence of influencers on encouraging a healthy lifestyle. In addition, the goal of the online survey was to investigate whether individuals buy products recommended by fitness influencers, and whether they buy their online programs and how satisfied they are with the purchased service. The focus is on the influence of social networks on consumer attitudes in the fitness industry. The survey was conducted by sharing the survey link on social networks Facebook and Instagram and with the help of mobile messaging applications such as WhatsApp and Viber. The research was conducted on a sample of 182 respondents in the period from January 1, 2024 to February 1, 2024. The data obtained from the survey questionnaire are presented graphically and tabularly. The research results are presented tabularly, graphically and descriptively. These sample characteristics are presented in Table 1.

Sample characteristics, N = 182	
Age	
-20	98
21-35	52
36-50	28
50-	4
Gender	
Female	114
Male	68
How often do you exercise?	
More than 2 times a week	38
1-2 times a week	72
A couple of times a month	28
Rarely	4
Never	40
Do you follow some of the fitness influencers on social networks?	
yes	142
no	40

Table 1: Socio-demographic data of respondents
(Source: Autors)

According to the data in the table above, it is clear that the majority of the sample is under 35 years old and that the majority are women. It is significant that the majority of respondents stated that they exercise at least once a week and that they follow some of the fitness influencers on social networks, which makes them active users of fitness services.

Figure following on the next page
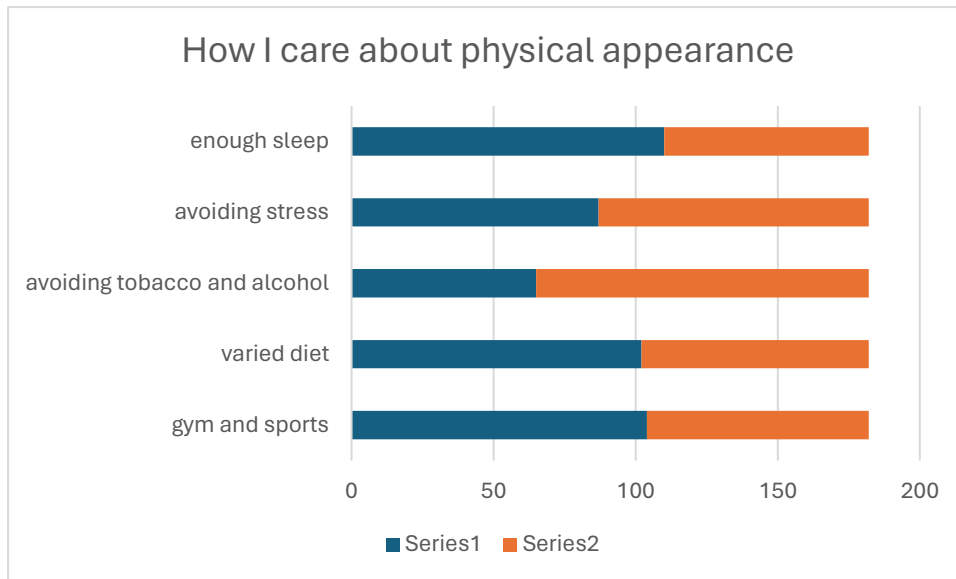
Figure 1: Analysis of components that, according to the respondents, affect physical
appearance
(Source: Autors)

According to the above data visible from the graph, it is clearly visible that the respondents focus on exercise, a varied diet and enough sleep as key components of taking care of their own health. Therefore, the goal of this research was to determine the reasons why consumers use social networks in the fitness industry and what influence they have on their behavior. The results are summarized in the table below.

Sample characteristics, N = 182	Yes	No	Sometimes
I am satisfied with my own physical appearance	**84**	21	77
I follow fitness influencers on social networks	**142**	21	19
I exercise according to the instructions of a fitness influencer	**98**	30	54
I eat according to the instructions of fitness influencers	**120**	40	22
I buy products according to the instructions of fitness influencers	**87**	51	44
I collect tips and information about healthy living on social networks	**139**	5	38
I pass on the advice of fitness influencers that I have collected on social networks to my acquaintances	**120**	12	50

Table 2: Analysis of the influence of social networks on attitudes about physical appearance
(Source: Autors)

From the following table, it is clearly visible that the influence of marketing communication through social networks in the fitness industry had a strong impact on the behavior of individuals, and that in the segments that they previously mentioned as key components for taking care of their own health.

4. CONCLUSION
Social networks have become an inseparable part of our daily lives and have become a key tool for marketing communication in various industries, including the fitness industry. Through the analysis of different strategies, content and interactions on social networks, it is evident that the fitness industry uses these platforms to establish a close connection with users and promote their products and services.

One of the key takeaways is that social media allows the fitness industry to communicate with its audience in a targeted manner through visually appealing content, educational materials and inspiring success stories. Through a regular presence on platforms like Facebook, Instagram, YouTube and TikTok, fitness brands can build a community around their brand and drive engagement and content sharing. Also, it is important to note that well-managed marketing campaigns on social networks can have a significant impact on consumer attitudes in the fitness industry. Through properly targeted ads, influencer collaborations and interactive content, fitness brands can influence consumer awareness of their products and services and encourage them to take action. In conclusion, social media plays a key role in shaping consumer attitudes in the fitness industry. Through engagement, inspiration and education through these platforms, fitness brands can build a loyal community of consumers and achieve significant market visibility. Therefore, it is important for the fitness industry to continue to use social media as a means of communicating with their target audience in order to succeed in today's digital world.

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FROM TRADITIONAL TO SUSTAINABLE SERVICE QUALITY: IDENTIFICATION OF TRENDS IN THE HOTEL INDUSTRY

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ABSTRACT

This literature review aims to explore the evolving trends in measuring hotel service quality between 2018 and 2023. A notable finding of this study is the discernible paradigm shift within the hotel industry, transitioning from the conventional SERVQUAL model to the innovative GLSERV model. While SERVQUAL traditionally emphasizes five dimensions (reliability, assurance, tangibles, empathy, and responsiveness), GLSERV introduces a broader perspective by integrating dimensions related to sustainability, environmental responsibility, and ethical considerations. This shift underscores the industry's recognition of the escalating significance of sustainable practices and their profound impact on overall service quality. Through an examination of relevant literature, this review provides insights into the driving forces behind this transition and sheds light on the implications for the future of hotel service quality measurement.
Keywords: Service quality, hotel industry, literature review

1. INTRODUCTION

The hospitality industry, particularly the hotel sector, has witnessed significant growth and transformation in recent years, becoming a key driver of economic development in various regions globally (Laškarin Ažić *et al.*, 2022). As the industry continues to expand, the competitive market has intensified, prompting a shift in focus towards understanding and enhancing service quality. This shift is attributed to the increasingly discerning and selective nature of customers, as highlighted by Ali *et al.* (2021). In the context of the hotel industry, service quality is a critical factor not only for ensuring high customer satisfaction but also for gaining a competitive advantage. A positive and consistent reputation for service excellence can result in numerous benefits, including repeat business, positive word-of-mouth marketing, and differentiation in a crowded market. Therefore, measuring and evaluating service quality has become paramount for hoteliers aiming to thrive in the competitive hospitality market. The importance of service quality measurement is underscored by its direct correlation with customer satisfaction (Assaker *et al.*, 2020). Satisfied customers are more likely to become loyal patrons, leading to increased customer retention rates (Sunil *et al.*, 2018). Moreover, positive experiences contribute to favorable word-of-mouth marketing, where satisfied guests share their experiences with friends, and family, and on online platforms. In the age of social media and online reviews, the impact of positive word-of-mouth can significantly influence potential guests' decisions (Višković *et al.*, 2022). To stay ahead in this dynamic industry, hoteliers must be attuned to evolving trends in the hotel industry. In light of this, the purpose of the review is to explore the contemporary trends in measuring hotel service quality. This is crucial for adapting and implementing effective strategies to meet and exceed hotel guests' expectations. Based on the trends identified, the research may offer recommendations for the development of future service quality measurement models. This forward-looking perspective can guide researchers and practitioners in designing models that anticipate and address emerging challenges in the hospitality industry.

2. METHODOLOGY

The author started research by searching for relevant scientific literature using the keyword "hotel service quality" in the online database Google Scholar. After the initial search, studies were downloaded in Mendeley software. To refine selection, exclusion criteria by Rašan and Laškarin Ažić (2023) were applied, narrowing down the studies based on specific factors. These exclusion criteria were:

- studies written in the English language;
- published between 2018 and 2023; and
- focusing on measuring hotel service quality.

After the elimination process, a total of 12 scientific articles were included in the final sample. The research method used for analyzing the collected data was content analysis, as in the study by Marković *et al.* (2020). This approach demonstrates a systematic and structured method for identifying, selecting, and analyzing scientific literature on hotel service quality.

3. RESULTS

Table 1 summarizes the findings of 12 sample studies. The data in the table has been analyzed chronologically and is presented with information on the author and year, model name, research purpose, constructs /dimensions, and research outcomes.

Authors and year	Model name	Purpose	Constructs, dimensions	Research outcomes
Sharma and Srivastava (2018)	SERVQUAL	This review paper aims to investigate the relationship between quality service, customer satisfaction, and brand loyalty within the hotel industry.	4 SERVQUAL dimensions: -Assurance -Empathy -Reliability -Tangibility	This paper contributes to the existing literature to explore the relationship between service quality and customer satisfaction. It suggests that the SERVQUAL method can be applied to the hotel industry to measure customer satisfaction.
Shah and Jan (2018)	SERVQUAL	The research purpose is to explore the effect of service quality and customer satisfaction on the hotels' performance.	9 dimensions: -Tangible (accommodation, equipment, staff uniforms) -Reliability (ability to deliver the promised service) -Responsiveness (readiness of staff members to help) -Competence (staff capability in executing the service) -Courtesy (respect & politeness by staff) -Creditability (professional honesty, trustworthiness of provider) -Security (safety from risk and physical danger) -Access (approachability of service providers) -Communication	The study finds that service quality attributes, including tangibility, reliability, responsiveness, assurance, and empathy, have a significant positive effect on actual customer satisfaction. This suggests that when these attributes are present and perceived positively by customers, it leads to higher levels of satisfaction with the service provided. Interestingly, the study identifies service assurance as a significant negative predictor of expected customer service. This implies that when customers have high expectations regarding service assurance, their actual perceptions may not always meet those expectations, potentially leading to lower levels of satisfaction. The study also reveals a significant positive relationship between actual and expected service quality attributes and customer satisfaction. This implies that when customers' actual experiences align with their expectations regarding service quality attributes, it enhances their overall satisfaction levels.

Authors and year	Model name	Purpose	Constructs, dimensions	Research outcomes
			(understanding of the communication)	
Sunil et al. (2018)	SERVQUAL	The purpose of this research is to identify gaps between customer expectations and perceptions regarding services received by the customers.	5 SERVQUAL dimensions: -Tangibles -Reliability -Responsiveness -Assurance -Empathy	The findings suggest that achieving customer satisfaction and fostering high-end customer loyalty are essential objectives for hotel managers. To accomplish this, it's recommended that managers conduct thorough analyses and evaluations of the quality and quantity of services offered across different seasons. By doing so, they can pinpoint any disparities between customer perceptions and expectations, enabling them to address these gaps strategically. Ultimately, this approach facilitates the retention of valued customers, which is crucial for the long-term success of the hotel business.
Al-Ababneh et al. (2018)	SERVQUAL	The purpose of this study is to explore the influence of ISQ on employee job satisfaction in five-star hotels in Jordan.	2 constructs: - Internal service quality - Employee job satisfaction 1st construct (Internal service quality): Tangibility Reliability Responsiveness Assurance Empathy 2nd construct (Employee job satisfaction): Pay Promotion Supervision Fringe benefits Contingent rewards Operating conditions Co-workers Nature of work Communication	The study's results suggest that the Index of Service Quality (ISQ) within the context of five-star hotels in Jordan plays a crucial role in influencing employees' job satisfaction positively. This conclusion aligns with the hypothesis posited by the researchers, which proposed a direct and beneficial relationship between the level of service quality within the hotel industry and the overall job satisfaction experienced by industry employees.
Alauddin et al. (2019)	SERVQUAL	The main aim of this research is to examine the interplay between service quality, customer satisfaction, and customer loyalty within the hotel industry of Bangladesh.	5 SERVQUAL dimensions: -Tangible (equipment, written material, personnel, and appearance of physical facilities) -Reliability (ability to deliver promised service and accurately) -Responsiveness (willingness to help customers and provide prompt services) -Assurance (knowledge and ability of employees	The study found evidence that there is a positive relationship between service quality and customer satisfaction. This implies that higher levels of service quality tend to lead to higher levels of customer satisfaction. The results suggest that 60% of the increase in customer loyalty can be attributed to both service quality and customer satisfaction. This indicates that these two factors play a significant role in fostering customer loyalty. The results also reveal a causal relationship between service quality, customer satisfaction, and customer loyalty. Specifically, higher service quality leads to increased customer satisfaction, which in turn results in greater customer loyalty.

82

Authors and year	Model name	Purpose	Constructs, dimensions	Research outcomes
			to inspire trust and confidence) -Empathy (caring and providing individual attention to each customer)	
Priyo et al. (2019)	SERVQUAL	This paper aims to explore the direct and indirect effects of service quality and customer satisfaction on customer loyalty in the hotel service industry.	5 SERVQUAL dimensions: -Tangibles -Reliability -Responsiveness -Assurance -Empathy	The research described offers valuable insights into the hotel service industry, particularly concerning the relationship between service quality (as measured by SERVQUAL), customer satisfaction, and customer loyalty. By confirming the proposed structural model, the study provides empirical evidence that supports the notion that enhancing service quality positively impacts customer satisfaction and, in turn, customer loyalty. The findings underscore the importance for hotel operators to prioritize service quality, as it directly influences customer satisfaction, which in turn contributes to customer loyalty. This insight is crucial for hotel management seeking to improve their competitive edge and maintain a loyal customer base. Moreover, the research highlights the practical implications for hotel management, emphasizing the significance of SERVQUAL in ensuring customer satisfaction. By recognizing the role of service quality in shaping customer perceptions, hotel operators can strategically allocate resources to enhance their service offerings, ultimately fostering greater customer satisfaction and loyalty.
Assaker et al. (2020)	-	This study considered a comprehensive model for understanding how green image, perceived quality (PQ), guest satisfaction, and trust simultaneously influence guests' loyalty/behavioral intention.	5 constructs: -Perceived Quality -Green Image -Satisfaction -Trust -Loyalty Perceived Quality: -Physical product -Service experience -Food & Beverage	These findings highlight the significance of a hotel's green or eco-friendly image in shaping guests' perceptions and behaviors. The indirect positive effect on loyalty through perceived quality and trust underscores the importance of environmental initiatives in enhancing guests' overall satisfaction and trust in the hotel. Moreover, the mediation analysis reveals the sequential impact of perceived quality, satisfaction, and trust, elucidating how these factors collectively contribute to guest loyalty in the context of a green image. Overall, this research sheds light on the complex interplay between environmental branding, service quality, and customer loyalty in the hospitality industry.
Chang and Cheng (2022)	GLSERV	This study aims to identify the strategic implications of the service attributes of	6 GLSERV dimensions: -Reliability -Empathy -Green	The study highlights that among the 25 service attributes analyzed for green hotels, 12 are deemed of significant implicit importance while 13 are considered less crucial. Within the

Authors and year	Model name	Purpose	Constructs, dimensions	Research outcomes
		green hotels from the implicit importance, Kano quality characteristics, and service risk.	communication -Green energy reduction -Assurance -Tangibles	subset of 12 highly important attributes, one carries a high-risk attractive quality, while two possess low-risk attractive qualities. Focusing on improving these two attributes first could lead to favorable responses from tourists and confer competitive advantages to green hotel operators. Additionally, within this subset, there is one attribute classified as low-risk one-dimensional quality, two as high-risk must-be qualities, and four as low-risk must-be qualities. Conversely, among the 13 service attributes of low implicit importance, seven are identified as high risk. Hence, green hotel operators should refrain from overcommitting resources to these attributes. By allocating resources efficiently based on the level of implicit importance and associated risk, green hotels can enhance their competitiveness and better cater to tourist preferences.
Preziosi et al. (2022)	GLSERV	The paper investigates consumer perceptions of green attributes implemented by hotels awarded with an ecolabel, aiming to determine if these attributes serve as excitement factors within the realm of hotel service quality.	5 GLSERV dimensions: -Tangibles -Staff service quality -Food -Value for money -Green (Green Attributes)	The findings indicate that guests generally recognize and appreciate green practices implemented by hotels, which can consequently differentiate these establishments positively in the market. The research suggests that investing in such practices can contribute to overall guest satisfaction. However, it is also noted that hotels should exercise caution in promoting their sustainability programs to guests. If there is uncertainty about the hotel's ability to consistently deliver on these green initiatives, it might be preferable not to inform guests about them. This approach aims to mitigate the risk of negative assessments if the hotel fails to meet guests' expectations regarding sustainability practices.
Farooq et al. (2022)	-	The purpose of research is explore effect of policies pursued by organizations and the effect of leadership on employee green-oriented behavior can be useful.	4 constructs: -Green Self-efficacy (GSE) -Green Human Resource Management (GHRM) -Moderator Green Transformational Leadership (GTL) -Green Creativity (GC)	The findings of the study suggest that there is a positive relationship between Green Human Resource Management (GHRM) and Green Creativity (GC). Additionally, it appears that this relationship is mediated by Green Self-Efficacy (GSE), meaning that GSE plays a role in explaining how GHRM influences GC. However, the study did not find support for the idea that Green Transformational Leadership (GTL) moderates the indirect effect of GHRM on GC. In other words, the impact of GHRM on GC, through GSE, does not seem to vary based on the level of GTL. These findings have important implications for tourism organizations. By implementing GHRM practices, these organizations can potentially enhance their employees' creativity in

Authors and year	Model name	Purpose	Constructs, dimensions	Research outcomes
				promoting green initiatives. This, in turn, can contribute to the adoption of environmentally friendly processes and help the organizations align with sustainable development goals.
Olorunsola et al. (2022)	GLSERV	This paper aims to identify the main themes shared in online reviews by tourists visiting eco-friendly hotels, and which of these themes were associated with satisfaction and dissatisfaction ratings.	7 GLSERV dimensions: - Amenities - Service - Location - Staff - Eco "centric activities" - Value - Revisit/ recommend	The findings underscore the multifaceted nature of consumer satisfaction with eco-lodges, highlighting seven key themes that play a crucial role in shaping their perceptions. These themes range from the eco-centricity of the hotels to the attitudes of the staff toward eco-friendliness, the quality of amenities, the location, the nature of services provided, the perceived value, and the likelihood of revisiting or recommending the establishment. This suggests that the evaluation of green service quality, akin to service quality in general, encompasses various dimensions of the service encounter, ultimately influencing the overall service experience.
Al-Kumaim et al. (2023)	SERVQUAL	The purpose of this study is to understand the situation of hotels and tourism industry in Malaysia during and in post Covid-19 and to mitigate indirect damage caused by COVID-19 to the hotel business and tourism industry.	8 SERVQUAL dimensions: -Tangibility -Reliability -Responsiveness -Assurance -Empathy -Hygienic Practice -Greenness of Service -Digitalization	The empirical findings indicate that there are significant positive associations between three newly identified independent variables (IVs) – hygienic practice, greenness of service, and digitalization – and hotel customer satisfaction regarding the intention to revisit the hotel. Additionally, it appears that only two variables from the SERVQUAL model, namely reliability and assurance, demonstrate a significant correlation with hotel customer satisfaction concerning the intention to revisit the hotel. Furthermore, the results suggest that customer satisfaction plays a pivotal role as it exhibits a significant direct impact between the aforementioned IVs and customers' intention to revisit the hotel.

Table 1: Overview of measurement models
(Source: Authors research)

Results from Table 1 indicate that traditional service quality in the hotel industry has typically focused on aspects such as cleanliness, comfort, responsiveness, and reliability. Moreover, the SERVQUAL model is widely applied in the sample studies from 2018 to 2020.

The model identifies five key dimensions that contribute to the overall assessment of service quality:

- Tangibles: The physical appearance of facilities, equipment, personnel, and communication materials.
- Reliability: The ability to perform the promised service accurately and consistently.
- Responsiveness: The willingness to help customers and provide prompt service.
- Assurance: The knowledge and courtesy of employees, as well as their ability to convey trust and confidence.
- Empathy: The provision of caring, individualized attention to customers.

The comprehensive exploration of a hotel's service quality in the pre-COVID period was mostly measured by assessing the gap between guests' expectations and perceptions across the SERVQUAL dimensions. Therefore, service quality in the hotel industry is often defined as a result of a thorough evaluation of both the services offered and the behavior of the hotel staff (Malik *et al.,* 2020). The assessment takes into account the opinions and attitudes of guests, indicating a customer-centric approach to evaluating service quality (Inversini *et al.,* 2020). The larger the gap between the two, the lower the perceived service quality is. This implies the significance of service quality in the hotel industry, recognizing it as a critical factor for success and customer satisfaction (Rašan and Rašan, 2022). By understanding these gaps, hotels can identify areas for improvement and enhance their overall service delivery. Given the dynamic nature of the hospitality industry, hotels must continuously monitor and adapt their services to meet evolving guest expectations. Regular feedback from guests, combined with ongoing evaluation using models like SERVQUAL, helps hotels stay responsive to changing customer needs. However, with the increasing awareness of environmental and social issues after COVID-19, there is a growing demand for sustainable practices in the hospitality sector. The shift towards sustainable service quality reflects the changing values and preferences of consumers who are increasingly conscious of their environmental and social impact. Hotels are recognizing the need to align with these values to meet customer expectations and stay competitive in the market. By integrating sustainability considerations into service quality assessments, the GLSERV model enables hotels and other hospitality businesses to evaluate and improve their performance in areas such as energy efficiency, waste management, community engagement, and ethical sourcing. This holistic approach not only meets the evolving expectations of environmentally and socially conscious consumers but also contributes to long-term business viability and resilience. The adoption of the GLSERV model signifies a strategic response by hotels to align with shifting consumer values and preferences, differentiate themselves in the market, and enhance their overall sustainability performance. By demonstrating a commitment to responsible business practices, hotels can attract environmentally and socially conscious travelers, build brand loyalty, and ultimately drive profitability in a rapidly changing industry. Also, several trends are emerging in the transition to sustainable service quality in the hotel industry:

- There is a rising trend in hotels adopting environmentally friendly practices, such as energy-efficient lighting, water conservation measures, and waste reduction programs. Guests are becoming more environmentally conscious, and hotels are responding by incorporating sustainable practices into their operations.
- Sustainable service quality involves a focus on local sourcing of products and services to support nearby communities and reduce the carbon footprint associated with transportation. Hotels are establishing partnerships with local businesses and engaging in community projects to demonstrate social responsibility.

- Guests are increasingly interested in understanding a hotel's sustainability efforts. Transparent communication about environmental and social initiatives, as well as progress reports on sustainability goals, helps build trust with environmentally conscious consumers.
- Employees play a crucial role in delivering sustainable service quality. Hotels are investing in training programs to educate staff about sustainable practices, empowering them to contribute to the hotel's environmental and social responsibility efforts.
- While sustainability has gained prominence, health and safety concerns have become even more critical in the post-COVID era. Sustainable service quality now also includes measures to ensure the well-being of guests and staff, such as enhanced cleaning protocols and the use of eco-friendly cleaning products.

By embracing these trends, hotels can not only meet the evolving expectations of their guests but also contribute to a more sustainable and responsible hospitality industry.
The integration of sustainable service quality is becoming a key differentiator for hotels seeking to stay competitive in a post-COVID world shaped by changing consumer values.

4. CONCLUSION
The hotel industry is experiencing a shift from traditional service quality to sustainable service quality driven by changing consumer preferences and the need to stay competitive. Adopting sustainable practices not only aligns with global trends but also enhances the reputation of hotels, leading to increased customer satisfaction and loyalty (Laškarin Ažić *et al.,* 2024). Guests often appreciate eco-friendly amenities, energy-efficient facilities, and waste-reduction measures (Abdou *et al.,* 2020). Enhanced customer satisfaction, in turn, fosters loyalty, as guests are more likely to return to a hotel that aligns with their values and provides a positive and environmentally responsible experience (Paulose and Shakeel, 2022). This study aims to provide insights into these emerging trends and their implications for the future of service quality in the hotel industry. By analyzing a greater number of articles post-COVID-19, the literature review highlights a heightened awareness of environmental and social aspects in service delivery. This understanding is crucial for hotel managers and policymakers aiming to align their strategies with evolving customer preferences and global sustainability goals. Hotel managers can use the research to inform decision-making processes related to service quality improvement, especially in the context of sustainability. The shift to GLSERV suggests that incorporating sustainable practices into daily operations is not only a societal responsibility but also a strategic move for enhancing overall service quality and customer satisfaction. Also, the research contributes to the understanding of how hotels have strategically adapted to the challenges posed by the COVID-19 pandemic. The increased focus on sustainable indicators in service quality is identified as a strategic response to changing consumer expectations and a broader societal shift towards eco-conscious choices (Paulose and Shakeel, 2022). This insight can guide hoteliers in developing resilience and future-proofing strategies for potential disruptions. The limitations of this study should be acknowledged to ensure a comprehensive understanding. Firstly, the focus on post-COVID-19 trends may not capture the full scope of the industry's challenges and opportunities, as the situation continually evolves. Additionally, the reliance on literature may not fully represent the real-time practices and experiences of hotels. Moreover, the generalization of findings from the reviewed articles might overlook the diversity within the hotel industry. Different types of hotels, locations, and customer segments may exhibit varied responses to sustainable service quality initiatives. Therefore, a more nuanced and context-specific analysis could provide a deeper understanding of the dynamics at play. The study also assumes that customer preferences align uniformly with sustainable practices, which might not be the case for all demographics.

It's essential to consider that individual preferences can vary, and some guests may prioritize other factors over sustainability in their hotel choices. Furthermore, the research focuses primarily on the shift towards sustainable service quality, potentially overlooking other emerging trends or factors influencing the hotel industry. A more holistic approach considering various dimensions of change in the industry could provide a more comprehensive view. Despite these limitations, this study serves as a valuable contribution to the understanding of the evolving landscape of service quality in the hotel industry. It lays the groundwork for future research to delve deeper into specific aspects, addressing the identified limitations and exploring new dimensions that may shape the industry's future.

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BEYOND THE CRISIS: WORKERS' PERCEPTION OF EMBRACING SUSTAINABLE PRACTICE IN THE HOTEL INDUSTRY

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ABSTRACT
This research explores hotel workers' comprehension of sustainable practices within the hotel industry during the post-COVID era. Through a pilot study involving 39 respondents conducted on the online platform Google Forms, the study reveals a notable lack of knowledge among hotel workers regarding sustainability concepts. Despite this, the respondents have a pronounced interest in incorporating sustainable practices into their daily responsibilities. The identified gap between the expressed interest and limited knowledge presents a strategic opportunity for the implementation of training and education initiatives within the hotel industry. The study advocates for developing educational programs to close this knowledge gap and enhance awareness surrounding sustainability concepts. Furthermore, the research suggests that this situation can be leveraged as an opportunity for targeted interventions, including workshops, training sessions, and informational campaigns, designed to empower hotel workers with the requisite knowledge and skills to integrate sustainable practices into their professional roles. The findings underscore the potential for positive transformation within the industry by fostering a more informed and environmentally conscious workforce in the wake of the challenges posed by the COVID-19 pandemic.
Keywords: *sustainable practices, hotel workers, post-COVID-19 era, semi-structured survey, Croatia*

1. INTRODUCTION
As the hotel industry continues to grow and adapt to changing global circumstances, the integration of sustainable practices becomes not only a matter of environmental responsibility but also a crucial aspect of long-term business resilience. While previous research has often centered on guests' perceptions (Yi *et al.,* 2018; Merli *et al.,* 2019; Lee *et al.,* 2016; Gil-Soto *et al.,* 2019), understanding the views of those working within the industry provides a holistic picture of the challenges and opportunities associated with implementing sustainable practices. In recent years, the global emphasis on sustainability has grown, and the hotel industry has recognized the need to adopt eco-friendly and socially responsible practices (Tanveer *et al.,* 2024; Abdou *et al.,* 2020; Chand and Garge, 2017; Prakash *et al.,* 2023). The COVID-19 pandemic has further highlighted the importance of resilience and adaptability in the face of unforeseen challenges. This study aims to shed light on how hotel workers perceive and engage with sustainable practices, considering the evolving landscape of the industry post-COVID. Moreover, the substantial growth in the number of hotels in Croatia underscores the need for a sustainable approach to ensure the long-term viability of the sector (Funduk *et al.,* 2023). The findings from this research can potentially guide policymakers, hotel management, and stakeholders in developing strategies that align with both environmental responsibility and the well-being of the workforce. By filling the gap in existing research through a focus on hotel workers' perspectives, this study contributes to a more holistic understanding of sustainable practices in the hotel industry. The results could pave the way for the development of targeted initiatives to enhance sustainability efforts, foster a positive work environment, and ultimately improve the overall guest experience.

As the hotel industry continues to evolve, this research provides a timely and relevant examination of sustainable practices, offering insights that can shape the future trajectory of the industry in Croatia and beyond.

2. THEORETICAL BACKGROUND

Sustainability in the context of hotel management goes beyond mere environmental considerations; it encompasses a holistic approach that addresses economic, social, and environmental aspects. This chapter delves into the fundamental concepts of sustainable hotel management, exploring its evolution, and key principles, and incorporating sustainable practices in the hotel industry.

2.1. Concept of sustainability

Sustainable hotel management is guided by a set of key principles that seek to balance economic prosperity, social equity, and environmental responsibility. The triple bottom line approach, popularized by Elkington in the 1990s, emphasizes the need for businesses, including hotels, to consider not only their financial performance but also their social and environmental impacts (Elkington, 1997). This concept laid the foundation for sustainable hotel management principles that strive to create a positive impact on people, the planet, and profit.

2.1.1. Environmental sustainability

An environmental strategy comprises a collection of initiatives aimed at diminishing the environmental footprint of operations. These initiatives involve interventions in products, processes, and corporate policies to minimize adverse impacts on the environment by Gössling et al (2015.). Examples include efforts to reduce energy consumption and waste generation, the utilization of sustainable resources, and the implementation of an environmental management system. In essence, an environmental strategy encompasses a holistic approach to fostering sustainability within the operational framework, emphasizing responsible practices and the integration of eco-friendly measures to mitigate the environmental impact.

2.1.2. Social Responsibility

Social responsibility is a core principle that extends beyond the confines of the hotel premises. Sustainable hotel management emphasizes fair labor practices, community engagement, and cultural preservation. Establishing positive relationships with local communities, respecting indigenous cultures, and contributing to community development projects are integral components of this principle. Hotels committed to social responsibility aim to be not just stakeholders in the industry but responsible members of the broader societal context in which they operate (Carroll, 1999).

2.1.3. Economic viability

The economic viability principle involves balancing the financial health of the hotel with sustainability objectives. Energy efficiency measures, waste reduction strategies, and the adoption of renewable energy sources contribute not only to environmental conservation but also to cost savings and operational efficiency. In a world where conscious consumerism is on the rise, hotels that align economic viability with sustainability stand to gain a competitive advantage in the market (Jones *et al.,* 2018).

2.2. Sustainable practice in the hotel industry

2.2.1. Environmental practice

The Willard InterContinental Hotel in Washington, D.C., implemented a project aimed at reducing consumption, providing a clear illustration of the complex interplay of various factors

(Zhang *et al.*, 2010). In 2007, the hotel established specific targets to decrease the consumption of electricity, natural gas, and water. Despite these initial goals, operational changes led to a deviation from the intended trajectory, resulting in actual consumption exceeding the targets by a minimum of 10 percent. Notably, during the same year, the hotel experienced a 5-percent increase in business and inaugurated a new restaurant. Subsequent efforts were made to curtail resource usage, eventually yielding positive results. However, the experience highlighted that the impact of offering Food and Beverage (F&B) services extended beyond the anticipated effects on resource consumption. Moreover, Zhang *et al.* (2010) emphasize the need for holistic planning when establishing consumption reduction objectives, highlighting the intricate relationships between different operational aspects. Additionally, Lee and Kim (2018) demonstrate the successful implementation of energy-efficient technologies in a hotel setting, such as solar panels, energy-efficient lighting, and smart climate control systems. These technologies not only reduce energy consumption but also lower operational costs and enhance environmental sustainability. Furthermore, Garcia and Gonzalez (2020) showcase the effectiveness of waste reduction and recycling programs in hotels. Through initiatives like composting, recycling, and reducing single-use plastics, hotels can significantly decrease their environmental impact while satisfying environmentally conscious guests. These examples illustrate the feasibility and positive outcomes of incorporating environmental sustainability practices into hotel management. By embracing renewable energy sources, energy-efficient technologies, and waste reduction initiatives, hotels can contribute to global efforts to address climate change and resource depletion while simultaneously improving their bottom line and guest satisfaction.

2.2.2. Social practice
Numerous studies have demonstrated the positive impact of social sustainability initiatives in hotels. For instance, a study conducted by Smith *et al.* (2018) showcased how a major hotel chain effectively addressed employee well-being by implementing flexible work hours, employee training programs, and health and wellness initiatives. The research highlighted not only improved staff satisfaction but also enhanced overall organizational performance. Furthermore, the work of Johnson and Patel (2019) exemplifies the successful integration of social sustainability within a hotel's supply chain. Their study detailed how a hotel systematically collaborated with local suppliers, supporting small businesses and promoting fair trade practices. The outcomes revealed strengthened community ties, reduced environmental footprint, and enhanced economic benefits for local stakeholders. These examples underscore the feasibility and benefits of incorporating social sustainability practices into hotel management. By prioritizing employee well-being, engaging with local communities, and adopting ethical supply chain practices, hotels can contribute positively to society while simultaneously enhancing their resilience and competitiveness in the market.

2.2.3. Economic viability practice
An exemplary case study conducted by Brown and Smith (2017) showcased how a hotel successfully navigated economic challenges by implementing cost-effective energy management systems. Through the integration of energy-efficient technologies and operational practices, the hotel achieved significant reductions in utility costs, leading to enhanced economic sustainability without compromising guest experience. Furthermore, the research conducted by Chang *et al.* (2019) highlighted the economic benefits of incorporating technology to streamline hotel operations. By investing in a centralized management system, the hotel experienced improved efficiency in reservation handling, inventory management, and customer service. This not only reduced operational costs but also contributed to increased revenue through enhanced customer satisfaction and repeat business.

These examples illustrate the feasibility of adopting economically sustainable practices in hotel management. By strategically managing resources, embracing technology, and implementing cost-saving measures, hotels can achieve a balance between financial success and responsible business practices.

3. METHODOLOGY

Considering the complexity of this issue, there was a need to conduct a pilot study to determine the actual state of hotel workers' perception of sustainable practices in the post-COVID-19 era. For this reason, a semi-structured survey questionnaire was created in December 2022. McIntosh and Morse (2015) recommend that research in which the authors conducted semi-structured interviews include a minimum of 30 respondents for meaningful generalization of the results. Since 39 respondents participated in this research, the aforementioned recommendation on sample size was met. This research was conducted in an online form because this type of research allows access to respondents of a wide geographic area at relatively low costs (Ekinci, 2015) as well as a higher speed of collection and a reduced possibility of error when entering data (Hair *et al.,* 2003). Based on the collected data, below are the results of the socio-demographic profile of the respondents.

Characteristics		Frequencies	Percentage
Gender	Male	15	61.5
	Female	24	38.5
Marital status	Married	5	12.8
	in a relationship / engaged	17	43.6
	Single	17	43.6
Education level	elementary school	1	2.6
	secondary school	18	46.2
	university degree	17	43.6
	postgraduate degree	3	7.7
Monthly income	<500 euro	6	15.4
	5001-1000 euro	17	43.6
	10001-15000 euro	15	38.5
	1501-2000 euro	0	0.0
	>2000 euro	1	2.6

Table 1: Socio-demographic profile of respondents (n=39)
(Source: Authors' research)

Analyzing the collected data, it was established that the sample included predominantly female respondents (61.5 %) in a relationship or single (43.6 %) with finished high school (46.2 %). These hotel workers mostly receive a monthly salary in the amount of 5001 to 1000 euros (43.6%).

4. FINDINGS

> *Without environmental sustainability, economic stability and social cohesion cannot be achieved. — Phil Harding*

Respondents emphasize the importance of hotel practices that do not harm the environment. Sustainability, for some, involves bringing economic benefits to the local community, protecting cultural traditions, and promoting values aligned with environmental preservation.

Sustainable practices are seen as a responsible use of energy, promoting the development of local communities, and ensuring resources are used without endangering future generations. Moreover, some hotel workers pointed out that sustainability represents:

- the development of hotel practices in a way that does not harm the environment and citizens (Respondent 30);
- the local community to which hospitality brings economic benefits, develops activities aimed at protecting the culture and traditions of the locality, and promotes values that are in line with the preservation of the environment (Respondent 31);
- responsible use of energy, encouraging the development of local communities, using resources in a way that does not endanger future generations, and concern for social responsibility (Respondent 38).

Although the majority of respondents are not satisfied with the way of applying sustainable practices in the workplace, 85.7% of them are interested in the transformation of current business practices. They perceived sustainable practices as:

- Ecological and correctly divided work (Respondent 1);
- Long-term quality (Respondent 4);
- Care of natural resources (Respondent 7);
- Efficient consumption of electricity (Respondent 15);
- Environmental awareness and preparation for future generations (Respondent 18);
- Food waste (Respondent 20);
- Increasing the welfare of workers (Respondent 21);
- Long-term growth (Respondent 24);
- Application of green technologies (Respondent 26);
- Respect for social and cultural values of the destination (Respondent 33);
- Foundation for long-term business (Respondent 39).

Some respondents associate sustainability with ecological considerations, long-term quality, care for natural resources, efficient energy consumption, environmental awareness, and preparation for future generations, among other factors. While others connect sustainability with improving the welfare of workers. The results also indicate that the performance of sustainable development in the hotel business can be measured according to the following elements (respondent 36):

- KPI of the social aspect - % of workers covered by some education;
- KPI of the ecological aspect - % of reuse of wastewater; and
- KPI of the economic aspect - average income per worker for a year.

However, most hotel workers stated that they in the workplace have not integrated all elements of sustainable development (71.4%). Those who have incorporated the guidelines of sustainable development into their operations state that this is in the context of:

- electricity savings and installation of solar panels (Respondent 23);
- minimal environmental pollution (Respondent 27);
- and minimal food waste (Respondent 14).

These insights suggest a growing awareness among hotel workers about the importance of sustainability in the hospitality industry. While there is interest in transforming current practices, there seems to be a gap in fully integrating sustainable development principles into daily operations for a significant portion of respondents.

The provided KPIs offer potential metrics for assessing and measuring the progress of sustainability efforts within the hotel industry. Respondent 7 therefore suggested the introduction of worker education on the implementation of sustainable practices in the hotel industry.

5. DISCUSSION

Tourism, which is a complex phenomenon and the driver of the world economy (Laškarin *et al.,* 2022), ran into problems during COVID-19. As a result of this crisis, there was a need to transform business practices in the hotel industry. For instance, tourists increasingly stay in more environmentally responsible hotels for which they are willing to pay more (Han & Yoon, 2015). Yet, the results of this research indicated that hotel workers are not satisfied with the way of applying sustainable practices in the workplace. Given that tourism is considered the fifth largest source of pollution in the world (UNEP, 2019), it is not surprising that the ecological aspect of sustainability was mentioned the most by the surveyed hotel workers in their answers. For example, hotel workers consider ecological and correctly divided work, care of natural resources, food waste, and preparation for future generations to be important for sustainable business development. However, Barber (2014) argues that hotel managers often *"sacrificed environmental concerns for the sake of profitability".* Despite earlier findings in this research, only two respondents mentioned the economic elements of sustainable practices, which are *long-term growth, and the foundation for long-term business*. This implies that hotel workers give greater importance to the ecological compared to the economic aspect of sustainable practice. Furthermore, this research mentions the efficient consumption of electricity as another sustainable practice in the hotel industry. Chan *et al.* (2017) reported that hotel energy costs account for approximately 6% of total operating costs. Mensah (2020) stated that "*one of the most dangerous impacts of hotels on nature is energy wasting*". Therefore, to reduce the consumption of electricity, it is essential to implement suitable electricity management programs. Also, in the post-COVID-era, a lot of polemics have been fueled about the adaptation of technologies in hospitality (Ray *et al.,* 2023; Memarzadeh & Anand, 2020; Gunduz Songur *et al.*, 2022; Višković *et al.,* 2022). Following respondent 26, he pointed out that he perceives sustainable practices in the hotel industry in the context of applying green technologies. In a similar vein, Leyva & Parra (2021) pointed out that eco-friendly technology "*is beneficial for the hotels in achieving cost-effectiveness in the long run".* Last, but not least, examples of the social element of sustainable practice are mentioned by hoteliers in the context of the well-being of workers and respect for the cultural values of the local community. Similarly, this was noted by Ahmed *et al.* (2020) and Bohdanowicz & Zientara (2009) who highlight the great lengths of corporate social responsibility for the hotel business.

6. CONCLUDING REMARKS

This research makes a valuable contribution by examining hotel workers' understanding of sustainable practices in the hotel business, particularly in the post-COVID era. First, the research identifies a significant gap in the knowledge of hotel workers regarding sustainability. This recognition is crucial for understanding the starting point and areas that need improvement. Second, the finding that hotel workers express interest in applying sustainable practices despite their limited knowledge signifies a positive attitude toward sustainability. This interest provides a foundation for implementing educational programs to enhance understanding and skills. Third, the research highlights a clear opportunity for the implementation of training and education initiatives within the hotel industry. This could include targeted programs aimed at enhancing awareness and providing practical knowledge about sustainable practices. The call for interventions, such as workshops and training sessions, suggests a focus on empowering hotel workers with the necessary knowledge and skills for sustainable practices.

This empowerment can lead to a more informed and engaged workforce, capable of driving positive change within the workplace. Fifth, the study suggests that the hotel industry is currently undergoing adaptive measures in response to the post-COVID era. The integration of sustainability practices emerges as a strategic avenue to enhance the industry's overall resilience, aligning it with evolving consumer preferences and global sustainability objectives. In essence, this research advocates for a proactive approach to addressing the identified gaps in knowledge and fostering a culture of sustainability within the hotel industry. By recognizing the positive inclination of hotel workers and providing them with the necessary tools through education and training, the industry can position itself as a leader in sustainable practices, contributing to a resilient and environmentally conscious future. The implications extend beyond the workplace, influencing broader consumer trends and supporting global sustainability initiatives.

7. LIMITATIONS AND FUTURE DIRECTIONS

In carrying out this research, the authors encountered several limitations. Since a qualitative research approach was applied, the obtained findings are revitalizing. Therefore, to achieve the generalization of the findings, future scholars are recommended to use a quantitative research approach. Regardless of the scarcity of the sample is a characteristic of qualitative research, the suggestion of future scholars is to include a larger number of respondents to achieve a variety of data. Based on the above, these are the key segments that should be addressed in future research. Laškarin Ažić & Suštar (2022) note the importance of identifying the respondents' perception according to the vacation style, therefore it is recommended that future scholars conduct a survey on sustainable practices according to different vacation styles, such as sports (Chersulich Tomino *et al.,* 2020), gastronomy (Đurkin Badurina & Soldić Frleta, 2023; Rašan & Laškarin Ažić, 2023; Mikinac *et al.,* 2023), event (Wise *et al.,* 2021), etc.

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LITERATURE REVIEW: UNDERSTANDING THE ROLE OF REPORTING

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ABSTRACT
This literature review discovers a multifaceted approach to business reporting. In order to understand complex business processes, the authors examine the problem area through the lens of transdisciplinarity. The research summarizes the publications that focus on examining the report preparation process, methodologies, and tool use. The review identifies three key areas: reporting, text mining, and business decision support systems (DSS), each uniquely contributing to improving decision-making processes. A business DSS integrates these outputs to facilitate informed decisions, improving organizational effectiveness and strategic alignment. Reporting within a DSS context ensures data is presented clearly to support operational agility and strategic adaptations. This synthesis of the latest scientific literature supports the critical integration of computational linguistics, business intelligence, and information management in developing effective business reporting and decision-support. This research define a previously unexplored gap in the field and proposes that the contextualization of the reporting process can significantly expedite decision-making through the integrated use of data and knowledge base systems.
Keywords: *Business decision support, Reporting, Text-mining*

1. INTRODUCTION
This literature review aims to provide a comprehensive picture of the research directions related to preparing business reports, including the aspects of the examined process and the methods and tools used during the research. In order to understand real company problems, we represent a transdisciplinary approach in our research. In real life, problems within the boundaries of a scientific field can be understood under simplifying conditions. Basarab Nicolescu (2010) stated the essence of the transdisciplinary approach as follows: "Transdisciplinarity refers to what is simultaneously between disciplines, across disciplines and beyond all sciences." (Nicolescu, 2010, p. 22). This approach is necessary for a better understanding of the investigated phenomenon in the context of the human-machine relationship. Herbert Simon (1996) also formulated in connection with the "creatures of bounded rationality, incapable of dealing with the world in all of its complexity, we form a simplified picture of the world, viewing it from our particular organizational vantage point and our organization's interests and goals" (Simon H. A, 1996, p. 44). Thus, the previously mentioned statement in our present research is taken into account as an integral part of decision preparation and decision-making; because of the assumption in this problem area, the limited information, time, and thinking process of a human has an impact on the for preparing and using reports.

The basis of this research comes from the experience of everyday decision-making processes, the writing, purpose, levels, and use of reports, highlighting the critical ability with which tacit knowledge can be used to gain valuable insights from massive data sets. In this approach, knowledge usually comes from a single person who creates the report, which may differ from what is needed or merely highlight factual data without providing in-depth analysis or added value. In order to discover research focusing on the problem space of the reporting process , we defined the following three concepts: reporting, text-mining and business decision support. Whereas the literature review exploring the intersection of text-mining, business decision support systems (DSS), and reporting integrates wide range of insights from the fields of computational linguistics, business intelligence, and information management. Below, we synthesize definitions and applications as cited in recent scientific contributions. Text-mining involves extracting valuable information from text sources through the application of algorithms and analytics techniques. This field leverages natural language processing (NLP) and statistical methods to transform unstructured text into structured data, facilitating further analysis. Applications in business range from sentiment analysis to trend detection, crucial for strategic decision-making (Chau and Chen, 2008; Jiao et al., 2007). Business Decision Support System (DSS) are integrated information systems that support business activities by facilitating decision-making processes. These systems harness data from various sources, including text-mining outputs, to provide actionable insights and predictive analytics. DSS is instrumental in enhancing efficiency, accuracy, and strategic alignment in organizational decision-making processes (Basole et al., 2024; Glancy and Yadav, 2011). In connection with the reporting process, in the context of DSS, reporting refers to the presentation of data insights in a structured and interpretable format. Effective reporting systems are designed to be user-friendly, providing decision-makers with intuitive dashboards, visual analytics, and real-time data updates. This capability is crucial for maintaining agility in business operations and strategy adjustments (Cai et al., 2022; Roeder et al., 2022).

2. BACKGROUND KNOWLEDGE

The landscape of business reporting is directly linked to the decision-making processes within organizations. As businesses navigate the complexities of the modern economy, the demand for robust decision support systems has grown, with business reporting at the forefront of this dynamic. This literature review, focus on business reporting and its influence on support of decision-making process, especially to huglight the importancy and gap of text-mining technologies and combination of data and knowledge base systems. The process of business reporting is pivotal to the strategic and operational framework of modern enterprises, providing essential insights that inform decision-making and shape business strategies. Traditionally rooted in financial and quantitative metrics, business reporting has expanded under the influence of various forces, notably the technological advancements that have enabled the aggregation and analysis of huge amounts of data. The process of business reporting has evolved from traditional financial statements to include a broader wide of business intelligence. Ko and Gilani assert the role of advanced analytics in enhancing the informational content of business reports. (Ko and Gilani, 2020) Concurrently, Hsu (2022) explores the transformative potential of integrating real-time data through innovative reporting platforms. (Hsu et al., 2022) In the context of decision support systems (DSS), Kim (2017) delves into the enhancement of DSS through adaptive and user-centric reporting features. (Kim et al., 2017) On top of that, the role of text-mining has become increasingly significant. Text-mining techniques allow for the extraction of qualitative insights from unstructured data, which constitutes a large portion of the data available to organizations. This advancement offers an unprecedented opportunity to deepen the analytical capacity of business reporting beyond numbers and spreadsheets.

For instance, the integration of text-mining in decision support systems (DSS) is examined by several studies, which emphasize how these technologies enable the extraction of actionable insights from large datasets, thus informing the reporting process and enhancing decision quality. (Basole et al., 2024; Roeder et al., 2022) Lastly, Krishnan (2013) emphasizes the complexity of working with Big Data, which is now a cornerstone of modern business reporting. Understanding the volume, velocity, variety, and ambiguity of data is crucial for businesses to make intelligent decisions. (Krishnan, 2013) Additionally, Li, Zhu, and Pan (2010) delve into knowledge cultivation for intelligent decision-making in small and middle businesses, which is increasingly relevant in today's reporting context, where decision-making relies heavily on both data mining and knowledge management (Li et al., 2010). The methodologies used in compiling and presenting business reports are diverse and nowadays often tailored to industry-specific requirements. Standardized reporting frameworks have been discussed for their role in enhancing comparability and reliability across different sectors (Lin and Hsu, 2018). Moreover, some industries present a case for the integration of project management IT solutions and tools with reporting systems to improve the timeliness and precision of reports. (Qiao et al., 2022) Additionally, the accuracy and reliability of business reports are crucial for the credibility of the information presented to stakeholders. Patterson emphasizes the need for transparency and accountability in reporting practices, highlighting that the integrity of these reports is foundational to effective decision-making (Peng and Wan, 2023). The landscape of business reporting has also been shaped by the increasing demand for sustainability and corporate social responsibility. This shift has led to the incorporation of sustainability reports, which provide insights into the environmental and social impacts of corporate activities. Studies by Kim and Kim (2017) and Ashtab and Campbell (2021) underline the expanding scope of reporting, reflecting the broader objectives of modern businesses that align with the principles of sustainable development (Ashtab and Campbell, 2021; Kim and Kim, 2017). Based on the background of the main topic of this review, the context of business reporting is a combination of technological innovation, evolving business practices, and the push toward greater transparency and understanding of data. This confluence is crafting a new paradigm in business intelligence one where decision-making is informed by a complex array of quantitative and qualitative data, structured and unstructured information, financial indicators, and sustainability metrics. As businesses continue to adapt to these shifts, the role of text-mining, sustainability, and methodological rigor in business reporting will undoubtedly play a central role in shaping the future of business intelligence and decision support.

3. RESEARCH METHOD AND LITERATURE SEARCH

Mueller-Bloch and Kranz's (2015) framework offers a structured methodology for conducting qualitative literature reviews, which is ideal for formulating research questions and identifying research gaps. The process begins with a comprehensive review of both foundational and recent literature to map out key terms and research patterns. Through a detailed analysis of these publications, researchers can detect underexplored areas and theoretical inconsistencies. The framework emphasizes the importance of formulating specific and investigable research questions that address these identified gaps. It also guides the selection of appropriate qualitative methods to explore these questions thoroughly. A crucial step in this framework is the iterative peer validation of the research questions and design, ensuring that the study contributes significantly to the existing body of knowledge and addresses pertinent gaps effectively. This method enhances the rigor and relevance of research in any scholarly domain (Mueller-Bloch & Kranz, 2015). Our research is centered around three foundational themes: business decision support, reporting, and text mining. We are particularly interested in the integration of automated report generation technologies, which facilitate the systematic compilation and presentation of key data insights.

This methodology promises to streamline reporting procedures and customize information density and detail according to the specific needs of different executive tiers within a corporation. Moreover, our study seeks to investigate the optimal amalgamation of tacit expert knowledge and proprietary company data. By harnessing both unstructured expert insights and structured organizational data, we aim to develop a sophisticated framework that not only identifies but also synthesizes the minimal yet crucial information required by decision-makers at varying levels of leadership. This integrative approach is designed to enhance the accuracy and relevance of support tools available to business leaders, thereby improving strategic decision-making across the board. Identifying relevant literature is a fundamental step in our research. To achieve this, we conducted comprehensive searches across multiple databases, including Science Direct, Scopus, and Web of Science. After evaluating the search outcomes, Science Direct (SD) and Web of Science (WoS) emerged as the most suitable sources due to their extensive repositories and the relevance of their content to our research topic. According to Mueller-Block and Kranz's methodology, selecting the appropriate keywords was also a critical aspect of our literature review process. This involved refining our search terms to ensure they closely matched the specific themes and areas we intended to explore, optimizing the accuracy and efficiency of our literature retrieval from these databases. Table 1 highlights the correlation between the number of search results.

	Web of Science	Science Direct
Reporting	5000000+	1000000+
Text-mining	25322	92012
Business Decision Support	47973	455806
Reporting AND Text-mining	2820	13040
Reporting AND Business Decision Support	4241	105
Text-mining AND Business Decision Support	327	10
Reporting AND Text-mining AND Business Decision Support	31	7

Table 1: Key words combination and search results from databases

This analysis revealed a notable observation: the term "reporting" exhibits a substantial frequency of usage across various texts on a daily basis, showcasing a broad application. The separated terms gives back a large number of search results. Conversely, the pairing of more technical terms such as "Reporting" and "Text-mining" generates an even greater number of results, whereas the combination of "Text-mining" and "Business Decision Support" results in fewer findings.

4. PRACTICES AND CURRENT IDEAS OF AREA

After narrowing down the initial results, our research focused on the 31 publications included in the search results in the Web of Science database. We chose the VosViewer application, which is suitable for examining the density of keywords, to get a comprehensive picture of the keywords used by researchers during their research. As shown in Figure 1, the examined publications, which met with our requirements in connection with the key word occuracies number 2, were published between 2017 and 2022. During this time, our investigation enables a thorough understanding of the area's development.

Analyzing the results of such keyword-density investigations is vital in identifying the dominant research areas and the methodologies and tools preferred in contemporary academic discourse. Each reviewed article provides unique insights into the application of business decision support systems, text-mining, and effective reporting. While some focus on the technical and methodological aspects, others highlight practical applications and strategic implications. The use of advanced analytical techniques such as predictive analytics and NLP across these studies emphasizes the growing complexity and importance of leveraging big data for business and economic decision-making.
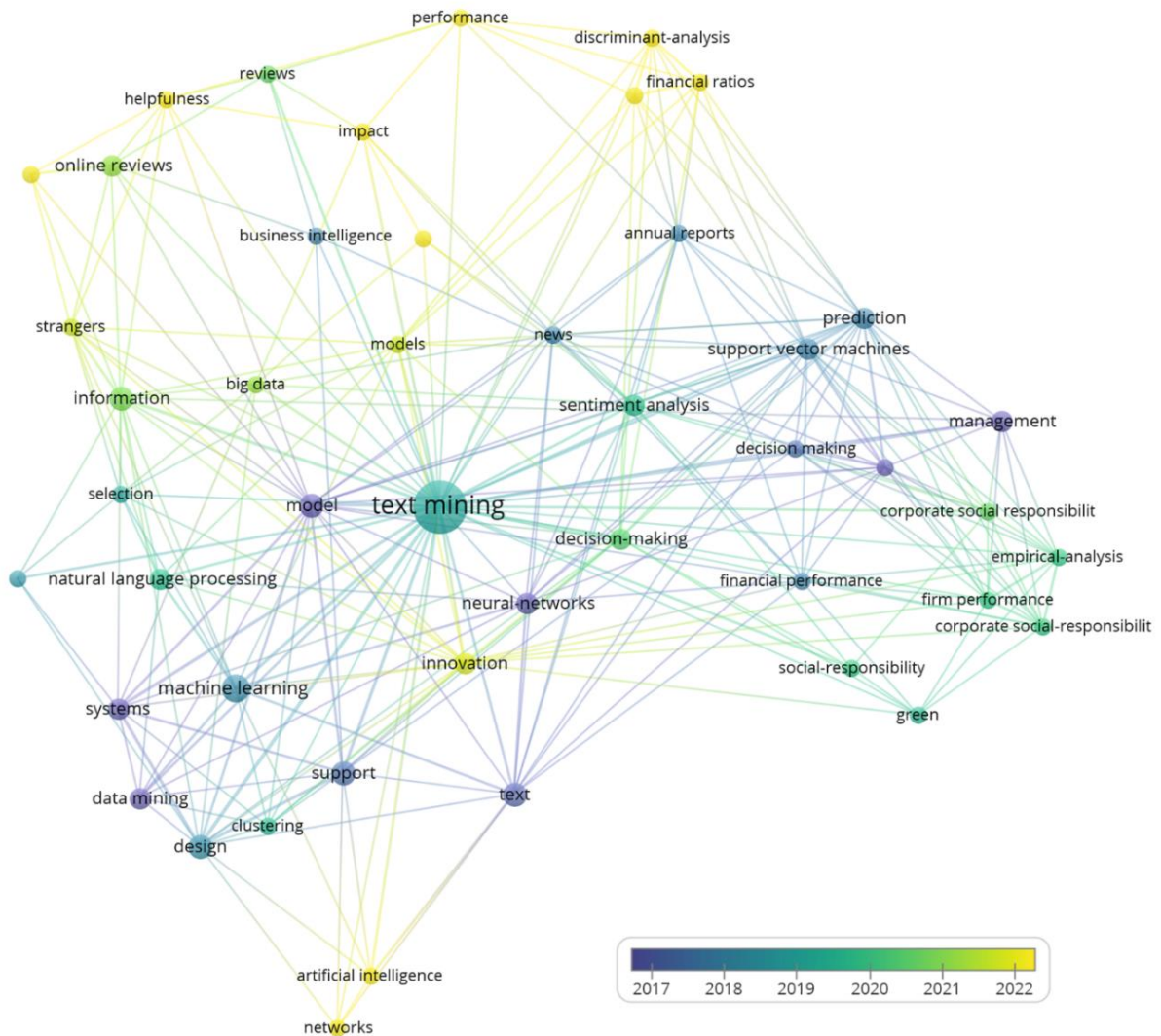
Figure 1: Overlay visualization of "Reporting" AND "Text-mining" AND "Business Decision Support" keyword combination by VosViewer based on 31 results in Web of Science database

The detailed reporting practices observed across the articles ensure that these complex analyses are accessible and reproducible, contributing to broader knowledge and application in various fields. According to Figure 1, during the years 2017-2018, the terms most commonly used were technical in nature (such as systems, data mining, model). Approaching 2022, there was a noticeable shift towards terms associated with soft skills (such as helpfulness, impact, performance).

4.1. Business decision support

According to Roeder and Palmer, this paper highlights the use of predictive analytics within decision support frameworks to optimize resource allocation in business operations. The focus is on integrating real-time data streams with predictive models to enhance operational decisions, providing a dynamic decision support environment that adapts to new information. (Roeder et al., 2022) At the same time Zang et al. explore the implementation of a decision support system within a specific industry context, examining the system's impact on strategic business decisions. This case study approach offers practical insights into the deployment challenges and benefits of DSS, making it a valuable resource for practitioners.(Zhang et al., 2021) Lin and Hsu, discuss how decision support tools can facilitate economic development decisions. The study uses models to assess the impact of economic policies, illustrating how decision support systems can be extended beyond business contexts to address broader economic issues. (Lin and Hsu, 2018)

4.2. Text-mining

Ko and Gilani utilize text-mining to process extensive datasets from online platforms and electronic documents. The methodology includes natural language processing (NLP) techniques to analyze sentiment, trends, and patterns within the text, which are critical for strategic decision-making processes. (Ko and Gilani, 2020) The support of that kind of data sources can accelerate the reporting, because of large set of data, and at the end, for report generation could be a good base because of advanced capabilitites. Turkeli and Ozaydin at the same time, apply text-mining to social media data to gauge public sentiment and market trends. This approach is particularly innovative as it combines NLP with machine learning to refine the accuracy of sentiment analysis, showcasing the application of text-mining in real-time market analysis. (Lee and Huang, 2020; Turkeli and Ozaydin, 2022) These technologies help by preparing data before it's added to a report, which makes the report more valuable. They do this mainly by lowering the amount of computing power needed to process the data. In the pre-processing stage, the raw data is cleaned up. As a result, this cleaner, simpler data allows for more complicated analysis without needing a lot of computing power. This leads to faster processing times and reports that are not only quicker to produce but also more accurate and detailed. This method is a smart way to use data management techniques to improve how information systems process data, especially when there's limited computing power available.

4.3. Reporting

Li et al. (2010) focus on the methodologies used in computational studies. The clarity of the reporting allows for the replication of the study's results, which is crucial for advancing the field of computer science, especially in the context of big data and analytics (Li et al., 2010; Zhong et al., 2020). In their research, Glancy and Yadav proposed a computer model for detecting fraud in financial reports. This model applies a quantitative approach to textual data and conducts fraud detection with virtually full use of the information in the textual data. Their analytical method, which is also suitable for automation, was able to distinguish fraudulent reports from non-fraudulent ones (Glancy and Yadav, 2011). Zhang et al. (2021) in their psychological text mining approach, they use linguistic style fit (LSM) to investigate how the social interaction of top management team (TMT) members affects conservative accounting reporting practices. In their opinion, similar language styles promote consensus building and social integration, which results in better cooperation in group decision-making (Zhang et al., 2021). Hsu et al. (2022) propose an automated text-mining process to identify operative risks in accounting narratives and investigate their correlation with operational performance.

Results indicate that there is a connection between textual-based risk indicators and a company's operational efficiency. Recent financial reporting standards include a new section on risk factors in yearly reports, as reinforced by this study. (Hsu et al., 2022)

5. RESEARCH GAP

A research gap indicates the presence of existing knowledge alongside an absence of necessary information required to fill a void in the scholarly literature. In our study, we observe that report generation, which is crucial for supporting business decision-making, is predominantly data-driven. Frequently, data and key performance indicators (KPIs) are presented in a straightforward manner without incorporating meaningful contextual information. Various decision support systems inherently facilitate the identification of pertinent relationships, underscoring the utility of business intelligence and advanced analytics. Literature reviews corroborate the importance of these methodologies (Biswas et al., 2022; Istrat and Lalic, 2017; Lamrhari et al., 2019; Wang et al., 2013). Moreover, keyword analysis depicted in Figure 1 reinforces this perspective; it demonstrates that from 2022 onward, text-mining has established a discernible connection between the utility of content and its impact on performance. This highlights the critical need for narrative elements that contextualize key indicators within reports. Our findings regarding the evolution of reporting practices indicate that the current approach primarily focuses on describing data meanings without providing further insights. However, according to our VosViewer analysis featuring keywords such as "helpfulness" and "impact," we hypothesize that the requirements for reports are evolving towards understanding the connections underlying the data.

6. CONCLUSION

Our study offers a comprehensive, transdisciplinary overview of the domain of reporting. We conducted our review using the Mueller-Bloch and Kranz framework and evaluated relevant literature selected from multiple databases. We synthesized the existing processes and practices in the field and analyzed the terminology used and its frequency historically. Our findings indicate that most articles highlight various advanced reporting technologies as the most effective solutions, emphasizing the utility of large data sets and aggregated values. Furthermore, natural language processing (NLP) and large language models are recognized as the future of reporting. However, our research identified a notable deficiency in the literature, particularly in the exploration of data context and its application in business decision support. Additionally, the impact of various leadership levels has been underexplored. Our gap analysis suggests that the usefulness and relevance of reports vary significantly across different corporate functions from executive levels to operational level.

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EXAMINING THE WORKPLACE CLIMATE AND EMPLOYEE RETENTION IN HUNGARIAN COMPANIES

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ABSTRACT
Our workplace is the place where we spend most of our active daily hours. From this aspect neither the organization nor the employee himself cares about the quality of the time, it matters how we feel while working, since in a place where employees feel bad, their motivation will very quickly decrease, and it also has a negative effect on the performance there. The effectiveness of the company mainly depends on how efficiently the employees are, how much they try to get the most out of themselves. The objective of our thesis was to explore the preferences of employees who are active in the labor market regarding a suitable working atmosphere, and to examine the level of employee loyalty and motivation that has developed in this context, as well as to examine and analyze the related factors using complex, quantitative methods. The practices of Hungarian companies - especially in connection with the recent COVID epidemic, which required practices that are completely different from standard employment schemes – are very different, which in most cases required not only flexibility, but also changes in organizational and processes and best practices. Aim was to examine, reveal the importance of company methods and solutions from the employees' point of view, which can increase commitment, company loyalty, and at the same time improve the workplace atmosphere and reduce the fluctuation. In close connection we wanted to come to conclusions and suggestions that help improve the workplace atmosphere and the success of retaining the workforce.
Keywords: *employee retention, labor market, loyalty, workplace climate*

1. INTRODUCTION
The workplace is the place where we spend most of our active daytime hours. In terms of the amount of time spent there, it is important for both the organization and the employee to know the quality of the time spent there, how we feel while working, because in a place where employees feel uncomfortable, their motivation will decrease very quickly, which will eventually have a negative impact on their performance. The effectiveness of a company depends largely on the efficiency with which its employees work, on how hard they try to do their best and to the maximum. In Hungarian firms, especially in the context of the recent COVID movement, which has required a departure from standard employment patterns, there have been several changes in employment practices, which in most cases have required not only flexibility but also speed and changes in organizational and process practices and best practices.

2. OBJECTIVES, STATEMENT OF THE TOPIC
The objective of our study was to explore the preferences of employees of different ages, positions, and work experience in the Hungarian labour market for a suitable workplace climate and to investigate the degree of employee loyalty and motivation in this context, as well as to examine and analyze the related factors using complex quantitative methods:

1) to explore and examine the importance and role of factors that play an important role in the development of job choice/job loyalty
2) to find out employees' views on the measures and regulations applied by their employer
3) to assess the extent of workplace loyalty and commitment among the participants in the study

Our aim was to investigate and explore the relationship between the factors, measures and benefits that employees consider most important; and retention and loyalty at work, and to draw conclusions and recommendations based on the findings that would help to improve the effectiveness and efficiency of retention and reduce turnover.

3. LITERATURE REVIEW

The situation of the domestic labour market is influenced by a number of factors. The size of the active working-age population in the labour market; the social strategies and principles that apply and affect people, living standards and well-being; the degree of social security; and the presence of occupational and social mobility are all important. When considering economic factors, we need to take into account market economy principles (human resource efficiency and return on investment), the availability of human resources in terms of both quality and quantity, flexibility and rationality; and economic growth while maintaining a relative balance between supply and demand (E. Barakonyi - J. Szellő 2016). Looking at the Hungarian labour market developments since 2004, the number of registered jobseekers reflects the ongoing processes. The economic crisis of 2008 led to a significant increase in the number of unemployed (reaching 605,000 in 2009), followed by a stagnation in the period 2010-2012, and then a continuous downward trend, which has kept the Hungarian labour market in a demand position, encouraging organizations to retain labour shortages and existing labour, while at the same time raising expectations from labour market actors.
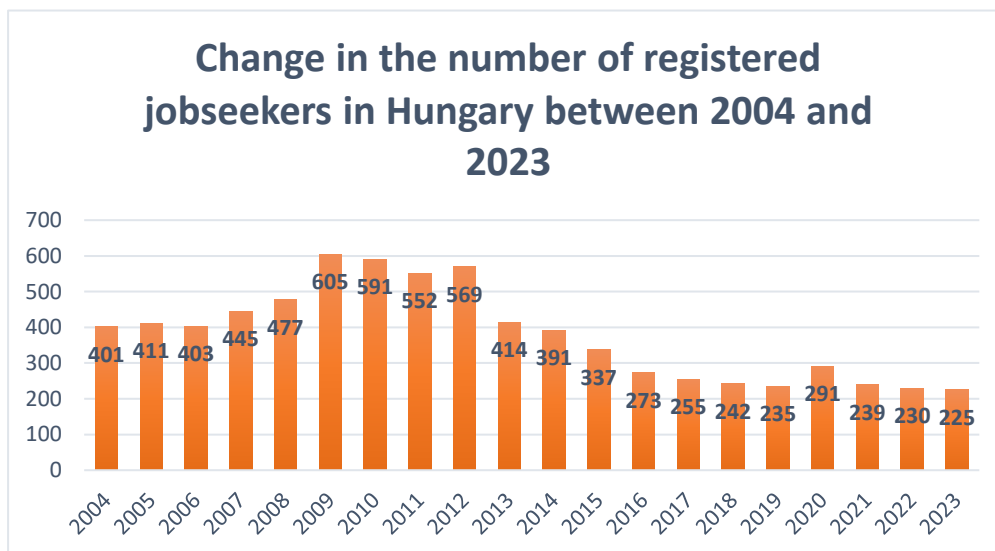
Diagram 1: Change in the number of registered jobseekers in Hungary between 2004 and 2023
(Source: National Employment Service)

It is important for the employer to shape employee behavior in line with the corporate culture, to attract employees, to gain and retain their loyalty and commitment.

This can be done independently, but using the tools of leadership and organization, human resource management:

- *Hierarchical, power tools:* management uses its own organizational tools to ensure that employees meet expectations and objectives. It should be borne in mind that in this case the interests of employees are not always the same, but conflicts of interest can be counterbalanced, partly by means of power, control and discipline, and partly by the organization's position and standing on the labour market, since the lack of alternative options increases the forced loyalty of employees in direct proportion to the lack of alternative options.
- *Organizational tools and work organization solutions*: the shaping of workplace behavior and identification with company values, objectives and standards can be triggered almost imperceptibly by the company culture and work organization solutions, which involve employees in quality, development and control tasks, teams and projects.
- *Individual bargaining*: depending on the union's position and bargaining power, a collective agreement may be able to achieve specific benefits for workers, whereas if the employer is "only" faced with individual cases, it is more likely to be able to obtain more favorable terms.
- *Communication, the 'voice':* if the employer pays attention to the opinions and 'voice' of the employees and responds to them in a meaningful way, it may be able to develop working conditions and terms and conditions that consider the needs and interests of the employees
- *Almost all the functions of the EEM* are capable, if management wishes to operate them, of winning over employees, building loyalty, inducing good performance, identification and attachment to the organization. In recruitment, it can offer better than normal employment conditions in the labour market, incentive opportunities in pay, career progression, etc. (Karoliny-Poór 2017)

In the literature on the subject, two types of motives are distinguished in the field of employee loyalty: the first is the rational-functional motive expressed by employees who do not want to or cannot leave the organization for financial or legal reasons, the second type refers to employees whose loyalty is emotional, based on their own values and closely linked to job fulfilment and satisfaction. We can also highlight two dimensions of employee loyalty: external (behavioral), which is manifested in the willingness to forego other, more favorable, and competitive opportunities for the sake of a simultaneous offer of their current job, and internal (emotional), which consists of identification with the organization (Lipka et al., 2014). Loyalty is also often identified with other concepts such as organizational commitment (Bloemer and Odekerken-Schröder, 2006) or the intention to stay in or leave the organization (Otto and Mamatoglu, 2015). The Covid-19 pandemic has long-term implications for all economic actors, but it is not yet possible to predict whether and to what extent the practices and solutions developed during the pandemic will be sustained in the long term, and if so, how and to what extent they will affect the operation of companies, their efficiency, productivity and, through this, the mindset and loyalty of employees.

4. METHODOLOGY
The literature highlights the fact that employee loyalty, engagement and turnover reduction is a high priority in all organizations, it is extremely complex and is linked to almost all strategic areas, but its practical implementation may differ due to the different size, structure, and culture of organizations. Of course, we know that our questionnaire survey does not provide a representative sample, but it is suitable for the research topic to explore and identify correlations and contradictions that can serve as a basis for drawing conclusions, making findings, and determining the direction of further analysis.

4.1. Testing methods

In order to obtain real and relevant answers to the research questions and to collect sufficient quantity and quality of data and information to develop the topic, we used an online survey technique, which was completed anonymously by respondents clicking on the link on the website. Our research was primarily based on questionnaires, as the responses provided quantifiable information that could be analyzed using statistical and mathematical methods. The questionnaire used in the study consisted of two parts:

- General data sheet: a data collection sheet asking for the respondent's personal data: gender, age, position, job title, highest level of education, length of time with the organization, number of job changes, nature of previous jobs, possible intention to change jobs, loyalty and commitment to the current organization.
- Questionnaire on job choice preferences: designed to explore the respondents' views on this topic.

4.2. Method of data processing and analysis

Following the questionnaire survey, the population of the research consists of 1,217 individual surveys. Descriptive statistical methods (arithmetic mean, frequency) were used to describe the sample and to analyze the main characteristics.

4.3. Description of the study sample

The descriptive characteristics of the sample were constructed as follows: sex, age, position, length of time in the organization, highest level of education and number of previous jobs held by the respondent. The demographic distribution of respondents by gender is as follows:

Gender	Number of respondents	% distribution
Male	394	32%
Female	823	68%
Total	1217	100%

Table 1: Demographic distribution of respondents by gender
(Source: Own sources)

The age distribution of the respondents shows that 10% of the respondents were born before 2000 (126), the highest proportion of respondents was 58% (709) born between 1980 and 1999, while almost a third of the respondents (359, or 29% of the respondents) were born between 1961 and 1979, but the proportion of respondents born before 1960 was very low (23, or 2%). As regards the position in the company hierarchy, the results are as follows: the vast majority of the workforce is subordinate (75% - 915 people), with 6% and 9% of the workforce being junior and middle managers (69 and 106 people) and only 3%, 37 people in total, being senior managers. 7% of the respondents (90 persons) belong to the other category, covering self-employed and other specialized status. In terms of time spent in the company, only 7% (89%) of respondents (less than 3 months) are on probation (less than 3 months in the organization), 84 (7% of respondents) are working beyond their probationary period, but for less than half a year (i.e. between 3 and 6 months), 12% (142 people) have been working for 6 to 12 months, 15% (178 people) for between 1 and 2 years, 11% (138 people) for 2 to 3 years and the vast majority, 48% (586 people) have been working for more than 3 years in their current job. The sample shows a very high proportion of people with more than one year of employment. In terms of educational attainment, the proportion of respondents with low levels of education (8 years of primary education or less, or with vocational or technical education) is low.

The share of those with 8 general education or less is 1% (17 people), the share of those with vocational education, vocational school and upper secondary school is almost the same at 8% (94-95-94 people), and relatively few have a technical education at 3% (33 people). Those with higher education have the highest proportion of graduates with a bachelor's or master's degree (BA/Bsc), 42% of respondents (508), but also the highest proportion of those with a higher vocational qualification (14% - 172) or a 5-year or master's degree (15% - 185). The results show an overwhelming majority (57%) of people who have changed jobs more than once (i.e. this is their second or more job in a row), a relatively low proportion (19%) of people who are starting their career/first job, and 25% of people who have changed jobs once (i.e. their current organization is their second job). When asked how much respondents would be willing to change jobs if they could and all conditions were met, the average score is 2.8 on a scale of 1 to 5. The distribution of the mean based on Likert scale responses to this question is as follows:

Answers	Number of respondents	Rate
1. Not at all	275	23%
2. Rather not	247	20%
3. Perhaps	310	25%
4. Rather yes	217	18%
5. Absolutely yes	168	14%

Table 2: The distribution of the mean based on Likert scale responses
(Source: Own sources)

In terms of commitment, the proportion of those who feel no commitment at all to their current job is low - only 110 people about 9% -, the proportion of those who are fully committed is 42% (510 people) and the proportion of those who are not fully committed (but who still feel some commitment) is 49%, representing 597 people out of the total sample.

5. TEST RESULTS AND THEIR EVALUATION

The aim of the job choice and loyalty survey was to find out to what extent and in what order respondents perceive certain features and benefits of their organization as important and useful, and how committed and loyal they are to their current job. For the loyalty survey, the questionnaire included 9 statements on the following characteristics, which the respondent was asked to rate on a scale of 1 to 5 for their own position, with the mean of the responses being as follows:

Diagram following on the next page
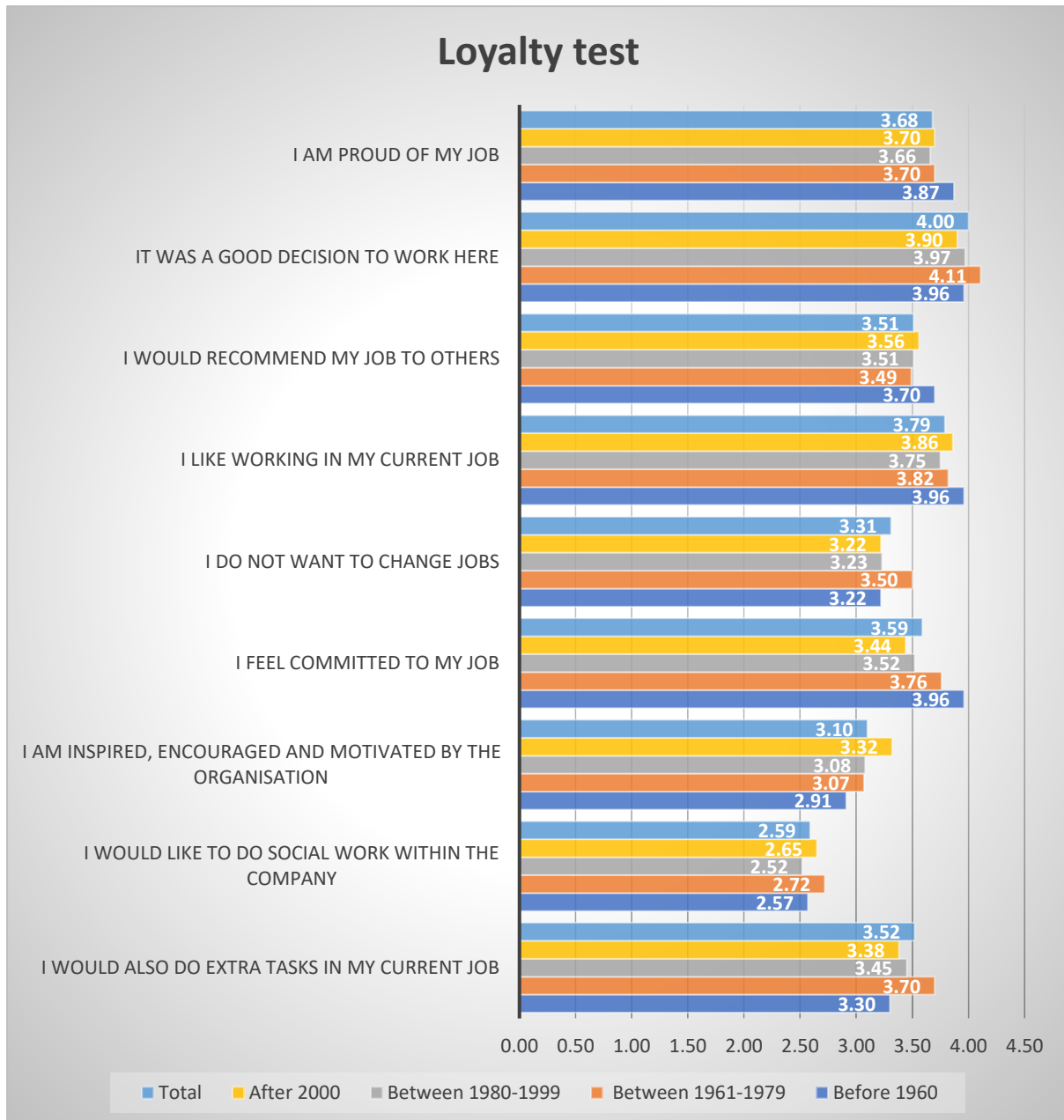
Diagram 2: Answers on the loyalty test
(Source: Own research)

Overall, even for the lowest statement – "I would like to do community work within the company" - the statements on loyalty and commitment scored positive and above-median averages, so respondents are overwhelmingly satisfied and positive about their current jobs in this respect. The highest average was "It was a good decision to work here", while the lowest was "I would like to do community work within the company". Although the statements "I am inspired, encouraged and motivated by the organization" and "I would recommend my job to others" scored the 2nd and 3rd lowest average, the other statements, which asked about commitment, pride and general opinion about the job, scored higher. t can be concluded that activities without compensation (social work) are not at all an incentive and motivating factor, while extra tasks (for which compensation is probably another motivating factor) have already achieved better results. Analysis of variance was used to examine the relationship between age as a categorical variable and the attitudinal variables.

Accordingly, H0: there is no relationship between age and the loyalty variables:

One-factor analysis of variance

SUMMARY

Groups	Item number	Total	Average	Variance
before 1960	207	723	3,492754	2,086112
between 1961-1979	3231	11444	3,541937	1,725098
between 1980-1999	6381	21764	3,410751	1,675928
after 2000	1134	3911	3,448854	1,666843

ANALYSES of VARIANCE

Factors	SS	df	MS	F	p-value	F crit.
Between groups	37,25217465	3	12,41739	7,316351	6,75177E-05	2,60572
Within group	18582,76262	10949	1,697211			
Total	18620,01479	10952				

The obtained p value <0.05, thus concluding that for 4 ages, the population means are significantly separable from each other.

Table 3: The significance of ages
(Source: Own research)

Thus, when the statements are examined as a function of the age of the respondents, the differences between the means of the responses given by the generations are significant, it is observed that the statement inspiring, motivating and stimulating organization scores relatively low for those born before 1960, while the same statement scores above average for those born after 2000 - with increasing means for the intermediate age groups - the importance of these factors in the perception of the workplace increases steadily with decreasing age. The trend is reversed when looking at commitment: the generation born after 2000 is the least committed to their current job, while values increase steadily with age, with the highest levels of commitment for those born before 1960. Respondents were also asked about the importance of the following factors (on a scale of 1 to 5) when choosing a job:

Table following on the next page

Factor	before 1960	between 1961-1979	between 1980-1999	after 2000	Total
A team I fit in easily	4,13	4,19	4,29	4,44	4,27
Salary and remuneration system	3,39	4,08	4,38	4,28	4,26
Flexible working hours	3,39	4,15	4,18	4,3	4,17
Varied and challenging tasks	3,48	3,97	4,05	3,98	4,01
Professionally experienced colleagues	3,87	4,03	3,96	3,98	3,98
Distance from my current place of residence	3,61	3,89	3,88	3,83	3,87
Fringe benefits scheme	2,91	3,73	3,96	3,8	3,86
Aesthetic, well-equipped and modern working environment	3,48	3,82	3,79	3,94	3,81
Health and safety at work, occupational health and safety	3,52	3,74	3,67	3,67	3,69
Career management, career development	2,7	3,15	3,79	3,89	3,59
Company reputation, reputation and visibility	3	3,42	3,31	3,29	3,34
Home office, home working, teleworking	2,57	3,05	3,49	3,09	3,3
Green workplace	3,39	3,25	3,14	3,22	3,19
Company size	2,83	2,96	2,87	2,87	2,9

Table 4: Importance of the factors while choosing a workplace based on Likert scale responses
(Source: Own research)

The highest scores were given to the importance of the team in which the employee should fit in and the remuneration system, while the lowest average was given to the importance of the size of the company. Wage as an element is more important than average, especially for those born after 1980, and the same is observed for the fringe benefits system. The latter may be explained by the fact that the fringe benefit system was not encountered by the two previous generations during most of their active years, and its importance and relevance in job choice is therefore not as important. There is also a factor (almost unique in the list), 'Health and safety at work', which is almost equally important for all responding generations. This may be explained by the fact that it is a basic expectation of the employer, the existence of which is not only an expectation but also regulated by law, and its absence or poor quality may affect the employee's later life. The importance of a flexible work schedule and an aesthetic and modern working environment - like the inspiring and motivating working environment examined earlier - is least important for those born before 1960 but increases steadily with younger generations and is most important for those born after 2000. Career management and career development also shows a similar trend, with its importance and relevance becoming more important the younger the respondent, due to age and work experience. Analysis of variance was also used to examine the relationship between age as a categorized variable and the importance of previously job choice factors. Accordingly, H0: no relationship between age and importance factor variables.

The results of the analysis of variance using Likert scaling as an importance factor are as follows:

One-factory analyses of variance

Summary

Groups	Item number	Total	Average	Variance
before 1960	322	1064	3,304348	1,794934
between 1961-1979	5026	18461	3,6731	1,56018
between 1980-1999	9926	37407	3,768588	1,441556
after 2000	1764	6625	3,755669	1,541516

ANALYSES of VARIANCE

Factors	SS	df	MS	F	p-value	F crit.
Between groups	90,55265	3	30,18422	20,20965	5E-13	2,60543
Within group	25441,22	17034	1,493555			
Total	25531,77	17037				

The obtained p value <0.05, thus concluding that for 4 ages, the population means are significantly distinct from each other.

When the responses to all statements are also examined as a function of the age of the respondents, the following differences between the responses of the generations are observed.

Average before 1960	Average between 1961-1979	Average between 1980-1999	Average after 2000
3,30	3,67	3,77	3,76

Table 5: Differences between the responses of the generations
(Source: Own sources)

Job choice factors are lowest for those born before 1960, mainly because of their age, their role in the labour market and their active time still remaining, and their low propensity to change jobs, while overall, those born between 1980 and 1999 have the highest average responses. The latter may be explained by the fact that this generation is the most active in the labour market at present, and therefore more critical and have higher expectations of their future employers.

6. SUMMARY

Our aim was to explore and investigate the importance for employees of company methods, practices and solutions that can increase engagement and loyalty, while improving the workplace climate and reducing turnover rates. Closely related to this, we wanted to explore the role of age in the importance of these factors and their effectiveness, and based on the results of our research, we wanted to draw conclusions and recommendations that would help improve the workplace climate and the success of employee retention.

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AWARENESS AND APPLICATION OF METHODS FOR EFFICIENCY ENHANCEMENT IN INDUSTRIAL PRACTICE

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ABSTRACT
Globalization has led to the elongation of supply chains due to increased specialization, outsourcing, and vertical disintegration. Consequently, these global supply chains have become more vulnerable to disruptions over time. To mitigate time-related inefficiencies and enhance the effectiveness of global supply chains and networks, there is a pressing need for time-saving methods in production and services. Implementing such practices not only fosters participation in global production networks but also facilitates collaboration among supply chain actors, laying the groundwork for future advancements in Industry 4.0. Additionally, the integration of AI and related technologies is becoming increasingly vital in streamlining and accelerating supply chain processes. AI technologies offer potential solutions to address modern supply chain complexities and risks, enabling businesses to navigate the challenges posed by global supply chain dynamics effectively. This paper offers an overview of the pivotal role of time in supply chains and explores the application of efficiency enhancement practices among Hungarian industrial firms. Drawing from a comparative survey, the findings reveal disparities not only between awareness and application but also among industrial, service, and trade sectors within the Hungarian context.
Keywords: Supply Chain Management, Time Saving Methods, Efficiency Enhancement, Artificial Intelligence, Risk Management

1. INTRODUCTION
Supply chain management involves designing and coordinating a network that allows businesses and individuals to obtain, utilize, deliver, and dispose of items, as well as acquire and distribute services to reach markets and clients (LeMay et al., 2017). Numerous domestic and international works of literature discussed supply chain management. Literature sources have treated the problematic of time factor with negligence for a long time. Later, by the appearance of speed, precision, predictability and time based competition (Stalk, 1991) it became an important factor of the supply chain. The need for speed and precision has also forced time-efficient solutions to come to the foreground both in terms of logistics practice and theory due to the following trends. A national empiric research involving business organisations in Hungary was intended to examine the time dimension. During conceptualisation the emphasis was put on sourcing. The targeted companies were considered as purchasers, therefore the leaders of purchasing or logistics departments were requested to reply. We also examined opinions and we measured statements related to the time factor on a scale of 1 to 4. We intended to learn what they think about the importance of time in general and about the way they and other companies within their branch approach time.

118

As a second question, we inquired about the functioning of their supply chain. The questions targeted demands related to input logistics, satisfaction and practice, as well as their approach towards time-based criteria. As a third area, we examined companies' behaviour through the contrast of precision vs. delay. Demographic characteristics came at the end of the survey, we inquired about data that we thought may be linked to time behaviour.

2. FUNCTIONAL TIME MANAGEMENT METHODS

In all functional areas of logistics methods have appeared that aim at time-saving, wait and waste free functioning. In developing and spreading those methods the Japanese pioneered with corporate management philosophies that focus on resource saving and loss free operations. It was manufacturing – the most spectacular area that consumes most resources – where opportunities appeared first that could ensure permanent supply, raw material supply, preventing shortages and surpluses.

1. The volume of goods to be transported increases
2. The size of packages sent decreases
3. The value of the packages increases
4. The frequency of transports increases
5. The portion of foreign transports increases
6. The average transport distance increases
7. The demand for door-to-door delivery increases
8. The demand for high-quality logistics services increases, speed, precision, flexibility, reliability have become important, emphasis on the reduction of transport costs

Table 1: The specific directions of the changes of transport demands
(Source: Authors' own creation)

In production the application of methods and philosophies affecting time consumption and time management started earlier. They aimed at the complete utilization of resources (capital, assets, and labour, time), as well as preventing shortages and the use of unnecessary resources. The advanced methods of production management and timing point to the improvement of internal time performance. The base of one of the early methods is planning and forecasting. Their application made the start of large volume manufacturing under the push methodology possible (Ford). It started in a period where the focus was on production considered to be the main function of all. However, mass production required smooth supply of raw materials and it was built on suitable demand plans. That led to the rise of MRP – Materials Requirement Planning, in order to adjust the purchase to production material usage. MRP II (Manufacturing Resource Planning) also scheduled manufacturing resources, avoiding the useless wait of both raw material and manufacturing capacities (assets, labour). In such cases there are large finished product inventories appearing on the output side of the manufacturing and they further increased by the broadening of manufacturing portfolio. To handle such issues DRP – Distribution Resource Planning was developed. There are other tools to prevent intra-production shortages and unused capacities, they are OPT (Optimized Production Technology) and Q-Control. They are both mixed systems (push-pull), they aim at the permanent flow of materials by eliminating congestions. The push system enables quick and secure customer supply on a stable market, as finished products wait for the demand as part of the inventory. There is no quicker solution than supplying from inventory. In such cases the gap between production and consuming is only the time required for the transport to the customer and its duration depends on the geographic distance and the method of transportation. However, customers require choices and new products and it causes shortening life cycles and worsening forecasts and it makes supply from inventory impossible.

To handle that postponement was invented, a solution that keeps the advantages of mass production, but makes customization possible. In pull systems the process is not started by manufacturing, but by the customer with an order information. Unlike push systems it is not the manufacturer that pushes the standardized product previously produced and waiting on the customer, but the customer waits for a custom made product meeting individual requirements. The finished product inventories are easy to control, as only products ordered are manufactured. Waiting is necessary in both processes, but in push systems the product waits, whereas in pull systems it is the customers who need to wait. Under what criteria should one decide whether the product or the customer should wait?

- the readiness to wait, furthermore
- the stability of needs
- the reliability of forecasts
- the individual manner of demand and their variety
- the timing of payment
- the complexity of the product
- the value of the product
- production technology
- production management system
- the useful life / durability of the product
- the length of life cycle

In pull system, production is triggered by downstream demand, rather than a predetermined plan. This means that parts are only produced when there is a signal from the next station in the production line that they are needed. This can help to reduce inventory levels and lead times. However, this also means that pull systems can have some challenges, such as longer lead times and a higher risk of stockouts if demand is unexpectedly high (Puchkova et al., 2016). The JIT concept is widely known, but it is frequently misunderstood and identified as delivery right on time. The concept means much more than that, as it originally covers all areas of corporate operations and by aiming at saving of resources and preventing losses – including time losses – it works with solutions that build upon pinpoint joints and flawless processes. As a result significant cost savings can be achieved, inventories can be substituted or eliminated by the ability to react and speed. There are two problems with its current application in Europe. The first one is the mentality that differs from the Japanese, the other one is more practical, namely the traffic infrastructure and its overload. Road transport hides a great deal of risk in estimating arrival time, and delay without security reserves can cause so high costs that they even exceed the costs of inventories. The time required to change locations now rules out decisions related to distances. The decision about the location of the Mercedes plant near Kecskemét was made by the precondition that the plant should be reachable from a motorway within 30 minutes and neither the Romanian, nor the Polish sites were able to fulfil that condition. Reducing lead times includes the reduction of transport times (Földesi et al, 2009; Horváth et al, 2022; Bartucz et al, 2023) and it resulted in the skyrocketing of the CEP (Courier-Express-Parcel) segment. Although express solutions are always more expensive, their costs still do not reach the savings of inventory reduction. An efficient reply to quickly changing customer needs was ECR Efficient Customer Response, as well as QR Quick Response concept that started from food industry, where there are lots of products with short life cycle and wide variety, therefore it is important that there are no shortages, as the customers are not willing to wait and they pick another product choice easily. ECR operates supply chain in pull system by connecting suppliers and distributors. Its goal is to increase customer satisfaction and to reduce the costs of the supply chain in the meantime.

QR focuses on the increase of the efficiency of the supply chain by the reduction of inventory volumes and emphasizes the beneficial effect of reducing internal and external lead time (Gómez P. & Filho, 2016; Buics et al, 2023; Almelhem et al, 2023). The method of CR (Continuous Replenishment) is intended to avoid inventory shortages and to avoid that a high amount of capital is invested in inventories at the same time. It is built on automatic ordering with permanent inventory monitoring. Obviously, it can only be reached by suitable IT background, but by extending it to other members of the supply chain a high reaction speed can be achieved. The cross-docking solution makes the product handling without storage possible, where – also with real-time data management – the collection and distribution is carried out without any break, so the product is not stored even temporarily, only reloaded towards another destination. All the above methods are included in the time compression (TC) paradigm and they are an essential corollary of time-based competition, The TC paradigm emphasizes re-engineering business processes to achieve significant reductions in Total Cycle Time (TCT) (Towill, 2003).

3. LEVERAGING DIGITAL TECHNOLOGIES FOR RESILIENCE AND PERFORMANCE ENHANCEMENT

The integration of digital technologies, such as artificial intelligence (AI) and blockchain, into supply chain management has increasing attention in recent literature. Scholars have emphasized the potential of these technologies to enhance various aspects of supply chain operations, including risk management, transparency, efficiency and resilience. For instance, Panetto et al. (2019) highlight the complexity of modern manufacturing systems and the need for new control methods to manage dynamic environments effectively. Decision support systems (DSS) and AI have emerged as valuable tools for addressing these challenges, offering capabilities in risk identification, assessment, and mitigation (Baryannis et al., 2018). In particular, AI-driven big data analytics have been recognized for their potential to enhance agility, resilience, and performance in humanitarian supply chains (Dubey et al., 2022; Radanliev & De Roure, 2023). Moreover, blockchain technology has shown promise in improving transparency and traceability, particularly in industries like healthcare (Alabaddi et al., 2023; Wong et al., 2023). This sentiment is echoed by Fagundes et al. (2020), who emphasize the importance of digitalization in creating sustainable and resilient food systems, with blockchain emerging as a prominent technology. Similarly, digitalization efforts in the pharmaceutical supply chain have focused on enhancing transparency and efficiency through technologies like big data analytics and blockchain (Wong et al., 2023). Furthermore, the application of AI and Industry 4.0 technologies has been proposed to secure vaccine production and supply chains during public health crises (Radanliev & De Roure, 2023). El Baz et al. (2023) propose a novel environmental supply chain risk management (ESCRM) framework for Industry 4.0, supported by data mining (DM), to identify, assess, and mitigate environmental risks. Additionally, Wu and Zuo (2023) discuss the potential of machine learning (ML) to transform supply chains and minimize carbon emissions, emphasizing the importance of ML investment in reducing environmental impact. Amentae and Gebresenbet (2021) investigates the potential impact of digitalization on the agro-food supply chain, aiming to enhance sustainability and resilience. Through an integrative literature review, the authors identify digital technologies such as blockchain, the Internet of Things, big-data analytics, and artificial intelligence as enablers for improving traceability, sustainability, and resilience in the food system. Perano et al. (2023) propose a conceptual framework to analyze the impact of digital technologies (DTs) on supply chain (SC) performance, The conceptual framework presented highlights the three-dimensional relationship between DTs, business processes, and SC performance, providing a comprehensive understanding of how DTs can enhance SC performance.

Overall, this underscores the transformative potential of digital technologies in supply chain management, offering opportunities to mitigate risks, improve transparency, and enhance overall performance.

4. THE BACKGROUND OF THE RESEARCH

The preconceptions of the research were based on the assumption that time factor is important for companies to a different extent and both causes and consequences are divergent. Before the survey we examined by a qualitative research – during professional dialogues, in-depth interviews – how logistics suppliers, and professionals of industrial and commercial companies with logistics needs look at the time factor from their – supplier or customer – point of view. Considering that willingness to reply in such questionnaire surveys has decreased, we applied two methods to reach potential respondents. One of the main channels was the use of networking. The questionnaires were sent primarily via business and personal relations to companies where they were filled in and spread by snow ball effect. The other method used institutions, organisations operating as network nodes, as well as printed and electronic newsletters.

4.1. Sample composition

By the construction of the sample an important factor was involving companies where financial processes are dominant and we also searched for larger companies using market logistics services with high degree of likelihood. About 10,000 enterprises received the request by post or emails. In the sample all Hungarian regions were represented and the higher concentration in the Central Hungary region and the capital, Budapest can be clearly seen. Matching the initial goal of the research the industrial and commercial enterprises are overrepresented and service companies are underrepresented compared to the average distribution of Hungarian companies. Likewise, size distribution distorts towards larger-sized companies. Compared to the ratio of registered companies, companies working as limited liability companies or companies limited by shares are overrepresented.

4.2. The method of analysis

Processing questionnaires was carried out by SPSS mathematical-statistical software used in social sciences. Depending on the measuring level of the specific variables we used more simple, descriptive or in-depth, analysing methods. The analysis of lower measurement level (nominal) variables was carried out by cross charts and non-parameter tests to determine, if there is a significant relation in time management between the different respondent groups, and if there is a co-relation between specific behavioural characteristics. The scaled variables were examined with parameter 't' tests, furthermore by one and multifactor analysis of variance (ANOVA) we determined, if the differences by individual grouping variables are significant. Out of factor extraction methods we analysed by main component analysis, into how many factors the asserting of interests related to the time parameter via external networking channels can be compressed. Out of cluster processes we followed the hierarchy method to determine what segments the respondents are divided to under their relation to time on the level of declarations and their behaviour.

- H1 The time-conscious behaviour is a characteristic of business entities within the time-sensitive segment that can be traced in the factually appearing / subsequently measurable parameters of time management.

We examined the time-conscious behaviour of companies under concerted practices (and not under opinions).

We examined behavioural characteristics and consequences that are present in internal operations and external logistics connections and that are precisely measurable. We intended to prove that it is the time-sensitive companies, the behaviour of which is mostly influenced by time-consciousness. In terms of internal operations we analysed the application of time management through the precision of delivery in every day practice and the procurement of strategic products (until a certain date, time window, or fix date) and where JIT (just in time) sourcing was relevant. We examined to what extent the purchasers were interested in specific purchasing characteristics (short delivery time, precise (on time) delivery, low purchase price) and to what extent they know and use the specific time management methods. Incoming deliveries are during the day for 70 % of the companies, less than one third gives a more specific date, or time window (12 %), or fix date (18 %) – for the arrival. There is no significant difference between branches, in industry and services the incoming deliveries are more precise (33% and 32 %) than those in commerce (26,5 %). JIT purchases have been used by a quarter (26 %) of the respondents, higher ratio for industry (30 %) and services (32 %), than commerce (18%). The size of the company has a significant effect on JIT ($\chi2 =20,26$; df=3; p=0,00), larger companies are more likely to use it. We also examined what interests influence the purchase side. At a quarter of the respondents purchase is related to incentives, almost a third of the service branch (30 %) does not use any kind of purchase criteria. It may be explained by the fact that a larger part of the examined service companies are self empowering, 60 % typically do not employ external logistics companies, in contrary to industry and commerce, where 70 and 72 % respectively of the responding companies employ external logistics specialists (3 PL, i.e. third party logistics). More than half of the purchasers (55 %) are interested in achieving lower prices. Procurement focused on lower prices is more typical in commerce (63 %). Quick procurement (procuring in shorter time) is included for a bit more than third of them (38 %) in motivating factors, here industrial companies are more likely to be encouraged for shorter delivery time (43 %). Using speed criterion within purchasing is significantly affected by the acceptance of the statement that wait causes loss to companies ($\chi2 =4,21$; df=1; p=0,04). The use of speed motivator was also significantly affected by the relative judgement of lead time ($\chi2 =4,97$; df=1; p=0,03). The strive to reach shorter lead times was to 97 % reliability level also affected by the extent delayed deliveries may cause problems ($\chi2 =4,89$; df=1; p=0,03). The criterion of precise delivery time was important for a bit more than a half (51 %). Time-conscious behaviour can be traced in the application of time management methods. We examined the awareness and the application of 8 methods:

- VMI (Vendor Managed Inventory)
- JIT (Just in Time)
- CR (Continuous Replenishment)
- Agile manufacturing
- ECR (Efficient Consumer Response)
- QR (Quick Response)
- EDI (Electronic Data Interchange)
- Cross-docking

Figure following on the next page
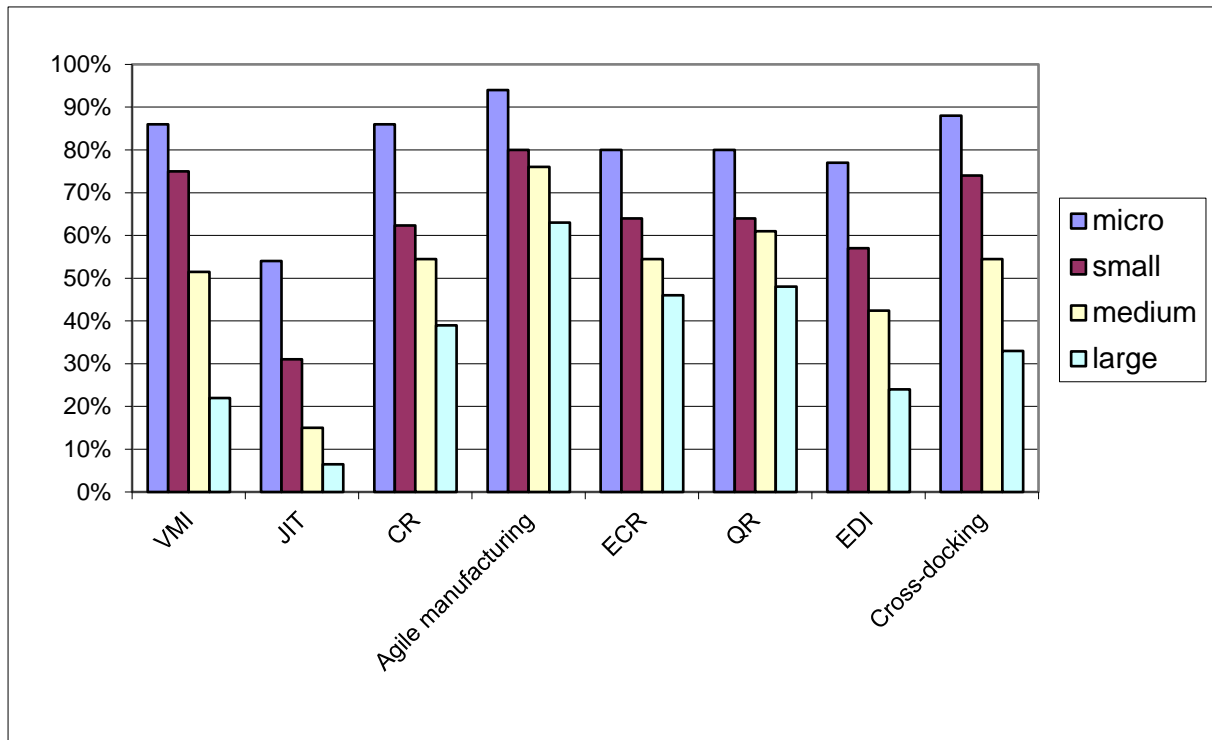
Figure 1: Awereness of methods
(Source: Authors' own creation)

As seen in Figure 1 of the above „Agile manufacturing" is the least known (for 80 % of respondents unknown) and only 3 used it. The most widely known is JIT, more than two thirds of the respondents have heard about it (69 %), and more than one fifth use it (22 %) when surveyed. Beyond JIT the other most widely used method was EDI, more than half of respondents know it (52 %). Both in knowing the specific methods and their application the industrial segment was determining and it also refers to the two most popular methods. The analysis shows which are the least known time management methods, and the differences for industrial and commercial companies. It is clearly shown that – although industrial companies are usually at ease with the methods – commercial ones beat them for ECR and also for the use of QR and CR. In the current use of both JIT and EDI industry is on the lead, more than a quarter (27 %) applied one or the other methods. The least known and used method is Agile manufacturing; this is true for total respondents and also for each segment. In terms of size distribution, larger companies are on the lead; they know and use the methods more likely. Small companies know the listed methods to the least. More than a half of large companies know all of the methods – except for one -, in contrary to micro companies, where except for JIT none of the methods are known by more than 25 %. It is shown on Figure 4. The awareness of the specific methods shows similar distribution in different size categories. In the category of large companies the use of JIT and EDI is outlying, 43,5 % use JIT and EDI, in much higher proportion than small companies.

5. CONCLUSION

The time-conscious behaviour was examined in internal operations and external connections. Besides studying the interval of requested incoming arrivals and the use of JIT system and functional time management I also checked under what interests the purchasing side works. The respondent groups categorized under demographic variables show different behavioural patterns. The dominance of large and industrial companies characterises JIT use – where size had a significant effect on use.

The same demographic variables affected the awareness and use of functional time management methods. The analysed characteristics of the time-consciousness confirm that large and industrial companies considered to be time-sensitive use conscious methods to manage time in larger proportion. According to those, as well as other proofs collected during the research process (they more frequently assert time demands and shift costs arising from delays) I accept hypothesis H1.

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YES, NO, MAYBE – MODELING THE DRIVING FORCE BEHIND GREEN OFFICE LEASE AGREEMENTS WITH THE HELP OF ARTIFICIAL INTELLIGENCE

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ABSTRACT

Energy-efficient and environmentally beneficial green buildings are becoming more and more popular in Hungary among other nations in the global office market. The reasons behind occupants' preference and motivation for leasing green office buildings in Hungary over non-green ones, despite their growing popularity and higher rental costs, remain unknown. According to earlier studies, multinational corporations typically have green and sustainable policies that require their subsidiaries to lease green offices. This paper aims to explore the motivation behind signing lease agreements in green-certified offices in the case of tenants, who do not have a green office leasing obligation. This study was conducted with an expert system modeling software to monitor the Hungarian commercial real estate market. At first, different experts from the Hungarian real estate market were asked about tenants' preferences and their experiences regarding green-certified office buildings in Hungary. Based on the given answers and opinions, a model was created in an artificial intelligence-driven software to calculate and possibly predict the decision-making of potential tenants regarding green-certifies office buildings. Based on the interviews with market actors, it was able to integrate beside the business-related factors also the phenomena of human experience and preferences into the model, which gave an extra uniqueness to this research. After developing a complex algorythm that created a hierarchical ranking amongst the differenct motivational factors, the results revealed that these type of personal and human-related aspects are playing a significantly important role in the process of choosing the perfect office space.
Keywords: Decision making, green office, office occupancy, sustainability

1. INTRODUCTION

Sustainability considerations are increasingly important in the global office market as office occupants, developers and real estate investors are prioritizing green building practices, energy efficiency, and environmental sustainability (Simons *et al.*, 2014). As part of this fashion, Fuerst and McAllister (Fuerst and McAllister, 2011) claims that green building certifications are becoming more common as tenants seek out environmentally friendly office spaces. Furthermore, the COVID-19 pandemic has brought health and wellness considerations to the forefront of the global office market (Gartner, 2020). Employers are implementing measures to enhance workplace safety, such as improved ventilation, touchless technologies, and social distancing protocols. Wellness amenities such as fitness centers, outdoor spaces, and access to natural light are also becoming more important for attracting tenants (Remøy and van der Voordt, 2014; Wilkinson *et al.*, 2012). Overall, the global office market is dynamic and influenced by a wide range of economic, social, and technological trends. While challenges such as economic uncertainty, technological disruption, and the impact of the COVID-19 pandemic persist, opportunities exist for investors, developers, and tenants to adapt to changing market conditions and capitalize on emerging trends (Gartner, 2020).

Tenants choose green offices for a variety of reasons, reflecting a growing awareness of environmental sustainability and its benefits. Many companies prioritize sustainability and want to reduce their environmental footprint (Sayce *et al.*, 2009). Choosing a green office aligns with their corporate values and demonstrates a commitment to environmental responsibility. Occupying a green office can enhance a company's brand image and reputation. It sends a message to clients, employees, and stakeholders that the company is environmentally conscious and socially responsible, which can be beneficial for attracting customers and top talent (Parida *et al.*, 2021; Simons *et al.*, 2014). On the other hand, green buildings are often designed to be more energy-efficient, which can result in lower utility bills for tenants. Features such as energy-efficient lighting, Heating, Ventilation, and Air Conditioning (HVAC) systems, and insulation can lead to significant cost savings over time. Green offices often incorporate features that promote occupant health and well-being. These may include improved indoor air quality, access to natural light, and amenities such as fitness centers and green spaces. A healthier work environment can lead to increased productivity, reduced absenteeism, and improved employee satisfaction (Rasheed and Rotimi, 2022; Singh *et al.*, 2011). Offering a sustainable workplace can be attractive to potential employees, particularly younger generations who prioritize sustainability and social responsibility. By providing a green office environment, companies can enhance their employer brand and improve employee recruitment and retention efforts (Tanabe *et al.*, 2015; Zitars *et al.*, 2021). Moving into a new office involves several important decision-making processes to ensure that the transition is smooth and aligns with the needs and goals of the organization. As it was stated in a previous research of this study's author, when a mother company instructs its subsidiaries to rent a green office, it typically indicates a strategic decision aimed at aligning the subsidiaries' operations with broader corporate sustainability goals. By adopting green office practices, subsidiaries can reduce their environmental footprint, enhance their corporate reputation, and contribute to a more sustainable future (Huszár, 2023). The reasons behind occupants' preference and motivation for leasing green office buildings in Hungary over non-green ones, despite their growing popularity and higher rental costs, remain unknown. This paper aims to explore the motivation behind signing lease agreements in green-certified offices in the case of tenants, who do not have a green office leasing obligation.

2. APPROACH

A strategic decision is described as one that is significant in terms of the actions done, the resources committed, or the precedents set, according to Mintzberg, Raisinghani, and Théorêt (Mintzberg *et al.*, 1976). These choices affect whether an organization succeeds or fails (Elbanna, Hsieh, *et al.*, 2020; Walter *et al.*, 2012). Decision-making methods are systematic approaches used to evaluate options, weigh alternatives, and choose a course of action (Elbanna, Thanos, *et al.*, 2020). There can be numerous decision-making analyzes and methods, each suited to different situations and preferences, including an office leasing or moving transaction. In this chapter, the authors introduce the main decision-making methods and decision supporting analyzes types that can occur in the case of an office renting process.

2.1. Decision-making types

The rational decision making approach involves identifying all possible options, gathering relevant information, evaluating the consequences of each option, and selecting the one that maximizes benefits or utility (Lacatus, 2019). It's important to note that while the rational decision-making model provides a structured approach to making choices, real-world decisions are often made under time constraints, uncertainty, and with incomplete information (Luo and Cheng, 2006). As a result, decision makers may need to adapt the process to suit the specific circumstances and constraints they face.

Additionally, cognitive biases and emotional factors can influence decision making, potentially leading to deviations from the ideal rational model (Kluczek *et al.*, 2021). Based on this, there is the bounded decision-making model, which is a concept introduced by Herbert Simon, a Nobel Prize-winning economist and cognitive psychologist. The model suggests that individuals make decisions based on the information and cognitive resources available to them, which are often limited or "bounded" by factors such as time constraints, cognitive limitations, and the complexity of the decision environment (Jia *et al.*, 2021). Another approach is the intuitive decision making which claims that intuition involves making decisions based on gut feelings, hunches, or instinct, often relying on past experiences and tacit knowledge (Patterson, 2017). While less structured than other methods, intuition can be effective in certain situations as it involves relying on instinctive responses that are often based on subconscious processes, past experiences, and pattern recognition. Intuitive decision-making is often employed in situations where there is uncertainty, time pressure, or incomplete information. It can be particularly useful in fast-paced environments or when faced with complex, ambiguous problems (Wu *et al.*, 2014). In the case of office transactions, when visiting potential office spaces, decision makers may rely on their initial impressions and gut feelings about the space. Factors such as the layout, ambiance, natural light, and overall "feel" of the space can influence intuitive judgments about its suitability for the organization. In addition, decision makers may draw upon their past experiences with office leasing or real estate transactions to inform their intuitive judgments. For example, they may have a sense of what types of locations or layouts have worked well for the organization in the past and use this knowledge to guide their decision making. Also, the intuitive decision making in office leasing can be influenced by personal preferences and subjective factors. Decision makers may be drawn to office spaces that align with their aesthetic preferences, lifestyle choices, or values, even if these factors are not explicitly considered in the decision-making process (Leishman and Watkins, 2004; Roberts and Henneberry, 2007).

2.2. Decision-making support analyzes

Cost-benefit analysis involves quantifying the costs and benefits associated with each option and comparing them to determine the most favorable course of action. This analyzis method is widely used in economics and business decision making (Miraj *et al.*, 2021a, 2021b). By conducting a comprehensive cost-benefit analysis of the office market, organizations can make informed decisions that align with their financial goals, operational needs, and long-term strategic objectives. This decision-making method uses the results of the analysis to inform decision making regarding the office market, weighing the financial implications alongside other strategic considerations, such as organizational objectives, growth plans, and risk tolerance. It can also help to consider alternative scenarios and options, such as different office locations, space configurations, or lease terms, to identify the most favorable course of action (Encinas *et al.*, 2018; Plebankiewicz *et al.*, 2019). Another decision-making approach is the SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. This involves identifying the internal strengths and weaknesses of a decision or option, as well as the external opportunities and threats it faces (Stacchini *et al.*, 2022). This method helps assess the pros and cons of each option. By conducting a SWOT analysis of office leasing options, decision makers can gain valuable insights into the strengths, weaknesses, opportunities, and threats associated with each potential location and building. This analysis can inform strategic decision making, facilitate risk assessment, and help identify factors to consider during lease negotiations and due diligence processes.

2.3. Decision-making methods

The choice of decision-making method depends on factors such as the complexity of the decision, the availability of information, time constraints, and the preferences of the decision maker(s). Often, a combination of methods may be used to ensure a comprehensive and robust decision-making process, such in the case of an office renting project.

2.3.1. Decision-making based on quantitative methods

Arithmetic decision-making might refer to making decisions based on arithmetic operations or mathematical calculations. It could involve using quantitative analysis to compare alternatives and make decisions. The Multi-Criteria Decision Analysis (MCDA) method provides a systematic and transparent framework for decision making, allowing decision makers to consider multiple objectives, stakeholders, and uncertainties in a structured manner (Wang *et al.*, 2009). By incorporating diverse perspectives and preferences, MCDA helps identify robust and informed decisions that balance competing priorities and achieve desired outcomes. In the context of the office market, Multi-Criteria Decision Analysis can be a valuable tool for evaluating and comparing different office spaces or locations based on a variety of criteria (Adnan *et al.*, 2015). The decision-making process can begin by identifying the objectives or criteria that are important for the organization when selecting an office space. These may include factors such as location, cost, size, amenities, transportation accessibility, proximity to clients or customers, brand image, and potential for future growth (Guarini *et al.*, 2018). With the identification of the different office spaces or locations that are available for consideration. As Adnan et al. (Adnan *et al.*, 2015) state, these alternatives may include various rental or purchase options in different neighborhoods, buildings, or regions. It is also really important to determine the measures or metrics that will be used to evaluate each office space against the identified objectives. For example, location could be evaluated based on proximity to public transportation, nearby amenities, and accessibility for employees. Cost could be evaluated based on rental rates, utility expenses, and potential for negotiation. Assign weights or importance values to each objective to reflect their relative importance in the decision-making process. For instance, if being close to public transportation is deemed more important than having access to nearby restaurants, it would be assigned a higher weight (Ginevičius *et al.*, 2016). After this, the next step is the assessment of each office space against the defined criteria, using the evaluation measures and weights determined may involve conducting site visits, gathering information from real estate agents, and analyzing data on rental rates, amenities, and transportation options. With the help of a sensitivity analysis it is possible to assess the robustness of the results and the impact of changes in criteria weights or evaluation measures on the rankings of office spaces. This helps identify the key drivers of the decision and potential areas of uncertainty or disagreement (Guarini *et al.*, 2018). A very popular arithmetic decision-making method is J. P. Bran's PROMETHEE (Preference Ranking Organization METHod for Enrichment Evaluations), which is used in multi-criteria decision analysis (Brans and De Smet, 2016). PROMETHEE provides a systematic and transparent framework for decision-making in situations where there are multiple conflicting criteria to consider. It allows decision-makers to explicitly take into account their preferences and priorities when evaluating alternatives, leading to more informed and rational decisions. First, it is necessary to identify a set of alternatives or options available for the decision-making problem. The second step is to define the criteria that are relevant to the decision. These criteria represent different dimensions or aspects that the decision-maker want to consider when evaluating the alternatives. If necessary, the criteria may be normalized to ensure that they are on a common scale and can be directly compared (Oubahman and Duleba, 2021; Taherdoost, 2023). Normalization helps to eliminate any bias that might arise due to differences in the units or scales of measurement used for different criteria.

After that, decision-makers compare each pair of alternatives with respect to each criterion and express their preferences. This involves assessing the relative importance or preference of one alternative over another for each criterion. The result is a matrix of preference values. PROMETHEE aggregates the preference values across all criteria to obtain a net preference value for each alternative. Based on the net preference values, alternatives are ranked in descending order. The alternative with the highest net preference value is considered the most preferred (Brans and De Smet, 2016). At last, a sensitivity analysis can be performed to assess the robustness of the rankings to changes in the preference values or criteria weights. This helps to understand how uncertainties or variations in preferences might affect the decision (Taherdoost, 2023).

2.3.2. Decision-making based on expert systems

Expert systems are computer-based systems that emulate the decision-making ability of a human expert in a particular domain. As Liao (2005) stated, they are designed to provide intelligent solutions to complex problems by utilizing a knowledge base, inference engine, and a user interface. Expert systems contain a knowledge base that stores information about a specific domain. This knowledge is typically represented in the form of rules, facts, procedures, or heuristics gathered from human experts (Liao, 2005). The knowledge base may also include databases, documents, or other sources of information relevant to the domain. Expert systems assist decision-making by providing recommendations, suggestions, or solutions based on the analysis of data and the knowledge stored in the system. They can help users evaluate different options, explore possible outcomes, and make informed decisions by considering various factors and constraints. These systems are able to transfer human knowledge to a computer logic, which can simplify and model the reality in an AI environment (Sahin *et al.*, 2012). In this paper, the authors took Liao's (2005) categories-classification as knowledge backdrop for the study's theoretical framework. Using a review of the literature and a categorization of publications published between 1995 and 2004 as a starting point, Liao examined the expert system approaches and uses throughout that time (Liao, 2005). He identified eleven categories for classification based on the screening of 166 papers from 78 academic publications; nevertheless, in this paper, the authors concentrated on the rule-based systems among these classifications. The classification category of rule-based systems, deals with data from human observations and converts it into classical rules (Hamada *et al.*, 1995; Park *et al.*, 1995). Zaraté et al. describe the Logical Elements Rule Method for assessing and formalizing clinical rules (Zaraté and Liu, 2016). The "if-then" rule used in various decision-making processes typically serves as the foundation for these systems. An "if-then" rule, also known as a conditional or rule-based statement, is a fundamental concept in computer programming and artificial intelligence. It represents a logical relationship between conditions and actions, stating that if a certain condition is met, then a specific action should be taken. These rules are extensively used in various domains, including expert systems, decision-making algorithms, and control systems (Sabourin and Villeneuve, 1996). In addition to serving this auxiliary purpose, the growing usage of AI-enabled systems in the late 1990s offered the chance to map causality and linkages. Liu and Zaraté (Zaraté and Liu, 2016) classify expert systems into five categories: rule-based reasoning, case-based reasoning, narrative-based reasoning, ontology-based reasoning, and genetic algorithms. They also identify two technologies for knowledge modeling: clustering and ontology. As a result, the expert system works with historical cases, and the data from these examples can aid in the diagnosis-creation process for new cases. Additionally, the system can draw conclusions for the future, meaning that the foundation for useful guidance is drawn from historical experience (Kolodner, 1992).

3. ILLUSTRATION

In this paper, the authors examined the Budapest green office market trends with an expert system modeling tool software. At first, different experts from the Hungarian real estate market were asked about tenants' preferences and their experiences regarding green-certified office buildings in Hungary. Based on the given answers and opinions, a model was created in an artificial intelligence-driven software to calculate and illustrate the decision-making of potential tenants regarding green-certifies office buildings. The main research question was the following:

- If there is no green-certification obligation from a parent company, why do tenants choose to rent green offices instead of general, not green ones in the Hungarian office market?

During the course of this research, the authors worked with two experts to develop the rules that enable the software to assess behavioral patterns. In order to better classify and describe specific instances of human behavior, the authors have included several aspects of the conceptual model with values derived from metaphors and terms used by the experts. Since the authors were generally interested in logical if-then rules, they selected this examination area in the software. Using case-based and rule-based reasoning methods, the system analyzes potential triggers and weaknesses and investigates real-world issues. To model this study's cases, the authors exclusively utilized the system's rule-based reasoning component.
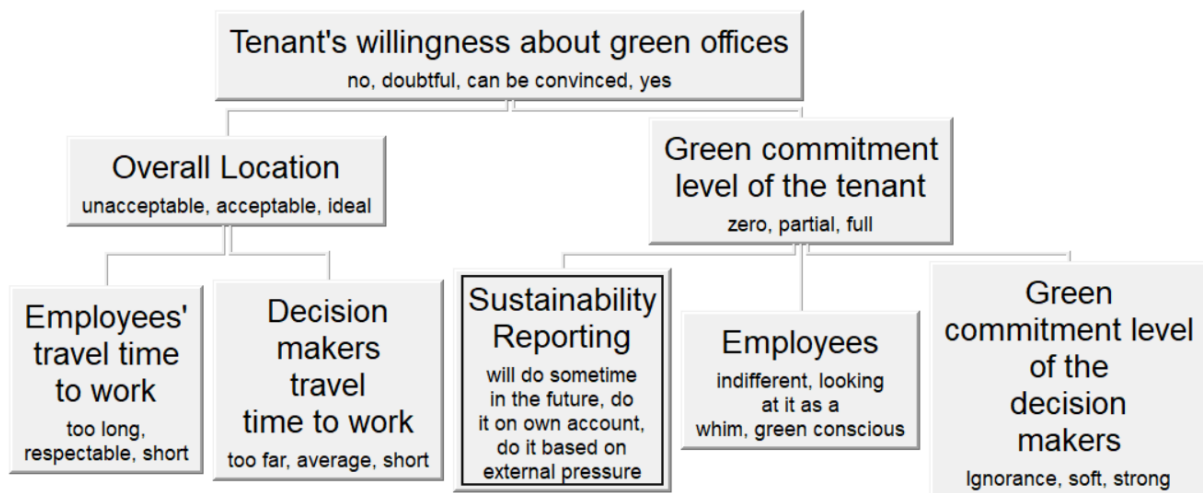
Figure 1: Demo model with values
Source: own research result

Figure 1 illustrates how the authors' predetermined values for each concept's constituent parts are based on the opinions and experiences of office market experts and accurately reflect the quirks of human behavior. The human brain is incapable of creating and stating complex rules in an incomprehensibly short amount of time, but the system can do so with the aid of applicable information. As it can be seen in Figure 1, (potential) tenants' willingness about green offices relies on two main factors (overall location of the office buildings and the green commitment level of the tenant). However, these two attributes are determined by at least five other factors that can have an impact on decision-making: employees' travel time to work, decision makers' travel time to work, sustainability reporting[1], green commitment level of the decision makers and the charatceristics of employees (what do they think about green issues and sustainability).

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[1] Sustainability reporting has no set format, but broadly involves disclosure of a company's environmental, social, and governance (ESG) goals and communicating the company's progress and efforts to reach those goals.

In order to create a transparent set of rules that may offer controllable and transparent information in each decision-making process, the authors divided their conceptual framework in each levels into three values during the model-building process. Table 1. shows the detailed model of the Overall Location element:

Employees' travel time to work	Decision makers travel time to work	Overall Location
too long	average	unacceptable
too long	too far	unacceptable
respectable	too far	acceptable
short	too far	acceptable
respectable	average	acceptable
too long	short	acceptable
short	short	ideal
respectable	short	ideal
short	average	ideal

Table 1: Cases with the possible answers
Source: own research result

In Table 1., the values can be found under the concepts by each attribute. The information was provided and translated to different values after the discussion with the two office market experts. Based on the results, for example it can be seen that if the employees' travel time to work is too long, however the decision makers' travel time is short, the overall location of the office building can be acceptable for the potential occupier company. On the other hand, if the employees' travel time is too long and the decision makers' travel time is only average, the location may be unacceptable.

Overall Location	Green commitment level of the tenant	Tenant's willingness about green offices
unacceptable	full	no
unacceptable	partial	no
unacceptable	zero	no
acceptable	partial	doubtful
acceptable	zero	doubtful
ideal	partial	can be convinced
ideal	zero	can be convinced
acceptable	full	can be convinced
ideal	full	yes

Table 2: Cases with the possible answers
Source: own research result

Table 2. shows how the overall location and green commitment level attributes impact the tenant's willingness about green offices, based on the answers of the market experts. For example, if the overall location of the office building is acceptable for the tenant, but he has zero green commitment, it is doubtful that the tenant will sign a lease agreement in the green office building. On the other hand, if the location of the building is ideal, even if the tenant has no green commitment it is possible that he will move into the green office building. This suggests that the overall location is a more important attribute that the green commitment level in the case of office renting projects. The authors were able to investigate and, if needed, reexamine the inferences that their rule-based system had produced from the experts' coded responses thanks to the assistance of the intelligent information technology system. Table 3 displays the complex rules that the software produced.

Overall Location	Green commitment level of the tenant	Tenant's willingness about green offices
unacceptable	*	no
acceptable	.. partial	doubtful
ideal	.. partial	can be convinced
acceptable	full	can be convinced
ideal	full	yes

Table 3: Complex rules
Source: own research result

Among the rules, the system is able to create complex rules, which are based on the given answers. The monitoring of which can be a great help in an office occupant's decision-making process and can indicate the points and focus areas during the office leasing transaction. As it is illustrated in Table 3, the system assigns different grades to the points that, in terms of the outcome, are meaningless to the user of the evaluation. The symbol '*' denotes certain fields or intersections. Furthermore, the software can highlight for the user the places from which each attribute is unable to provide a poorer or better value. These values have the symbol '...' in the field. Based on this, it can be stated that no matter on what level is the tenant's green commitment, if the overall location of the green office building is unacceptable for them, they won't move there. Furthermore, if the location is acceptable and the tenant has a partial green commitment or is totally ignorant about green issues, it is doubtful that he will move into a green office building. On the other hand, if the location is only at an acceptable level, but the tenant is fully committed about green practices, he can be convinced to sign a lease agreement in the office building.

		z	b
Sustainability Reporting	⏚	will do sometime in the future	do it based on external pressure
Employees	⏚	looking at it as a whim	indifferent
Employees' travel time to work	⏚	respectable	short
Green commitment level of the decision makers	⏚	soft	soft
Decision makers travel time to work	⏚	average	short

Table 4: Conceptual model with cases and values
Source: own research result

Table 4 illustrates different scenarios based on the experts' experience. There are two cases, Case 'z' and Case 'b'. It includes two possible office occupants' characteristics. With the help of the artificial intelligence system, it was able to model these two scenarios graph. Based on the table of given answers (Table 4), each case can be examined in detail. If a rule is not interpreted or utilized by the system, a new rule needs to be created specifically for it. The reader may clearly see the outcome of the authors' conceptual model thanks to the model's value-filled graph:

Figure following on the next page
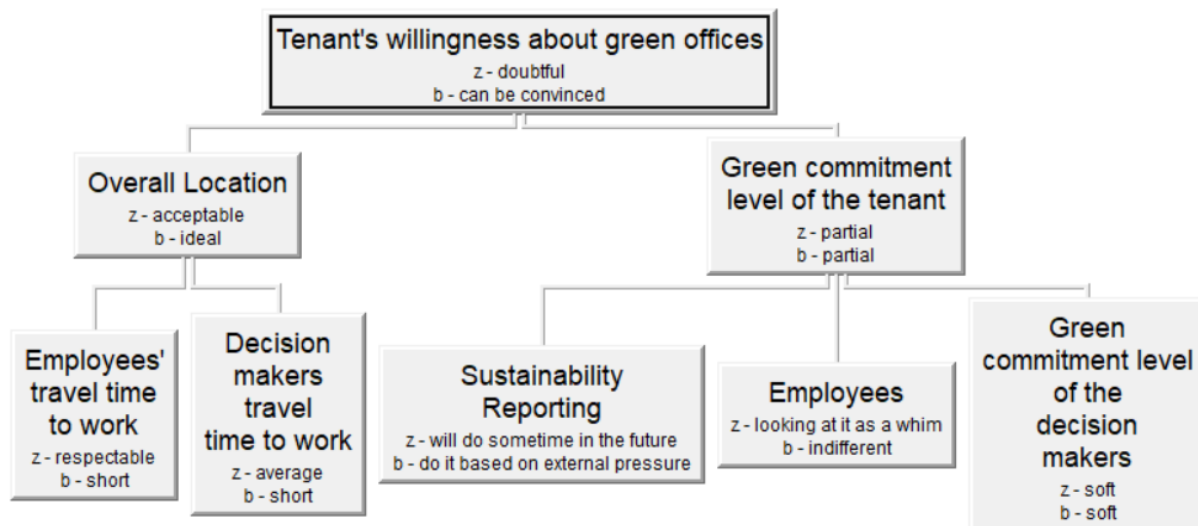
Figure 2: Conceptual model graph with cases and values
Source: own research result

As it can be seen in Figure 2, the system calculated the most possible outcome of the given scenarios and answers in Table 4.

4. CONCLUSION

Sustainability is becoming increasingly important in the global office market, with tenants choosing green offices for various reasons. Companies prioritize sustainability to reduce their environmental footprint and align with their corporate values. Occupying a green office can enhance a company's brand image and reputation, attracting customers and top talent. Moving into a new office involves decision-making processes to ensure smooth transitions and aligns with the organization's needs and goals. In Hungary, the reasons behind occupants' preference and motivation for leasing green office buildings over non-green ones remained unknown until these days. This paper examines the Budapest green office market trends using an expert system modeling tool software. The results show that the overall location of the office building can be acceptable if the employees' travel time is too long and the decision makers' travel time is short. However, if the overall location is acceptable but the tenant is unaware of the green commitment, it is unlikely that they will sign a lease agreement in a green office building. In conclusion, the overall location is a more important attribute than the green commitment level in office renting projects.

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INTEGRATION OF ILLEGAL MIGRANTS INTO THE ECONOMY OF THE EUROPEAN UNION

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ABSTRACT

The paper aims to demonstrate the impact of illegal migration on the economy of the European Union. Over the past several years, there has been a rapid increase in not only the number of asylum applications but in the number of illegal migrants across the EU area. The paper defines the occurence of illegal migration as a great challenge for the EU and demonstrates different crisis management strategies applied by the EU as the most important response to the specific circumstances of illegal migration. The role of the EU has been represented through the institutions responsible for its migration and asylum policy, the European Council and the Council of the European Union. The process of seeking asylum is explained in detail, on examples of migrants fleeing persecution, war, economic crisis or other dangers. The remaining migrant protection statuses such as subsidiary protection, humanitarian protection and temporary protection are also represented in this paper. The programmes and funds aimed at enhancing the effectiveness of migration flow management and strengthening the common asylum policy, as well as the common migration policy in accordance with the rights and principles of the European Union, are also represented in the paper. The impact of illegal migration on the economy of the European Union is demonstrated in regard to the labour market or labour force. Illegal migration alleviates labour shortages in certain sectors, such as construction, agriculture and service industries, and generates competitiveness on the labour market. Likewise, it influences consumption, tax revenues and demographic trends. On the other hand, the impact of illegal migration on the social protection system is also shown in terms of the increasing total costs of the welfare state. In conclusion, legal and other frameworks of prevention and suppression of illegal migration are presented with an emphasis on the spent (material) resources, especially on the suppression of organized crime generating illegal migrations.
Keywords: illegal migrations, asylum, crisis management, common migration policy

1. INTRODUCTION

There is a significant increase in the number of illegal crossings of the external border of the European Union, as noted by the EU institutions. When compared to 2022, the number of illegal migrants increased by 17% and approximately 380,000 arrivals were reached in 2023. There is an increasing and consistent trend over the past three years, with the highest figures since the great migrant crisis of 2016. During 2022, the number of asylum applications in the European Union increased compared to 2021, reaching a total of 1,048,880 asylum seekers. The asylum system of the European Union is under significant pressure, while the number of such requests continues to grow during 2024. These figures prove that not only is the European Union faced with major challenges due to illegal migration, but also that it is developing strategies to respond to these problems. Increased border control and cooperation of EU member states on strengthening external borders is carried out through information exchange, joint patrols and various forms of support for countries participating in such procedures.

The European Union cooperates with third countries through the system of development aid, by fighting corruption and encouraging the economic development of such countries, with the aim of solving the very cause of illegal migration. Common standards for granting asylum and systematic support for the integration of refugees through access to the labour market, training and education are the most important issues in creating strategies and other acts. In relation, measures are also being implemented to combat human smuggling, including the monitoring of smugglers' networks, organized crime and strengthening criminal sanctions for offenders. All EU institutions, especially the European Council and the Council of the European Union, play a key role in shaping migration and asylum policies within the European Union. The European Council, consisting of country or government leaders of the EU member states, sets strategic priorities, determines guidelines and goals in solving migration issues. The Council of the European Union, consisting of ministers of the EU member states, is responsible for designated areas, and adopts legislative acts in the regular session legislative co-decision procedure together with the European Parliament. The Council of the European Union[1] has reached an agreement on the reform of the European asylum and migration system covering several legislative acts related to all stages of asylum and migration management, including verification of illegal migrants, asylum application process, cooperation between member states and crisis management. The process of seeking asylum by migrants fleeing persecution, war, economic problems or other dangers involves a special procedure consisting of several steps, which is complex and still differs from country to country of the European Union. Asylum seekers often provide additional labour in areas with a lack of labour force. This positive effect of illegal migration is beneficial for maintaining business continuity and stimulating economic growth in EU member states that have previously received asylum seekers after the procedure of obtaining a certain status and protection of asylum seekers has been completed. The Asylum, Migration and Integration Fund (AMIF)[2] for the effective management of migration flows and the implementation, strengthening and development of joint asylum policies and joint immigration, as well as the Fund for Integrated Border Management[3], the instrument for financial support in the area of border management and visa policy, jointly provided funds enabling an effective EU policy towards migration, asylum and the management of the external border of the European Union[4].

2. ASYLUM SYSTEM AND OTHER STATUSES

Most migration issues contain procedures enabling migrants to acquire a certain (legal) status, primarily in the process of seeking asylum. Although asylum is not the subjective right of an individual, this institute is regulated by numerous acts of both international and European law, as well as national acts of certain countries.

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[1] The Treaty of Lisbon introduced qualified majority voting in the area of legal immigration and established a new legal basis for integration measures. Since the Treaty entered into force, the regular legislative procedure has been applied to the policy of legal and illegal immigration, whereby the Parliament, as a co-legislator, becomes equal to the Council in those areas. In the event of a sudden influx of citizens of third countries, the Council independently adopts temporary measures, but in consultation with the Parliament.

[2] REGULATION (EU) No 516/2014 of the European Parliament and of the Council of 16 April 2014 establishing the Asylum, Migration and Integration Fund, amending Council Decision 2008/381/EC and repealing Decisions No 573/2007/EC and No 575/2007/EC of the European Parliament and of the Council and Council Decision 2007/435/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R0516. L 150/168.

[3] European Commission. Integrated Border Management Fund. https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/integrated-border-management-fund_en?prefLang=hr. (9.4.2024.)

[4] Funding is based on REGULATION (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021, laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32021R1060. L 231/159.

On the one hand, these rules protect the rights and interests of endangered individuals, but on the other hand, they also protect the national interests of countries that thus gain control over migration across their territory. According to Dagen and Ćepo (2021), it is the right of every country to independently decide who can access its territory, i.e. the right of a country to control its borders is a reflection of its sovereignty and the protection of national security. The procedures for migrant status are being increasingly regulated in contemporary times. Most importantly, migrants are entitled to protection of their human rights, which includes the prohibition of torture, *non-refoulement* (Fr.)[5] (prohibition of returning a person to a country where their safety would be threatened), prohibition of discrimination, and protection of human dignity. Asylum is defined as protection from persecution in the Universal Declaration of Human Rights, codified in the 1951 Convention on the Status of Refugees and the 1967 associated Protocol, and guaranteed by the Charter of Fundamental Rights of the European Union. According to Lalić Novak (2012), *non-refoulement* is the key principle of refugee law, which is part of customary international law and legally binding to all countries[6]. Migrants seeking international protection have the right to access the procedure for determining refugee status. The identification of vulnerable groups of migrants is crucial on the front line of state border protection, especially including underaged persons, unaccompanied children, people with disabilities and people with mental disorders. Police officers are responsible for (il)legal treatment of migrants, and civil supervision is also carried out regarding cases of illegal treatment[7]. Due to the recent increase in the number of asylum seekers, the reform of the Common European Asylum System (CEAS) is underway. One of the more significant problems is that some countries cannot cope with the large number of asylum requests. Within the previous system, governed by the Dublin Regulation[8], the distribution of asylum requests between member states was not foreseen, i.e. only the first country of a person's entry into the EU was generally responsible for processing asylum requests. The system reform resulted in the Pact on Migration and Asylum[9] which foresees thorough border controls[10], widespread IT support (the comprehensive Eurodac database[11]), the reform of the management of the Schengen area and external borders, and the improvement of procedures for the relocation of vulnerable groups and persons rescued at sea. In addition, efforts are being made to improve the integration of migrants into local communities, to strengthen the fight against migrant smuggling, and to create a framework for stronger and faster crisis response. The regulated legislative areas include the rules proposed in the Regulation on Asylum and Migration Management[12], which replaces the Dublin Regulation and is based on the principle of solidarity and fair distribution among EU member states.

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[5] Scope of the principle of non-refoulement in contemporary border management: evolving areas of law. European Union Agency for Fundamental Rights, 2016. https://fra.europa.eu/sites/default/files/fra_uploads/fra-2016-scope-non-refoulement-0_en.pdf.

[6] Apart from the Convention on the Status of Refugees, refoulement is prohibited, expressly or by interpretation, by the International Covenant on Civil and Political Rights, the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, the Convention for the Protection of Human Rights and Fundamental Freedoms, the American Convention on Human Rights and the Convention of the Organization of African Unity on regulating certain aspects of refugee problems in Africa.

[7] Giljević, T., Holjevac, T. et. al.. Pravo na pristup sustavu azila i zaštita temeljnih prava migranata, priručnik za policijske službenike (*The right to access the asylum system and the protection of migrants' fundamental rights, a manual for police officers*) (2020), https://www.hpc.hr/wp-content/uploads/2019/07/Pravo-na-pristup-sustavu-azila-i-za%C5%A1tita-temeljnih-prava-migranata_dopunjeno-izdanje-2020.pdf.

[8] The system was created in 2003, modified in 2015.

[9] COMMUNICATION FROM THE COMMISSION on a New Pact on Migration and Asylum. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0609.

[10] Includes identification, health and security checks, taking fingerprints and registration in the Eurodac database.

[11] Data on illegal arrivals in the EU, including fingerprints and facial images of people aged six and above.

[12] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on asylum and migration management and amending Council Directive (EC) 2003/109 and the proposed Regulation (EU) XXX/XXX [Asylum and Migration Fund]. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020PC0610.

The new rules change the criteria used to determine the EU country responsible for considering applications for international protection. They also shift responsibility for illegal arrivals from the country of arrival to the entire EU. The aim of these rules is to involve as many member states as possible in various ways: by processing certain migrants, providing financial resources or operational and technical assistance. Each country chooses the kind of contribution it wants to make. Most significantly, new rules encourage cooperation with non-EU countries in order to solve the very causes of illegal migration and forced displacement, and facilitate the return of legal and illegal migrants. A common EU-wide procedure that must be followed by the member states in cases of persons applying for international protection is established by the Asylum Procedures Regulation. It includes a border procedure rule that enables a quick assessment at the EU external borders where applications are classified as unfounded or inadmissible, thus simplifying procedural arrangements (e.g. duration of the procedure) and establishing standards for the rights of asylum seekers (e.g. provision of interpreter services or the right to legal aid and representation). There are other options for illegal migrants to obtain legal status, in addition to seeking asylum. The process of relocation enables the person eligible for international protection to be moved from one EU member state to another. Likewise, migrants can apply for a humanitarian visa allowing them to stay in the country temporarily for humanitarian reasons, such as natural disasters, armed conflicts or other extraordinary events. Migrants can apply for a student visa to enrol in educational institutions in the EU countries. Furthermore, they can also apply for the commonly named family reunification, in case they have family members with legal status in an EU country. There are other forms of humanitarian protection, such as subsidiary protection granted to people who do not meet the conditions for refugee status but are in serious danger in their country of residence. Serious danger includes the threat of death penalty, torture, inhuman or degrading treatment, serious and individual threats to the lives of the civilian population due to general violence in situations of international or internal armed conflict. A person granted subsidiary protection has the right to stay in the country and benefit from certain privileges, including work, health care, education, freedom of religion and social welfare. One of the forms of humanitarian protection of migrants is temporary protection. Temporary protection provides temporary status to persons who do not meet the requirements for asylum or subsidiary protection but are exposed to a serious risk in their country of origin. The implementation of temporary protection can be challenging due to the large number of persons seeking protection. That is why the states that provide the institution of temporary protection try to implement a fair and transparent process of granting status and provide adequate support and integration. At the beginning of this year, an agreement on the creation of the EU resettlement framework was reached. Relocation occurs at the request of UNHCR and refers to the relocation of non-EU citizens in need of international protection to an EU member state. It is one of the best options for refugees to enter the European Union safely and legally. Until now, there have only been ad hoc resettlement programmes and uneven EU policies. The plan is to periodically (every two years) determine the maximum total number of persons to be accepted and to enhance the contribution of EU member states. The European Union Agency for Asylum (EUAA) provides operational and technical support for the implementation of the common asylum system.

3. MIGRANT LABOUR FORCE

Migrant labour force is an important aspect of the European common market with strong implications for the economy, society and politics. A large proportion of illegal migrants cross the border to find better working conditions and economic opportunities. Their presence on the EU labour market has a positive effect on current labour shortages in certain sectors. However, such migrations also affect the deregulation and fragmentation of the labour market and work flexibility.

Often, migrants do seasonal, temporary or low-skilled jobs, ultimately leading to labour market fragmentation. The labour force becomes divided between migrants and domestic workers, and migrants are often willing to work in conditions that are neither attractive nor acceptable to domestic workers. All these factors increase labour market flexibility because it adapts to changes more quickly in response to labour demand. Positive effects of migrations on the labour market are visible in job vacancies occupied by migrants with different skills and qualifications. Labour force diversification occurs as migrants bring different cultures, languages and experiences which enrich the work environment and encourage innovation. Increasing economic productivity and competitiveness are the most visible positive effect of migrant integration into the labour market. Undoubtedly, migrants support the economy through paying taxes and other contributions. On the other hand, these migrations encourage labour market deregulation because migrants are often employed in less regulated sectors, resulting in decreased worker protection and weakened workers' rights. Migrants do not often have the same level of protection as domestic workers. The integration of migrants increases labour market competition, which leads to pressure on salaries and a reduction in workers' rights. Migrants who have obtained a permit have the right to stay and work in the country. The procedure for obtaining a work permit in the EU territory may vary depending on the member country and their national regulations. Certain countries[13] have an agreement with the EU, granting migrants equal working conditions as EU citizens. If the worker is in a family relationship with an EU citizen, they do not need a work permit to work and have the right to equal treatment, including access to all social and tax benefits. Highly-qualified workers can apply for an EU Blue Card[14] enabling them to work and live in an EU member state if they meet certain criteria such as a diploma or equivalent qualification, an employment contract or a binding job offer for at least one year, a valid travel document and proof of health insurance. The rights depend on the laws of individual EU member states, but they include the right to fair and just working conditions, salaries and occupational safety, access to health care and the possibility of bringing family members to the country. Long-term migrant integration in the EU labour market requires comprehensive policies that support migrant adaptation and participation in economic life. Some of the training and education programmes for migrants include language learning, skills required for certain work sectors as well as professional development and recognition of foreign qualifications. Likewise, ongoing active support for migrants in finding a job, writing résumés, preparing for job interviews and cooperating with employers, is carried out in order to facilitate their employment. Constant supervision on behalf of state institutions is also necessary to ensure migrants the same labour rights as domestic workers, and to prevent workplace exploitation and discrimination. One of the important aspects of helping migrants is the implementation of programmes that support their socialization, including easier access to housing (adequate and affordable), health care (primarily with dedicated financial resources) and education. The process of integrating illegal migrants is not simple and requires an interdisciplinary approach. The EU and the member states share powers within the area of immigration, especially regarding the number of migrants allowed to enter a member state in search of work[15].

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[13] Algeria, Morocco, Tunisia, Russia, Albania, Montenegro, North Macedonia, Bosnia and Herzegovina, Kosovo, Serbia, Ukraine, Andorra, San Marino or one of the 79 countries of the African, Caribbean and Pacific Group of States.

[14] DIRECTIVE (EU) 2021/1883 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 October 2021 on the conditions of entry and residence of third-country nationals for the purpose of highly qualified employment, and repealing Council Directive 2009/50/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32021L1883. L 382/1.

[15] Article 79. paragraph 5. CONSOLIDATED VERSIONS OF THE TREATY ON EUROPEAN UNION AND THE TREATY ON THE FUNCTIONING OF THE EUROPEAN UNION. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12016ME/TXT. C 202/1.

4. THE INFLUENCE OF MIGRANT INTEGRATION ON OTHER ECONOMIC TRENDS

Integration is not only one of the fundamental policies but also a set of measures which can be used to achieve long-term and sustainable solutions for the reception and social inclusion of refugees in society (Strang and Ager, 2010). Penninx (2007) describes integration as a process of becoming an accepted member of society, while distinguishing three integrational dimensions: legal-political (obtaining status, family reunification and the right to vote), socio-economic (housing, employment, education, health and social security), and cultural-religious (autonomy of cultural and religious practices, perceptions and interactions between immigrants and members of the domicile society); relations of the integration process which include immigrants and the society of immigration (admission); as well as the three levels of the integration process: individual, group/collective and institutional. Illegal migrants' integration has a very complex effect on other economic trends in the EU countries, such as social policies, consumption, taxes, and demography. According to Lalić Novak and Giljević (2019), the EU integration policy began to develop after the Treaty of Amsterdam (1999) had entered into force. One of the EC/EU objectives stated in the Treaty is the preservation and development of the Union as an area of freedom, security and justice, ensuring free movement of persons in accordance with appropriate measures concerning the control of external borders, asylum, immigration, and crime prevention and suppression. The integration of illegal migrants can affect social policies through access to health care, education and general social services. Recognition of foreign qualifications, access to the labour market and social protection are very important factors in the integration of illegal migrants who have acquired a certain status in the EU countries. Migrant integration also affects consumption in EU member states, generating other derivative state revenues. On the other hand, the need for additional resources, such as education and public infrastructure, burdens state budgets. The integration of migrants via increased labour force, as previously mentioned, increases tax revenues but at the same time creates a need for additional public services. Migrant influx has a direct effect on demographic structure. Young migrants contribute to maintaining the balance between the working age population and retirees. The integration of families with children increases the number of young people in the overall population, with significant impact on the fertility rate in host countries and direct implications on the total number of births. The key negative aspect of the integration of illegal migrants is the uncertainty of the illegal migrant status for themselves and society, directly hindering their access to basic services and the consumption of their rights. Illegal migrants are often exposed to exploitation, low salaries and poor working conditions. Security issues, including human trafficking and smuggling, arise from the failed integration of illegal migrants into the European environment. Organized criminal groups take advantage of such situations, creating opportunities for illegal actions or using migrants for other criminal activities. At the same time, these criminal groups use corruption to facilitate illegal migration, by bribing border officials, police officers or other participants involved. The legal framework for fighting organized crime is crucial in the fight against this serious social problem which uses illegal migration as a resource. The legal acquis of the European Union includes laws, directives and other legal instruments that apply in the area of justice, freedom and security. Assessing the threat of organized crime in the European Union is the most important step in understanding and dealing with this form of crime, which includes tracking the movements of participants and their networks. The European Union Agency for Law Enforcement Cooperation (EUROPOL)[16] has a key role in the coordination and exchange of information among the EU countries. Among other security risks, it is important to mention the potential infiltration of terrorists and weapon smugglers. The European Union harmonized its national legislations in the fight against organized crime, a major international problem.

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[16]Europol. https://www.europol.europa.eu/about-europol. (4 April 2024)

Human trafficking is also related to slavery in the legislative aspect and, although there are certain differences, in both cases, according to Derenčinović (2010), it is an act aimed at exploiting another person and, as a result, violating their right to freedom and dignity. In this context, there are still numerous legal and other issues that should be mentioned, such as non-prosecution of human trafficking victims (in this case, migrants) whose actions have the characteristics of a criminal offense in connection with their victimization, or arise from it. However, these particular issues go beyond the scope of this paper. The challenges of migrant integration can be complex and diverse, depending on the context and differences between each country. Migrants are faced with obstacles in language learning and adapting to a new culture. Lack of language skills can make communication, employment and social interaction difficult. Discrimination and stigmatization is commonly based on ethnicity, religion or appearance. Migrants often feel isolated due to not having their family and friends in a new country, and the lack of social support has s negative effect on their mental health. The European Commission adopted an action plan for integration and inclusion for the period 2021-2027 with the aim of promoting the inclusion of migrants in all social spheres. This goal can be achieved with joint participation of migrants, local communities, employers, civil society and state authorities. The plan emphasizes the importance of targeted support during all stages of integration[17]. European statistics provides insight into various aspects of migration itself and its impact on economic trends in the EU countries. The European Union currently has 446.7 million inhabitants, of which 23.8 million third-country nationals. Likewise, 38 million EU citizens were born outside Europe. Currently, there are 193.5 million citizens on the EU labour market aged 20 to 64, out of which 9.93 million workers who are third-country nationals[18]. The collected data indicates the importance of migration and the need to adapt policies to ensure sustainable integration and balance between economic benefits and social challenges.

5. CONCLUSION

Illegal migration in the European Union has different aspects, with context-dependent positive and negative aspects. Labour resulting from illegal migration supports the economic growth of EU member states and their competitiveness, especially in sectors with a shortage of skilled labour force. The economy of the European Union represents a significant part of the global economy and acts as a single market of 27 countries. Migrants often accept jobs that are not filled by the local workforce and thereby help maintain productivity and economic growth in their countries of employment. Migration enriches societies with different cultures, languages and customs, contributing to cultural diversity and mutual understanding. New ideas, skills and technologies drive innovation and progress in different areas of society. On the other hand, illegal migration also results in illegal activities, making migration in certain EU countries difficult to monitor and control. This leads to safety issues, the emergence of organized crime and other risks, and the collapse of the value system of society, as well as political extremism with increased tension among the local population, especially if they feel threatened. It also creates additional state costs such as health care, education and social services. Therefore, the management of illegal migrations requires a balanced approach that takes into account both the advantages and disadvantages of the implementation of certain procedures and the incorporation of certain institutes into the international and European legal system. The EU countries should undertake coordinated actions in certain areas of conducting their own policies.

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[17] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Action plan on Integration and Inclusion 2021-2027. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0758.
[18] European Commission. Statistics on migration to Europe. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/promoting-our-european-way-life/statistics-migration-europe_hr. (4 April 2024)

Although measures taken by the EU and its member states have reduced the overall flow of illegal migration in recent years, certain smuggling routes continue to raise serious concern. Migration movements are a constant feature of human history. Nowadays, people migrate not only because of serious threats to their lives, but also in search of better living conditions, security and new economic opportunities. One of the main goals of the European Union is a comprehensive immigration policy focused on the future and based on solidarity. The immigration policy seeks to establish a balanced approach to solving the issue of legal and illegal migration. However, the real economic challenge in implementing such policies is the financial aspect of implementation. National governments have the primary responsibility for creating and implementing policies for the integration of migrants into society. However, the EU plays a key role in supporting member states with funding, developing guidelines and fostering relevant partnerships. The new legislative acts, which are yet to enter into force, will show whether a balance has been found between the satisfactory control of the EU territorial entry of persons and migrant protection.

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THE MULTIFACETED IMPACT OF TEAM LEADERS' COMMUNICATION IN EDUCATIONAL INSTITUTIONS

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ABSTRACT

This paper addresses internal organizational and leadership communication from the perspective of 25 employees working in public and church-run educational and pedagogical institutions in Hungary. The corresponding research analyses guided reports that were written by the employees about their workplace and focused on different aspects of organisational culture, and as part of it, on organizational and leadership communication. The goal of the paper is to give a picture of communication processes in the educational context and identify their effect on the organizations' climate and related dimensions as they are perceived by their employees. The paper highlights areas like listening actively and being honest and transparent when communicating or having a growth mindset. The issue of communication and conflict resolution within teams is also discussed as well as the role of school and team leaders in these processes. Based on the review of management communication literature the study looks at areas that are rarely linked to education contexts. The content analysis of guided reports compared to questionnaires as a method gives a deeper understanding of the underlying relationships between the dimensions investigated in the study. The paper concludes that the quality of institutional communication primarily depends on institutional and team leaders, and open communication results in a healthy workplace climate and higher productivity. As leaders play a key role, they need special training or coaching to be able to meet the communication needs of the employees, which has become urgent in Hungary, where the educational system has been losing its employees.
Keywords: *internal organizational communication, leadership communication, educational institutions, school climate*

1. INTRODUCTION

Educational and pedagogical institutions have a rigid hierarchical structure. They are authoritarian, formalised and well-regulated with frequent controls (Serfőző, 2005). The formal information system itself is characterised by top-down direction, from school management to teachers and to students (Singer, 2009). The communication structure is adapted to the organisational structure, which in turn influences the behaviour of staff, so a system based on rigid rules can be an obstacle to the free flow of information. In Hungary, little research has been carried out into the communication system of educational institutions. Most of the research has focused on school climate and how it is related to other issues, like the relationship between school climate and attachment (Széll *et al.*, 2020) or school climate and burnout (Fináncz & Csima, 2020). The present research relates climate to institutional communication and identifies other areas that are influenced by communication and have a strong effect on the organisational culture perceived by the employees. The literature reviewed has been selected to give a comprehensive picture of the actors and arenas of workplace communication. Another novelty of the research is the research tool. The guided report allows the free flow of ideas but still gives the focal points to write about. Unlike questionnaires, which are a common tool to get feedback from employees, there are no statements whose validity has to be judged by the respondents, so they are not influenced in any way. This method gives a deeper insight into the life of the institutions investigated and makes the present research unique.

2. RESEARCH BACKGROUND
2.1. Internal communication in organizations

Internal communication in organizations has extensive, complex effects on organizations and their employees (Verčič and Men, 2023). It forms a system that enables communicative interactions between employees and fosters internal organizational relationships (Men and Stacks, 2014). Mazzei (2021) views internal communication as an intangible resource in its own right. Internal communication has also been found to have a positive effect on employee performance in an organizational context (Lemon, 2019). A fundamental characteristic of good internal communication is transparency. An organization that communicates transparently makes "available all legally releasable information to employees whether positive or negative in nature" (Men, 2014, p.260). Men and Stacks (2014) summarize the three characteristics of transparent communication, which are substantiality, accountability and participation. Substantiality refers to organizations providing employees with accurate, timely, balanced and clear information (Heide and Simonsson, 2014). Accountability refers to the responsibility of organizations to report on organizational activities and policies in an objective, balanced way, whether this information is positive or negative (Rawlins, 2009). Providing such information enables employees to understand organizational actions and decisions and to believe that the organization is telling the truth (Gower, 2006). Finally, ensuring participation means involving stakeholders, in this case employees, in determining the information they need, which enables organizations to make accurate decisions (Rawlins, 2009). Ultimately, transparency is the opposite of secrecy and is characterized by openness (Rawlins, 2009). Communicative openness is defined as the ease of conversation and the degree of understanding achieved in the conversation (Ayoko, 2007) and has been treated in many studies as synonymous with listening, honesty, trust, support, and similar concepts (Rogers, 1987). Table 1 shows the positive effects of transparent, open, and meaningful internal communication.

Features of internal communication	Effects
transparency	good internal relationships (Jiang & Men, 2017)
	increased employee trust (Yue et al., 2019)
	trust and belief in the organization's truthfulness (Gower, 2006)
openness	better employee integration into the organization (Al-Omari et al., 2008)
meaningfulness	implementation of strategic behaviour by employees (Arif et al., 2023)

Table 1: Features of internal communication practices and their effects

2.2. Internal leadership communication

Transparent and open internal communication depends to a large extent on the communication practices and culture of the manager. These practices influence employees' impressions of the organization's communication and affect their own communication as well. Active listening is one of the most frequently discussed and effective methods of maintaining open communication. Bostrom (2011, p.28) conceptualizes listening as a "process of interpreting the communicative behavior of others in the effort to understand the meaning and implications of that behavior". Yip and Fisher (2022) note that the dominant approach to listening in organizational research is perceived listening, which emphasizes the speaker's perspective on the quality of listening. From the listener's perspective, good, attentive listening requires, first of all, that the listener is authentic and honest and has the right resources of attention. The listener needs to be supported by targeted training (Kluger and Itzchakov, 2022), as listening is a learned skill (London et al., 2023).

In addition to the benefits of active listening, summarised in Table 2, there is the phenomenon of the so-called "listening paradox" (Yip and Fischer, 2022, p.672), which highlights the fact that good listening benefits the speaker but can be emotionally and cognitively costly for the listener. Despite this asymmetry, it is worthwhile for a leader to approach colleagues with an attentive, active listening attitude.

Communication practice of the leader	Effects
active listening	better relationships, increased sense of belonging and trust (Kluger & Itzchakov, 2022)
	increased knowledge and performance, greater creativity, more positive attitudes and higher levels of well-being (Kluger & Itzchakov, 2022)
	attention, understanding, and goodwill toward the speaker (Castro et al., 2016)
	understanding the perspectives of employees (Itzchakov, 2020)
	social-emotional support to and understanding of employees (Kriz et al., 2021)
	more relaxed employees in performance appraisals (McComb & Simpson, 2014)
	less defensive responses from employees (Itzchakov & Kluger, 2018)

Table 2: Active listening and its effects

Active listening by managers is especially important during performance evaluation. Fear of negative evaluation has a negative effect on performance and leads to individual group members not fully participating in work (Brodbeck and Frey, 1999). Here it is worth mentioning the theory developed by Carol Dweck in the 1970s, which distinguishes growth and fixed mindsets in the light of reactions to challenges and failures. According to the growth perspective, personal characteristics can be changed and developed (Dweck *et al*., 1995). These qualities may include a person's communication skills. As a result of a curious, open and ready-to-learn attitude, the individual can become a more effective communicator.

2.3. Effective teamwork and team communication

A common feature of different types of educational institutions is that staff work in smaller or larger groups, and different teams - permanent or occasional, organized for specific projects - work together. According to the literature summarised in Table 3, the success of teams depends on several factors, like effective communication, the quality vs. quantity of communication, the familiarity between team members, and the existence of shared mental models. McComb and Simpson (2014) define shared mental models as individually held knowledge structures that help team members work together.

Features of successful teams	Effects
effective communication	high performance (Entin et al., 1994)
	development of shared mental models (Westli et al., 2010)
quality (vs. quantity) of communication	better performance due to relevant information and minimized noise (Marlow et al., 2018)
familiarity between members	more positive effect of communication on performance (Marlow et al., 2018)
shared mental models	positive team processes and better performance (Mathieu et al., 2000)
	more effective teamwork due to clarified roles and responsibilities, established way of information flow, and preferred interactions (Goff-Dupont, 2010)
	smooth cooperation (Goff-Dupont, 2010)
	less frequent communication problems (Westli et al., 2010)

Table 3: Features of successful teams and their effects on the quality of teamwork

Godemann (2011), referring to other literature, highlights five factors that influence group processes and knowledge exchange in relation to team communication.

The first is the size of the group, which is ideally between 4 and 12 people. The second factor is the degree of experience of working together, while the differences in the status of group members are listed as the third factor. In teams where representatives of different disciplines work together, such as project teams, following the hierarchy of disciplines, some team members may become dominant and attribute leadership roles to themselves. The fourth factor is the degree of familiarity between team members, and the fifth one is the management and communication skills of leaders, which is a key variable in the problem-solving ability of an inter- or transdisciplinary team.

2.4. School climate and the role of management

Talking about school climate, Yassur et al. (2001) confirmed that the only meaningful, significant factor affecting teacher satisfaction is the organizational climate. Teacher satisfaction increases when the organizational climate changes in a positive direction. Her study also demonstrates that school effectiveness scores increase as the organizational climate improves. The change is more predominant in schools with relationship-oriented than task-oriented management. Halász (1988), who devised a questionnaire to analyse the components of school climate, says that school climate is a persistent, complex feature of the organizational environment that is perceived by individuals and indirectly influences their actions. He narrowed down the concept of climate to the characteristics manifested at the level of the teaching staff as a group and the leader (see below). This approach of investigating school climate is typical in the Hungarian context (Balázs, 2014). In her analysis using the climate test of Halász (1988), Horváth (2009) focused on school size and location. The results show that rural schools and schools with smaller staff sizes have a clearly more positive climate, which is reflected in significant differences in the dimensions of democratic leadership style, social informality and staff cohesiveness. Dimensions of positive school climate from two different perspectives are listed below. According to Marková (2008) the school climate is positive if the leader:

- uses democratic leadership methods,
- exercises constructive criticism,
- is communicative,
- is innovative,
- caters for the needs of teachers (Marková, 2008).

Halász (1988) takes another perspective when says, that positive school climate is characterized by:

- effectiveness of leadership,
- democratism,
- social informality,
- unity and activity of the teaching staff,
- intimate relationships,
- making efforts to deal with the differences between generations,
- a staff having good relationships outside the school (Halász, 1988).

3. RESEARCH AND METHODS

The research uses primary and secondary sources and applies mixed methodology, both qualitative and quantitative. The primary data come from the content analysis of 25 reports written by educational specialists and teachers about the organizational culture of their own institutions. The number of the institutions examined was also 25 as each report analysed a different workplace.

The institutions included kindergartens, primary, secondary and K-12 schools, and specialized pedagogical services. The kindergartens and schools were either public or church-run institutions, located in villages, towns or in the capital, and of varying sizes, while the specialized teaching services were large, urban institutions operated by the state, which is typical of them in Hungary. Although the sample can by no means be called representative, a wide range of organizations and locations are included in the research. First, based on the literature review as a secondary source, I defined four themes and their related keywords (46), and identified them in the reports. The four themes were 1) types and characteristics of internal and leadership communication, 2) teams, cooperation and conflict, 3) workplace climate, and 4) efficiency and performance. The keywords named the topics or described their positive features, and were between 7 and 12 per theme, while the first dimension, communication was divided into two sub-themes. I only counted the keywords when they were used in connection with the themes investigated. By identifying the total number of keywords and the frequency of their appearance (that is, the number of the reports they were mentioned in) by themes, it was possible to determine the salience of the themes and their relative importance compared to each other. This quantitative analysis was followed by a qualitative one in the second phase of the research, when the corresponding passages were collected from the individual reports. The aim was to identify the links between the themes in order to see what effects they have on each other.

4. RESULTS

The result of the research, on one hand, is a collection of good practices in organizational, leadership, and team communication and teamwork that can lead to a healthy workplace climate. On the other hand, the interconnection of the themes in the reports shows the dynamics and the patterns of factors that play a key role in employee satisfaction related to communication in the investigated institutions.

4.1. Communication

First, I will summarise the results of the keyword search related to communication. In the context of internal communication, of which the principal and team leaders are the main embodiment and the primary location of which is the professional groups and teams, I identified the terms presented in Table 4. The frequency and quantity of these terms in the reports give an idea of how employees perceive communication within the organisation.

Phrases	Frequency of keywords	Quantity of keywords
Types of communication		
communication, communicating	18	43
information, informing	11	22
report, reporting	5	5
instruct, instructing	4	8
listen, listening	2	2
giving feedback, feedback	4	6
Total (12):		86
Quality of communication		
straight, open, openness	6	9
transparent, transparency	1	1
bilateral, reciprocal	1	1
lively, intense	2	2
Total (9):		13

Table 4: Occurrence of keywords related to types and quality of communication

Based on the data, communication, its different types and characteristics was the second theme by importance. The number of expressions referring to good communication practices, such as "active listening" and "giving feedback", was the lowest (8 items). It shows that the notion of active or good listening was not associated with good communication by the participants. The number of keywords describing positive communication was a bit higher (13 items). Other positive descriptions included words like "lively", "honest", "straightforward", "fast", "efficient", and "excellent". Concerning the keywords, "open" was the most frequent one, as 25 % of the reports mentioned it. At the same time, there was a higher number of phrases describing bad communication or the lack of it (17 items) or insufficient flow of information (13 items).

4.2. Teamwork, cooperation, conflict

The next category of keywords examined was the terms related to teamwork, cooperation and conflict, which are summarised in Table 5.

Phrases	Frequency of keywords	Quantity of keywords
professional team, group, team	16	59
contact	9	23
cooperation, collaboration	12	18
conflict, conflict management	12	33
joint, together	9	12
Total (10):		145

Table 5: Occurrence of keywords related to cooperation, teamwork and conflict

As Table 5 shows, it was the most prominent topic mentioned by the employees. The total number of keywords here shows that it is crucial to the employees how their workplace teams function. The frequency of mentions of the words "conflict" and "conflict management" is also significant, with 48% of reports containing either word, and the total number of mentions is also relatively high. An examination of the context of these keywords showed that the reports referred mainly to shortcomings or difficulties. Typical formulations (9 items) were like: "conflicts are swept under the carpet", "hushed up", 2not acknowledged", "avoided", "not discussed" or "badly dealt with". Concerning cooperation, a quarter of the mentions pointed to a lack of joint work. Positive descriptions of teams included words like "cohesive", "cooperative", "supportive", "harmonious", "empathetic", "helpful", "inclusive", and "open". As further results will show, good relationships within teams are considered the basis for a good working atmosphere. According to the reports, solving conflicts should be paid more attention in these institutions. Under this theme I also examined whether there were any references to the existence of shared mental models in the reports. One report, for example, revealed that the colleagues in their professional team were moving in the same direction, there was a commonality of views and at the same time there was a lively communication, which had been supported by special training. The data support a clear link between a shared mental model, efficient cooperation within the team and satisfaction with communication and they are in line with the related research by Goff-Dupont (2010) and Westli *et al*. (2010).

4.3. Efficiency and performance

The third theme by importance was efficiency and performance, for which the results are summarised in Table 6.

Phrases	Frequency of keywords	Quantity of keywords
effective, efficiency	11	20
performance, performance review	10	19
innovation, innovative	10	21
idea	8	10
Total (10):		70

Table 6: Occurrence of keywords related to efficiency, performance and innovation

The focus on performance orientation, innovation, and renewal in educational and pedagogical institutions was evident; only three did not deal with the topic at all. Innovation was predominantly presented in an absolutely positive context, seen as necessary, and encouraged by employees, who were open to it. The analysis shows that the institutions were the most consistent in this area, because managements strive for high performance and a unique image of their school as competition has been increasing. In relation to performance, and more specifically its evaluation, the question of reward was also raised in the reports. As there is no resource for financial benefits in public institutions, praise and recognition from management is clearly valued. In addition, staff satisfaction is also enhanced by a supportive and helpful working atmosphere and a team working towards the same goals, based on similar principles and good personal relations.

4.4. Climate
The last theme by importance according to the analysis of the reports was workplace climate. Table 7 summarises the quantifiable results of this theme.

Phrases	Frequency of keywords	Quantity of keywords
climate, atmosphere, mood	11	19
well-being	1	1
burnout	1	1
trust	4	5
attention	6	8
democratic	5	6
Total (8):		40

Table 7: Occurrence of keywords related to the workplace climate

In this dimension, too, leadership communication plays a key role, including attention and dealing with problems. Relatively few comments were made by workers about the climate, and a significant proportion of these were references to a poor atmosphere. The words "well-being" and "burnout" were equally under-represented in the sample, meaning that neither extreme was found to be typical by employees. At the same time, the frequency of other descriptors of a good atmosphere was also negligible. The area that employees most closely associated with climate was the leader's flexible, democratic, attentive, and supportive management style, which in all cases went hand in hand with open communication and/or appropriate management of conflicts. Positive comments on the climate included the words "family-like" and "accepting". A further characteristic of a good atmosphere was the cultivation of personal relationships. These results confirm the literature cited above (Marková, 2008) on the prominent role of leaders in creating a good school climate.

4.5. Summary of the keyword analysis of the four themes
Table 8 gives an overview of the four themes and provides the opportunity to compare the results of the keyword analysis. The last column of the table showing the average number of keywords per report points to a different ranking of the themes. According to that, efficiency and performance is the second most important theme after teams, cooperation and conflict and

it is followed by the types of communication and workplace climate. This order highlights even more the performance-orientation of education in Hungary from pre-primary to secondary levels, and shows how strongly it is related to the other dimensions in the educational context.

Themes (number of keywords in brackets)	Total number of keywords	Everage number of keywords per report
Teams, cooperation, conflict (10)	145	14.5
Communication (21)	99	4.7
Types (12)	86	7.2
Characteristics (9)	13	1.4
Efficiency and performance (7)	70	10
Workplace climate (8)	40	5
Total (46)	354	7.7

Table 8: Comparison of the keywords by themes

5. DISCUSSION

The research found links between the type of institution and perceptions of organizational climate, including communication. According to the reports, equal proportions of primary school and special education staff were critical and positive of their institution on the given dimensions. However, the dimensions examined in the research were rated positively in all nursery schools and in all church-run institutions teaching from nursery to upper secondary school as well as in the majority of church-run institutions (4 out of 5). The same dimensions, on the other hand, tended to be rated negatively by staff in all secondary vocational schools and pedagogical institutions, all of them belonging to the public educational sector. These findings require further investigations into these types of schools and institutions. The present study found that the location and size of institutions did not affect the employees' perceptions of the different dimensions of institutional processes, which contradicts Horváth's (2009) findings on the relationship between school climate, school size, and location. Another finding of the research is related to increasing workload and its relation to communication: according to the reports with increased workload the focus shifted from relationships to tasks, leading to a deterioration in communication and team performance. This finding confirms Yassur et al.'s (2001) claim, which showed the positive effect of good relationships on effectiveness in institutions with relationship-oriented leaders. All reports emphasized that these institutions were highly rule-based and hierarchical and that such an organizational culture is rarely conducive to the development and maintenance of personal relationships. In accordance with the literature (Entin et al., 1994), the reports linked high performance to well-functioning teams. The reports also showed that effectiveness suffers at group and institutional levels when communication does not facilitate the necessary cooperation of employees. The content analysis of the theme efficiency, performance and innovation brought up the topic of performance recognition. It is clear from the reports that the lack or shortcomings of it can be compensated and staff satisfaction can be increased if teams have a shared mental model, the institution is characterised by good internal communication or there is a healthy workplace climate. Furthermore, the reports underlined the strong link between the quality of personal relationships and the perception of leadership communication. Of the 25 reports, 10 did not discuss the role of managers in relation to the staff, 9 reports hold positive and 7 reports demonstrated negative opinions, but in all cases, there was a direct correlation between the two assessments. If the leader of the institution or of a team demonstrates open communication and facilitates the flow of information, it enables staff to function as a team well despite other negative influences. The findings clearly highlight the role of leaders in creating and maintaining open communication in the workplace. One employee reported on the positive effects of a communication training which the colleagues had taken part in, another wrote about

the positive change in workplace climate after they had got a new leader, who could facilitate the flow of information much better. The proportion and number of keywords related to the dimension have pointed to a specific problem area. Although the employees expressed their need to have leaders with better communication skills, hardly anyone mentioned listening or active listening as an important technique of good communication. This data may highlight that they themselves do not have sufficient information about the importance and impact of this technique in the process of good communication. Improving communication skills would be of great importance for the staff of educational and pedagogical institutions and could help them become more conscious communicators, and expect this from their bosses as well. Employees who analysed their institution's communication in more detail and gave more examples were more critical than complimentary. Several professionals voiced their concerns over insufficient workplace communication and conflict management and blamed their leaders for bad climate, demotivated staff or high turnover. Some employees clearly expressed the need for workplace training in conflict management, conflict resolution and social competences. One employee wrote about the long-lasting effect of the previous principal on the performance of staff, who still do not express their opinion and do not dare to take a risk.

6. CONCLUSION

The research presented in this paper confirms that there is a strong relationship between the leader's communicative practices and a positive workplace climate, good personal relationships and high performance of staff in the educational and pedagogical institutions investigated. However, more research is needed to learn about the good practices of the institutions the employees of which experienced better workplace climate and communication practices and were generally much more positive, satisfied and happy workers than their colleagues in other institutions. It is crucial to have more empirical data from this field in Hungary, because the country is facing an educational crisis and has been losing its teachers at primary and secondary levels of education recently. According to the present research social connectedness through open communication, cooperation, conflict management and trust, and attentive, democratic leaders can boost innovation and performance in teams and can be the factors that might counterbalance other negative effects that have led to the present situation in educational and pedagogical institutions in Hungary. Most of these factors can be influenced by and depend on school and team leaders, so training and education should focus on them, and finding good practices and models can be the part of this preparation. Doing research into the separate dimensions or their relationships with staff well-being might help training institutions and educational policy makers choose the right training programs for leaders.

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NAVIGATING LEADER-SUBORDINATE DYNAMICS IN THE HYBRID CORPORATE ENVIRONMENT: A COMPREHENSIVE REVIEW

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ABSTRACT

This paper critically examines the multifaceted aspects of leader-subordinate relationships within the evolving landscape of the hybrid corporate environment. With a focus on the intersectionality of leadership functions, employee wellbeing, digital leadership, trust, and engagement, this review synthesizes existing literature to illuminate key challenges and opportunities inherent in the hybrid work paradigm. Our study aims to investigate how leaders adapt to change, navigate through remote work challenges, and facilitate cohesive team dynamics in a dispersed, technology-driven workspace. The paper critically analyzes the influence of digital leadership on leader-subordinate interactions, emphasizing the requisite skills and qualities needed for effective leadership in a digital landscape. Additionally, we scrutinize the impact of leader-subordinate discussions on employee wellbeing, considering the vital role of leaders in promoting work-life integration, recognizing individual contributions, and fostering a healthy work environment. Central to our exploration is the examination of trust-building mechanisms, recognizing trust as a potential factor to successful leader-subordinate relationships. This requires our literature review to also address the crucial issue of employee engagement, investigating strategies to sustain engagement levels in a hybrid setup through effective communication, feedback mechanisms, and recognition efforts. In conclusion, this comprehensive review underscores the critical importance of leader-subordinate interactions, particularly one-to-one discussions, as pivotal tools for fostering sustained engagement within the hybrid corporate environment. As a next step, we advocate for a focused analysis of the dynamics within these individualized discussions, recognizing their potential to catalyze enhanced engagement, trust, and overall success in the evolving landscape of hybrid work. This targeted examination promises to offer nuanced insights and actionable strategies for organizations committed to optimizing leader-subordinate relationships in the dynamic landscape of hybrid work.
Keywords: Digital leadership, Employee wellbeing, Hybrid working environment, Leader-subordinate relationship, Trust

1. INTRODUCTION

The landscape of corporate work has undergone unprecedented transformations in recent years, propelled by global changes such as the IT boom, geopolitical shifts, and the disruptive force of the COVID-19 pandemic. Central to this evolution is the emergence of the hybrid workplace, a dynamic blend of remote and in-office work that demands a reevaluation of traditional leadership paradigms. As organizations strive to adapt, the role of leaders in fostering meaningful connections with their subordinates becomes paramount, especially within the context of one-to-one discussions. This paper seeks to explore the intricate interplay of leader-subordinate relationships within the hybrid corporate environment. We will delve into the multifaceted challenges faced by leaders in the hybrid realm, exploring their roles in adapting to change, navigating remote work dynamics, and cultivating cohesive team dynamics amid technological advancements. Our goal is to critically analyze the influence of digital leadership on these interactions and underscore the importance of employee wellbeing as a cornerstone of successful leader-subordinate relationships.

While existing literature offers valuable insights into leadership functions, digital leadership, employee wellbeing, trust-building mechanisms and strategies for sustaining engagement, there remains a notable gap— a paucity of research that delves into the characteristics of leader-subordinate discussions and their impact on employee engagement. This paper contends that these individualized interactions serve as pivotal tools in the leader's arsenal, possessing the potential to significantly impact trust, engagement, and overall team success in the hybrid setup. In essence, this study serves as a clarion call, advocating for a deeper, more nuanced exploration of leader-subordinate relationships, with a particular emphasis on the deterministic role of one-to-one discussions. The following is a visual aid for understanding the interrelated concepts that are covered in my current literature review.
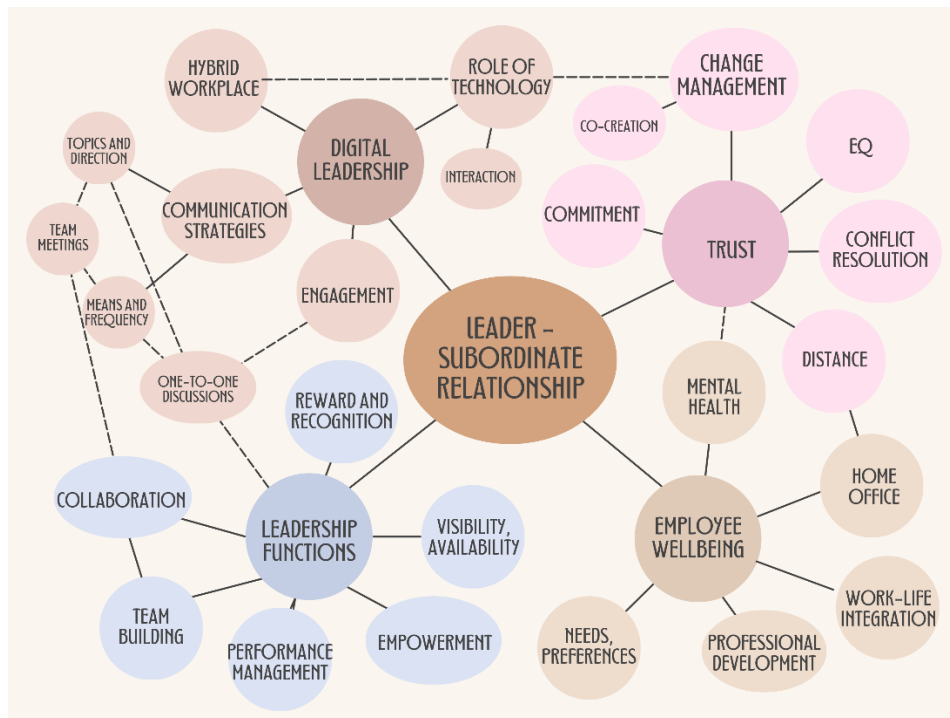
Figure 1: Conceptual map of critical literature review
(Source: Author's own elaboration)

2. LEADERSHIP FUNCTIONS IN A HYBRID WORKPLACE

As Sheryl Sandberg, former COO of Facebook cites Harvard MBA professor Moon in her book 'Lean in' (2013), "leadership is about making others better as a result of your presence and making sure that impact lasts in your absence" (p.115). While she was not even talking about hybrid teams, she referred to an important point by saying that a leader is measured by the strength of its team and the performance they can deliver. Several leadership behaviors are examined by various researchers to test their applicability either in face-to-face or within virtual teams. Agreeing with Aroles et al. (2021) our time is characterized by work that is not disappearing but rather resurfacing in a fresh guise, as if undergoing a process of self-reinvention. As some formal forms of labour are vanishing, work is also becoming more invisible as it spreads across all social settings. The division and proliferation of labour, together with the expansion and complexity of work methods. Team leadership may be conceptualized as acts made by one or more team members to guarantee that the team's performance goals are addressed. Jarvenpaa and Tanriverdi (2003) claim that the responsibility of organizational leadership is to address gaps in the structure of the organization. The leader's influencing behaviors directs the activities of the organization's long-term survival.

When aimed towards change, influence behaviors supersede compliance and guidance supplied by the organizational structure. In instances when the structure fails to give proper guidance, leadership may supplement the framework. The results of the extensive research on team dynamics by Eubanks et al.(2016) are indicating the significance of task-oriented behaviour in virtual settings and confirming previous findings about the value of task-oriented leadership behaviour in a broader sense. The authors claim that individuals may be assigned specific tasks within a virtual team, furthermore, that the existence of particular combinations of roles within a hybrid team is linked to greater performance. The review of Aroles et al. (2021) recalls the experiences of remote workers who have adopted individualized work methods that prioritize outcomes and efficiency, leading to a sense of disconnectedness and a loss of prior work connections. However, they also engage in a process of re-establishing and controlling their shared identity, as workers actively create alternative definitions to maintain their relationships and communities, avoiding inactivity. The key feature of this re-regulation process is that workers enact management tactics, rather than waiting for management to have those imposed upon them. Some remote workers also seek alternative workspaces within communities to recreate social connections and collaborative environments. These development highlight the developing trend of a shared leadership role within the hybrid corporate environment. As D'Innocenzo et al. (2021) recall, shared leadership is characterized by the distribution of informal leadership roles and influence among team members, with reciprocal and mutually reinforcing leadership and followership. Research shows that shared leadership is positively correlated both with performance and team trust.

3. DIGITAL LEADERSHIP: NECESSITIES AND CHALLENGES

Most organizational leaders would agree with Leonardelli (2022) in saying that "leading remotely has historically faced resistance" (p.2.). The basic concepts that are hindered without co-location are trust, identity, cooperation, respect, kindness, and acceptance, just to name a few. The two biggest challenges identified by Reyes, Luna and Salas (2021) are the difficulty to establish accountability and the tendency of people feeling disconnected from the organization when working from home for long. In another study, Feitosa and Salas (2021) recite four major items for a leader to focus on within today's virtual teams: to monitor trust, to harvest contact points, to support psychological safety and to reflect upon and provide feedback on teamwork. As it can easily be seen, researchers tackle the issue from a slightly different viewpoint though they agree on the very basics: a hybrid team needs to work on creating and maintaining trust and look for ways to utilize all their efforts let them be individual or cooperation facilitated. Effective digital cooperation in dispersed teams requires team members' proficiency in self-organization, self-care, and mastery of digital technologies. In their paper, Späth et al. (2021) argue that building organizational and technological standards and personal, team, and leadership abilities are crucial. Technologies that facilitate collaboration and task completion can enhance cooperation. Distributed teams can benefit from collaboration technologies used by on-site teams, but the variety of tools and individual preferences may pose challenges. Digital technologies and collaboration platforms enhance team size, complexity, and dispersion, making the leadership function an increasingly vital one. Team effectiveness is strongly correlated with shared mental models that organize information and understanding about the team's mission, work, and collaboration. Shared mental models are formed by the team members' collective behavior expectations. As a virtual network structure boosts the company's general ability to deal with information and make quick choices, one may assume that leaders in such organizations have fewer leadership gaps to fill. Distributing responsibility and leadership functions across multiple members of the virtual team is more effective (D'Innocenzo et al., 2021; Lungeanu et al., 2022) as leading in a hybrid environment requires more time and effort from a single individual than in face-to-face teams.

Chamakiotis et al. (2021) also suggest that virtual teams can reach higher performance with additional, informal intra-team leaders that help the official leader to listen to the team members while providing on-the-job support. Some authors argue though that a single leader can reach agreement more quickly, leaves grounds for less conflict and can better foster knowledge sharing within the team (D'Innocenzo et al., 2021). Culture defines how members of an organization work together based on its values and beliefs (Kurucz & Potháczky Rácz, 2018). Working from home unavoidably weakens workers' connections to the corporate culture's values, beliefs, and norms, since cultures are formed via interactions with individuals in that context and the visible reminders of cultural values found in an office's signs, symbols, and artifacts. In a hybrid context, re-establishing and updating the work culture is a leadership priority as also emphasized by Newman and Ford (2021). A strong culture may assist virtual workers replace for the loss of in-person interactions and serve as a driver for excellent communications across and within the team. Newman and Ford (2021) found that the lack of regular informal contact requires executives to provide their virtual workforce with new communication tools and approaches. Flavián et al. (2022) claims that the effectiveness of leading a virtual team depends on the leader's ability to evaluate subordinates' personalities and delegate tasks appropriately. Specifically, it was observed that the association between neuroticism and trust is weakened due to negative reinforcement. To minimize this, virtual team leaders should allocate more in-person meetings and increase interaction with emotionally unstable subordinates. Several research claim that leaders in charge of remote personnel may have to work more to connect with and address the needs of their employees than their peers in charge of an in-person workforce (Larson & DeChurch, 2020; Leonardelli, 2022). Research conducted by Kurucz (2018) clearly shows that managers consider the areas of communication, work organization, training, mentoring, and IT skills development to be of great importance in the digital transition. Digital leadership skills are recognized, but there is limited exploration of how these skills manifest in one-to-one interactions, where leaders must balance digital proficiency with personal connection and emotional intelligence.

4. NURTURING EMPLOYEE WELLBEING IN A HYBRID SETTING

Considering respect in organizations and the role leaders play in overseeing corporate performance, Rudolph et al. (2021) supply us with a timeline of the development of leadership approaches over the past century. Even though the "New Leader" concept has been formulated in the 1980s and the "Caring Leadership" started to take roots in the 1990s, the intensive need for growth and profit maximization took over the 2000s with leaders build ing on appraisal and vertical respect. OECD (2020) has recently called for a 'redefining' of the growth narrative to put the well-being of people at the centre of our efforts. Harney and Collings (2021) state that disruptive immigration reforms have altered the mechanics of talent accessibility, pushing firms to rethink retention methods. In addition, millennials, and Gen Z workforce account for a growing proportion of today's global workforce raising highly different issues than the aging population of seasoned professionals (Deloitte, 2016). Since talent platforms are increasingly being utilized to connect contractors with open positions, some scholars (e.g., Dundon and Rafferty, 2018) assert that the structure of the global workforce is fundamentally changing and that it is moving "beyond employment." These alternate platforms for employment offer more flexibility in the workplace, a better work-life balance, and the chance to engage in more fulfilling work. However, important issues like sustainable careers and personal or professional identity continue to be raised. It seems that there has been a considerable transfer of risk and uncertainty from the employer to the workforce. In their study about the impact of flexible work arrangements on work-family conflicts Shockley and Allen (2007) found that the level of family responsibilities that workers have plays a significant role in determining the extent to which flexible work arrangements impact work-family conflict.

Some family-related activities require daytime attention (e.g., doctors appointment, PTA meetings) that are easier to address if working in a (partly) remote setting therefore members of hybrid teams may experience less work-family conflicts than face-to-face ones. In their systematic literature review, Athanasiadou and Theriou (2021) state that establishing clear boundaries between family and work is linked to improved work-life balance and enhanced well-being, which is supported by flexibility. They also claim that employees who find social engagement to be emotionally demanding and unwanted tend to gain from engaging in part-time telework, as it may help to reduce the detrimental impact of excessive engagement by providing a brief respite or mini-break. A study by Prodanova and Kocarev (2021) found that employees' anxiety of infocommunication tools and smartphone addiction lead to job interruptions and negatively affect job efficacy. Hybrid working arrangements require employees to have confidence in implementing infocommunication tools in their everyday working routines, which can result in disrupted and troubled tasks. The study concluded that addressing both distraction and efficacy elements is crucial for achieving adequate job performance in work-from-home environments which puts additional burden on the leaders of hybrid teams. Not to forget the wellbeing of leaders themselves, Sharma et al. (2016) offer a five-step approach to proactively cope with stressors emerging in hybrid working environments, these are: build resources, screen the environment, execute initial appraisal, activate cognitive and behavioral functions to prevent a suspected stressor and gather feedback on potentially required additional coping efforts. These are not only necessary to maintain the leader's mental health but also to become and stay an authentic leader that bears the trust of their team.

5. BUILDING TRUST: A CORNERSTONE OF LEADER-SUBORDINATE RELATIONSHIPS

In a team context, trust is based on the assumption that others will behave as expected. Building trust through interactions is crucial in dispersed situations. An extensive research run by Flavián et al. (2022) revealed a positive correlation between extroverted persons and their inclination to trust their leaders. Extroverted employees play a crucial role in virtual work teams, since they are essential for achieving high performance, facilitating engagement, and promoting effective cooperation. The research further discovered a favourable correlation between trust and team commitment, especially for members who are located in different geographical locations. Their research also indicated that the gender of a leader does not have an influence on how personality qualities effect trust. Sturm et al. (2021) recall that economists possess a sophisticated theoretical comprehension of the external incentive effects of power dynamics, however, it is equally crucial to consider the influence of power on internal motivation in order to organise interactions between leaders and followers in a manner that optimises efficiency. In their unusual approach, Bayraktar (2021) compares the leader-follower relationship to dancing as it involves active listening, barriers to communication, and effective feedback. The relationship is a reciprocal process, and developing cooperation and trust is vital. Dance reflects an equal emphasis on both the leader and the follower and the co-creation process is what makes a dance harmonious and elegant. Should leaders copy the rules of dancing, their efforts may result in an intuitive connection between the partners. The value produced by face-to-face encounters can only partially be replaced using technology. The study of Ayoko et al. (2012) that focused on managing emotions in virtual teams found that the team's disruptive behaviours during the storming phase (defined as a developmental phase of a team by Tuckman (1965)) indicate a challenging period of group growth as unsolicited comments during this phase can lead to interpersonal conflict. To achieve successful performance, team members should actively seek input from others with the help of their leader. This involves being receptive and humble about one's contributions, encouraging collaboration and serving as an example for others.

Requesting feedback helps transition from the storming phase to the norming phase, providing explanations and elaborations of ideas, calming emotions, and allowing individuals to apologise and improve previous interactions.

6. COMMUNICATION THAT SUSTAINS EMPLOYEE ENGAGEMENT IN A HYBRID SETUP

Regular encounters enable team members to understand the boundaries and latitude of faraway team members and foster the growth of mutual knowledge. Maynard and Gilson (2021) found that teams that meet in person on a schedule outperform those that only operate virtually. Hill et al. (2014) utilized the LMX (Leader-Member Exchange) model to explore the role of leaders in promoting psychological empowerment and positive work outcomes for employees using electronic communication and their study found a positive correlation between the two. Tzabbar and Baburaj (2019) warn leaders to maintain a shared vision and a set of goals for a team to work well. Dispersed teams find it difficult to take advantage of brainstorming sessions or conversations at the water cooler, especially in the early stages of a collaborative project. Kim and Leach (2020) also claim that leaders have a transformative role in encouraging team-buy-in for any virtual/hybrid working setup via promoting informal communication and maintaining an always-positive mindset. Hambley, O'Neill and Kline (2007) emphasize that an e-leader bears the support of an advanced information technology to exercise social influence through, in order to produce changes to attitudes, feeling, thinking and behavior on the employee' side to drive performance. There research offered valuable insights into the impacts of three distinct communication mediums. Teams participating in face-to-face interactions showed greater levels of constructive engagement compared to teams using videoconference or chat platforms. However, the defensive interactions between teams in all three mediums were similar. In addition, the teams who met face-to-face and those that spoke using videoconferencing showed more unity compared to the teams that used chat as their communication method. All three media teams exhibited comparable task performance. The data are inconclusive, but indicate that not all of these mediums are equally efficacious, therefore, it is crucial to establish strong leadership, effective interaction styles, coherence, and ultimately performance right from the beginning of a virtual team. Kim and Leach (2020) conducted a research aimed to understand how organizational structure and communication climate affect employee voice and its outcomes. It analyzed two forms of employee voice: identifiable in-person voice and anonymous digitally-enabled voice. Results showed an inverse relationship between centralization and freedom of speech, increased employee voice via anonymous social media and at work, and positive correlation between organizational change and both forms of employee voice and commitment. The study also highlighted the importance of communication climate and the effectiveness of digitally-enabled anonymous voice, and proposed employee voice as a multidimensional construct comprising content, identifiability, and modality. Virtual teams use various communication channels, including asynchronous, synchronous, one-to-one and one-to-many, presenting challenges for e-leaders in communication, coordination, and knowledge dissemination. According to Snellman (2014) in order to effectively convey intentions through technology, leaders must develop communication protocols, requiring skills like social networking, global perspective, emotional awareness, and constant availability. E-leaders must adapt to the virtual world and find ways to overcome emerging obstacles to effectively lead and collaborate. As Eisenberg and DiTomaso (2021) claim, team leaders and members must create a psychologically secure environment where all input is acknowledged and evaluated impartially. Managers can use performance assessment and one-to-one discussions to incentivize behaviors that promote psychological safety, as this can enhance communication and overall team performance.

7. DISCUSSION

The studies on hybrid workplace underscore the evolving nature of leadership roles amidst changing work dynamics. Leaders play a crucial role in fostering team effectiveness and adaptability. In hybrid settings, organizational leadership extends beyond structural norms to include adaptive influence behaviors essential for organizational survival. Task-oriented leadership behaviors are particularly vital in virtual teams, correlating with improved performance. Additionally, the emergence of shared leadership reflects a shift towards distributed influence and collaborative decision-making, enhancing both team performance and trust. Overall, understanding and adapting to these evolving leadership functions are essential for navigating the complexities of hybrid workplaces effectively. Key challenges for leaders include establishing trust, fostering accountability, and maintaining organizational culture in dispersed work settings. Leaders must prioritize technological proficiency and collaboration while navigating diverse tools and individual preferences. Understanding and accommodating subordinates' personalities are crucial for building trust and mitigating negative reinforcement. In sum, digital leadership requires a balanced approach that integrates technological acumen with interpersonal skills and proactive strategies to address the evolving needs of remote and hybrid teams. The discourse on nurturing employee wellbeing in hybrid settings highlights evolving leadership approaches, demographic shifts impacting retention strategies, and potential benefits of flexible work arrangements in reducing conflicts. Authors stress the importance of clear work-life boundaries, and highlight challenges with infocommunication tools. Overall, proactive navigation of complexities is essential to foster wellbeing in hybrid teams. Building trust in leader-subordinate relationships is vital for virtual teams. Extroverted individuals tend to trust their leaders more, nevertheless, leaders should consider both external incentives and internal motivations for efficiency. Active listening and reciprocal cooperation also play crucial roles, however, technology cannot fully replace face-to-face interactions in managing emotions and conflicts. Overall, trust is fostered through proactive leadership and effective communication in dispersed teams. Communication is essential in hybrid setups for sustaining employee engagement. In-person meetings are superior for team performance, while electronic communication fosters positive outcomes when leaders promote psychological empowerment. Maintaining a shared vision and goals is crucial, but dispersed teams struggle with informal interactions. Face-to-face interactions are most conducive to engagement, and leaders play a transformative role in fostering team buy-in through informal communication.

8. CONCLUSION

During this literature review the intention was to collect available sources on leader-subordinate relationships within the evolving landscape of the hybrid corporate environment. In conclusion, the exploration of the hybrid corporate environment reveals a significant gap between academic theory and real-world dynamics. Acknowledged global catalysts, like the IT boom and the impact of COVID-19, set the stage for profound change, yet their day-to-day impact is often underestimated. Real-world practices expose the complexity of remote work, emphasizing challenges in communication, cultural integration, stress management, and equitable performance evaluation. The lived experiences of employees reveal a profound shift in values, skillsets, and working styles, demanding adaptive leadership. Leaders must align organizational goals with the evolving values of a diverse and remote workforce, facing practical challenges in maintaining team cohesion, building trust without physical proximity, and managing stress in a dispersed workforce. One-to-one discussions emerge as crucial, reflecting a shift in their importance towards personalized approaches and trust-building. In essence, the hybrid corporate environment calls for a reevaluation of leadership approaches to reconcile theoretical narratives with practical realities. The evolving values of employees require a personalized and adaptive leadership style.

The increasing importance of one-to-one discussions underscores their pivotal role in enhancing engagement and maintaining organizational cohesion in the transforming modern workplace. As Kwok et al. concluded in their research already in 2021, most leadership programs are focused on developing a leader's knowledge, skills, and abilities. We might want to consider revisiting the curriculum of these to include the necessary amendments applied to hybrid workplaces. My current paper is an invitation to researchers, practitioners, and organizational leaders to collectively contribute to a comprehensive understanding of leadership dynamics that will shape the future of work in our evolving corporate landscape.

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PROMOTING DIVERSITY IN EUROPEAN BOARDROOMS: A COMPARATIVE STUDY OF CODES OF BEST PRACTICES

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ABSTRACT

As the call for diversity and inclusion in corporate governance intensifies, examining the effectiveness of best practice guidelines becomes paramount. This paper presents an extensive comparative analysis of board diversity practices within the European corporate governance landscape. It explores the best practice codes implemented by various European countries, revealing a diverse array of strategies aimed at fostering diversity and their repercussions for corporate governance. Transparency and accountability emerge as common themes, with many codes mandating public reporting on diversity initiatives. Additionally, gender diversity remains a focal point, reflecting the global commitment to achieving gender balance in corporate governance. This comprehensive examination not only yields valuable insights but also offers a valuable resource for benchmarking and adopting best practices in corporate governance. It stimulates further research and policy dialogues to advance board diversity within the European context.
Keywords: *corporate governance, boardroom diversity, codes of best practices*

1. INTRODUCTION

Corporate governance plays a pivotal role in shaping the strategic direction and overall performance of companies across the globe. As businesses seek to navigate an increasingly complex and interconnected world, the composition of their boards of directors has come under scrutiny, with a growing emphasis on diversity and inclusion. The governance landscape in Europe is characterized by a rich tapestry of regulations, principles, and codes that guide companies in their pursuit of sound governance practices. Within this context, diversity considerations have emerged as a key aspect of corporate governance, encompassing a range of dimensions including gender, age, skills, backgrounds, and international representation (Aguilera and Jackson, 2009). The analysis of codes of best practices about diversity in European countries holds a pivotal place in corporate governance literature for multifaceted reasons. As businesses operate across borders in an increasingly globalized world, understanding how different European nations address diversity-related issues in corporate governance becomes essential for multinational corporations. Diversity, once viewed primarily as a social responsibility, has now emerged as a strategic imperative tightly linked to innovation, problem-solving, and overall corporate performance. By examining how these codes approach diversity, researchers and practitioners can gain better insights into the evolving role of diversity within corporate strategy. Our analysis begins by examining the commitment to diversity within the boards of various countries. Our findings show that while some nations place a strong emphasis on achieving gender equality and balance on their boards, others take a different approach, prioritizing independent directors without explicit diversity directives. As we explore the governance practices in different European countries, we find varying degrees of emphasis on board diversity.

Some nations provide flexibility, allowing companies to determine their own board composition, while others advocate for independence without specifying diversity guidelines. Some countries encourage companies to adopt diversity policies and promote transparency in their implementation, signaling a dedication to diversity that aligns with operational objectives. In our analysis, we encounter countries that suggest target percentages for female board members, while others align with international standards but encourage independent directors. Some nations encourage gender diversity, particularly in larger companies, while others stress the importance of diverse competencies, perspectives, and backgrounds within their boards. By examining the strategies and recommendations put forth by these codes, we gain insights into the evolving landscape of corporate governance across Europe, and the role diversity plays in shaping the boards that steer companies into the future. The paper's structure is outlined as follows: following the introduction, we undertake an in-depth examination of best practice code guidelines in various European nations, with a specific emphasis on their strategies for achieving board diversity. This examination unveils prevailing trends, shared characteristics, and noteworthy distinctions in these practices. Subsequently, we distill critical findings and emerging patterns resulting from the comparative analysis. Following this, a discussion section critically assesses the implications of these diverse governance approaches for enhancing corporate governance effectiveness and shaping the composition of corporate boards. In conclusion, the paper summarizes its primary discoveries and underscores their relevance in the broader landscape of European corporate governance, potentially offering valuable recommendations and insights

2. DIVERSITY IN THE BOARDROOM

Diversity, as defined by Williams and O'Reilly (1998), encompasses variations in individual attributes that distinguish one person from another, including factors such as gender, nationality, age, and professional background. Recognized for its value in board discussions, diversity guards against 'groupthink,' fostering creativity, innovation, idea exchange, and enhanced problem-solving. Consequently, the correlation between board diversity and a company's overall value has become a prominent topic in economic literature, given its pivotal role in effective corporate governance (Ciavarella, 2017). Prior research on corporate diversity has categorized it into two types: observable and unobservable. Observable diversity pertains to readily visible demographics, such as gender, age, nationality, and ethnic background, while unobservable diversity encompasses less apparent aspects like cultural values and personality traits (Maznevski, 1994; Erhardt, et al. 2003). Despite this distinction, studies examining diversity's impact on firm performance have predominantly centered on observable, demographic diversity. These studies often emphasize diversity in upper echelons as a driver of corporate success. Prior studies underscore diversity's potential to catalyze organizational development, offering deeper insights into diverse markets, leveraging cultural knowledge, and facilitating more effective global relationships through the incorporation of cultural competencies in business strategies (Robinson and Dechant, 1997). Research on board diversity has yielded diverse outcomes, particularly regarding the influence of nationality and gender among board members, especially after gender quotas were introduced in certain European countries. While some instances revealed no statistically significant correlation between women on boards and key financial metrics, other cases demonstrated a positive association between gender diversity and firm performance, particularly in Spanish companies (Ciavarella, 2017; Campbell and Minguez-Vera, 2008). Multiple studies have supported the notion that a higher proportion of women on boards leads to greater financial success (Erhardt, et al., 2003; Carter, Simkins, and Simpson, 2003). Similarly, studies have examined minority representation in corporate governance, uncovering a positive correlation between ethnic diversity on boards and effective management and product development (Cook and Glass 2015).

Conversely, research on a sample of US companies between 2003 and 2012 showed that while gender and ethnic diversity on boards improved social, environmental, and managerial aspects, it did not necessarily enhance financial performance (Gupta, et al. 2015). Overall, research on board diversity has not yielded uniform conclusions, as its impact on firm performance varies across companies. While some firms benefit from diversity in gender, ethnicity, professional backgrounds, and education, others face challenges. Striking a balance between diversity's costs and benefits is a unique endeavor for each company (Adams and Ferreira, 2009). Notably, larger companies with complex asset structures may derive greater advantages from diverse boards that provide intensive oversight and multifaceted advisory roles (Ciavarella, 2017). In line with that, diversity can be seen as a double-edged sword. On one hand, it enhances creativity, innovation, and high-quality decision-making within corporate leadership. On the other hand, it entails integration costs, consumes significant time, and may potentially lead to increased conflicts arising from differences in perspectives (Milliken and Martins, 1996).

3. THE SIGNIFICANCE OF CODES OF BEST PRACTICE IN PROMOTING GENDER DIVERSITY

In response to the institutional crisis witnessed in 1998, the European Commission embarked on a comprehensive discussion about advancing corporate governance within the European Union (Senden, 2005). Over the past decades, the EU has been formulating a novel regulatory approach that emphasizes the utilization of alternative instruments or tools that complement traditional command and control legislation. These alternative mechanisms, including recommendations and voluntary agreements, are commonly referred to as soft law, self-regulation, and co-regulation (Senden, 2005). The concept of soft law has been ingrained in European law since 1962. Particularly, with the growing internationalization of markets, soft law instruments have become a favored approach for the European Commission's initiatives (Stefan et al., 2019). The widely accepted European definition of soft law characterizes it as a set of behavioral guidelines that lack legal binding but can still have practical and legal repercussions (Stefan et al., 2019). In European literature, soft law is often described either as soft guidelines, such as recommendations, codes, resolutions, etc. Corporate governance codes are crafted to address deficiencies in corporate governance systems. These codes consist of recommendations on "best practices" for corporate behavior and board structures, offering a comprehensive set of norms concerning board roles, composition, shareholder relationships, top management transparency, financial auditing, information disclosure, and the selection, compensation, and dismissal of directors and top executives etc. (Aguilera and Cuervo-Cazurra, 2004). The rapid development of corporate governance codes can be traced back to the early 1990s, particularly after the release of the Cadbury Committee Report on Financial Aspects of Corporate Governance in 1992 in the United Kingdom (Aguilera and Cuervo-Cazurra, 2004). Following the Cadbury Report, the proliferation of national codes and corporate governance reforms gained momentum, resulting in a substantial increase in the number of national corporate governance codes, albeit with non-linear evolution (Cicon et al., 2012; Aguilera and Cuervo-Cazurra, 2004). The application of corporate governance codes varies by country and operates within the legal framework of each jurisdiction. Unlike the legal rules governing companies in specific countries, compliance with corporate governance codes is not legally binding on companies. Corporate governance codes have not only expanded geographically but have also broadened their scope. Initially focused on enhancing investor confidence through improved board oversight and shareholder accountability, these codes now encompass transparency on social issues such as corporate social responsibility and diversity (Klettner, 2016). Various expert bodies, including governmental and non-governmental institutions, adopt corporate governance codes. These issuers span government bodies, stock exchange entities, committees and commissions appointed by governments, academic, professional, and business

associations, employer associations, and various investor groups. According to Aguilera and Cuervo-Cazurra (2004), corporate governance codes can be categorized into six categories based on their issuers: Stock Exchange, Governmental, Directors' Association Code, Managers' Association Code, Professional Association Code, and Investors' Association Code. Since their inception, corporate governance codes have primarily focused on board structure and composition (Gargantini and Siri, 2023). They are widely used in the European Union because they aim to disrupt entrenched informal power structures that hinder women from attaining board positions without interfering in selection processes. This approach parallels gender quotas in its attempt to challenge long-standing informal norms of exclusion and promote greater gender diversity on boards (Mateos de Cabo et al., 2022). While both voluntary and legally binding strategies share similarities, corporate governance codes are generally more generalized. While some may set specific gender balance objectives for boards, they largely leave it to companies to establish their own goals (Mateos de Cabo et al., 2022). Consequently, their effectiveness is somewhat limited, as they function as recommendations, with no mechanisms for holding non-compliant entities accountable, often resulting in a symbolic commitment to gender equality (Mateos de Cabo et al., 2022).

4. COMPARATIVE ANALYSIS OF CODES OF BEST PRACTICE IN EU COUNTRIES

The comparative analysis focuses on the guidelines of corporate governance codes pertaining to boards, specifically on board diversity and initiatives to improve diversity within boards as outlined in the codes. The analysis examines guidelines that target various forms of diversity, whether it be gender, experiential, ethnic, age-related, or any other form. For the purposes of this research, corporate governance codes from European Union member countries reported in the database of corporate codes by the European Corporate Governance Institute (ECGI) have been used.

- Austria
  The Austrian Corporate Governance Code, most recently updated in 2021 places a strong emphasis on diversity considerations within the supervisory board, particularly focusing on gender equality and gender balance. For companies from other EU member states listed on the exchange, there is also an emphasis on international representation of board members. The code prescribes specific requirements, including a supervisory board composition of at least 30% women, 30% men, and a minimum of six shareholder representatives. Additionally, employee representatives should consist of at least 20% female employees and 20% male employees.

- Belgium
  The Belgian Corporate Governance Code, effective as of 2020, does not explicitly define the ideal board size - it stresses the importance of aligning board dimensions with the efficient execution of board duties. Moreover, the code highlights the necessity of having at least three independent directors on the supervisory board, a requirement that extends to companies with a unitary structure. Rather than providing explicit directives on board diversity, the code underscores the importance of structuring the board composition to enhance the company's operational activities. It suggests that diversity in terms of skills, backgrounds, gender, and age should be considered within the broader context of the company's operational objectives.

- Bulgaria
  The Bulgarian Corporate Governance Code, introduced in 2012, operates on the "comply or explain" principle. It is mandatory for companies listed on the Bulgarian Stock Exchange and those planning to list in the future. The code does not impose specific guidelines

regarding diversity within the board. Instead, it leaves the determination of board composition and the number of board members to the discretion of the company's own regulations.

- Cyprus
  The Cyprus Code, established in 2012 by the Cyprus Stock Exchange, stipulates that at least one-third of the board should consist of independent directors. In the case of larger companies, this percentage can be as high as 50%. However, the code does not offer explicit guidance regarding board diversity, focusing primarily on the independence of board members.

- Czech Republic
  The Czech Corporate Governance Code, introduced in 2004, applies to companies listed on the stock exchange. While the code emphasizes the importance of appointing an adequate number of independent directors in both the management and supervisory boards, it does not provide specific guidance on board diversity. The general assembly is responsible for appointing board members, who serve fixed terms of up to five years.

- Denmark
  Denmark's Corporate Governance Code, last revised in 2017, encourages annual discussions within the supervisory board regarding the company's efforts to promote diversity and recommends the preparation and implementation of a diversity policy. This policy should be publicly disclosed on the company's website and should encompass dimensions such as age, international experience, and gender. Diversity considerations should also inform the process of appointing board members, with a recommendation that at least half of the directors elected by the general assembly be independent.

- Estonia
  Estonia's Corporate Governance Code, established in 2006, primarily pertains to publicly traded companies, excluding investment funds registered as joint-stock companies. The code stipulates that at least half of the supervisory board members should be independent, with one less independent director permissible in cases of supervisory boards with an odd number of members. However, similar to several other codes, the Estonian Code does not provide specific guidance on board diversity.

- Finland
  Finland's Corporate Governance Code, issued in 2020, applies to companies listed on the Helsinki Stock Exchange- Under this code, companies themselves are responsible for defining their diversity principles. These principles should be aligned with the company's business operations and growth strategies, ensuring consistency with the company's decisions. While the code grants flexibility to companies to determine the extent of their board diversity reporting, it mandates that these reports consistently include objectives for achieving gender balance, the methods used to attain these objectives, and progress updates.

- France
  The French Corporate Governance Code, most recently updated in 2022, specifically addresses gender diversity. The code prescribes that the board should establish gender diversity goals for top-level bodies based on recommendations from senior management. Senior management, in turn, presents a plan for implementing these goals, complete with action plans and timelines. Furthermore, the board of senior management provides annual reports on the outcomes of their diversity-related activities. Companies disclose their compliance with the code's guidelines, which include gender diversity policies, objectives, strategies, and results, in their Annual Corporate Governance Reports. The report also provides insights into the company's policy on gender diversity, including objectives, strategies, results from the previous fiscal year, and measures to address any shortcomings.

- Greece
Greece's Corporate Governance Code, from 2021, operates as self-regulatory guidelines, and adherence is voluntary. In specific practices, which companies adhere to on a comply or explain basis, it is stated that diversity policies in the context of gender representation should include specific quantitative objectives.

- Croatia
Croatia's Corporate Governance Code, from 2020, functions alongside existing laws, operating on the "comply or explain" principle. The code highlights the importance of selecting suitable individuals for specific roles and ensuring that board composition aligns with the company's specific circumstances. According to the code, every five years, the Supervisory Board must establish a target percentage of female members for both the supervisory board and management, which should be achieved in the subsequent five years. These targets must be publicly disclosed in the annual report, along with an explanation of the rationale behind their selection and a plan for their realization. Progress towards meeting these targets must be reported annually.

- Ireland
Ireland recognizes the UK Corporate Governance Code as the international standard but adopted the Irish Annex in 2019. This annex applies a "comply or explain" approach, recommending that independent directors constitute at least half of the board for all but smaller companies, which should have at least two independent non-executive directors. While the Irish Annex encourages the consideration of board diversity when appointing members, it does not contain specific diversity provisions.

- Italy
Italy's Corporate Governance Code, introduced in 2020, applies to companies listed on the Italian stock exchange. The code advocates for the substantial presence of independent directors and urges companies to embrace diversity criteria when forming their boards, with a particular emphasis on gender diversity. While the code provides flexibility in determining the number of independent directors, it recommends a minimum of two independent directors, excluding the chairman. In larger companies with concentrated ownership, it advises appointing at least one-third of independent directors to the board. The code also mandates that at least one-third of the board should comprise individuals from underrepresented gender groups, with accompanying measures to promote gender equality and equal opportunities.

- Latvia
The Latvian Corporate Governance Code of 2020 emphasizes diversity as a crucial driver of effectiveness within the supervisory board. It suggests that diversity in competencies, perspectives, educational backgrounds, work experiences, nationalities, gender, and age groups enhances discussions and decision-making. To ensure diversity principles are followed in supervisory board appointments, companies can create diversity policies to guide the selection process. The code stipulates that at least half of the supervisory board should consist of independent directors.

- Lithuania
Lithuania's Corporate Governance Code, from 2019, aligns with legal requirements. The code recommends that half of the supervisory board members and one-third of the management board should be independent directors. The general assembly is responsible for appointing the supervisory board, with a strong focus on gender equality in qualifications, professional experience, and competencies.

- Luxembourg
The Luxembourg Corporate Governance Code, updated in 2017, suggests that the number of independent directors should align with the company's business activities, with a

minimum requirement of two independent directors. While it does not provide specific provisions regarding board diversity, the code recommends that board size should be determined based on effective business operations, with a maximum guideline of sixteen members.

- Hungary

  Hungary's Corporate Governance Code of 2012 applies to companies listed on the Budapest Stock Exchange. It advises having an adequate number of independent directors in both the management and supervisory boards. However, the code does not offer specific guidelines on board diversity.

- Malta

  In 2005, the Maltese Corporate Governance Code underwent revisions for companies whose shares are traded on the Maltese Stock Exchange. The Code was authored by the Malta Financial Services Authority. It operates under the assumption of a unitary company structure and does not include specific guidelines regarding board diversity. The determination of the number of independent directors in companies is left to the discretion of each company, with the establishment of a minimum to maintain balance within the board. The precise composition of the board is contingent upon the circumstances and business activities of each individual company.

- Netherlands

  The Code (2022) emphasizes that the composition of the management and supervisory boards, as well as any other executive bodies (if they exist), should strive to achieve an appropriate level of diversity. This diversity should encompass various aspects, including expertise, experience, competencies, personal qualities, gender or gender identity, age, nationality, as well as cultural or other backgrounds. The Code highlights the positive impact of diversity on the effectiveness of the management and supervisory boards, promoting fresh perspectives, preventing groupthink, and enhancing collaborative teamwork. Companies are required to establish their own diversity and inclusion policies, outlining specific, suitable, and ambitious objectives aimed at achieving a well-rounded balance in gender diversity and other facets of diversity and inclusion that are relevant to the company. This particularly applies to the composition of the supervisory and management boards, as well as the appointment of managerial positions by the management board.

- Germany

  The 2022 German Corporate Governance Code was crafted by the Government Commission. According to the Code's recommendations, diversity in the board should be taken into account when choosing new members. It also suggests that individuals newly appointed to the board can serve a maximum term of three years. Furthermore, the Code advises applying an age limit to board members, which should be disclosed in the Corporate Governance Statement.

- Poland

  In 2002, the Institute for Market Economics in Gdańsk released the Polish Corporate Governance Code, which draws inspiration from the OECD Principles of Corporate Governance, the Cadbury Report, and the EASD Principles of Corporate Governance. The Code recommends that a minimum of two members on the supervisory board should be independent. In cases where the proportion of independent members falls below half, crucial resolutions affecting minority shareholders' interests should receive approval from at least two independent board members. The Code primarily prioritizes safeguarding minority shareholders and enhancing the transparency of corporate reporting. It does not include provisions related to promoting diversity among members of the supervisory or management boards.

- Portugal
  The most recent edition of the Portuguese Corporate Governance Code was released in 2023 by the Portuguese Institute for Corporate Governance. As per the Code's principles, companies are expected to ensure diversity in the composition of their management and supervisory boards and adopt merit-based criteria. The Code's recommendations encourage companies to proactively define diversity requirements, with a special emphasis on gender equality, which could contribute to improving the board's effectiveness and balance. Moreover, companies should disclose information about the composition and frequency of meetings for both the supervisory and management boards on their website.

- Romania
  In 2015, the Bucharest Stock Exchange reviewed the Corporate Governance Code, which is obligatory for all companies whose shares are listed following the "comply or explain" principle. The Code suggests that the board and its committees should maintain a suitable balance of skills, experience, gender diversity, knowledge, and independence to ensure efficient performance of their responsibilities. Nevertheless, the Code does not provide detailed provisions regarding the board's composition or its diversity.

- Slovakia
  In 2008, a collaborative working group, supported by members of the Bratislava Stock Exchange, the INEKO Institute, and various other institutions, undertook a comprehensive review of the Unified Corporate Governance Code. This code had previously played an integral role in the daily operations of Slovak companies. The inclusion of independent directors in the supervisory board is rooted in various Slovak laws, and the Code recommends, as a best practice, a predominance of independent directors in the supervisory board if achieving a fully independent director composition proves impractical. However, the Code does not contain specific provisions concerning diversity within the board.

- Slovenia
  The revision of the Slovenian Code in 2021 was driven by a series of crises, including the COVID-19 pandemic. According to the Code, the supervisory board is responsible for defining the aspects of diversity that are suitable for the company's management and supervisory boards, in accordance with the law and the recommendations provided in the Code. The diversity policy sets out objectives aimed at achieving diversity in the composition of the management and supervisory boards. This diversity encompasses aspects such as gender, age, professional competencies, and other personal characteristics of board members, all aligned with the company's goals. The diversity policy is put into practice by incorporating specific targets and criteria related to diversity within the company's internal operations. These criteria outline the procedures for selecting board members and govern other processes within the company. Furthermore, the diversity policy specifically establishes targets for gender diversity and outlines the gender balance within the boards, considering factors like board size, company objectives, the impact of the board member selection process on the company, and other internal processes. It also defines precise objectives for each diversity aspect and for each board separately, along with the methods for implementation and the scope of human resources procedures and other internal processes within the company.

- Spain
  The Spanish Corporate Governance Code, revised in 2020 by the National Securities Market Commission, recommends that the board's size should be optimized for effective operation, active participation of all members, and agile decision-making, with a range typically between five and fifteen members. The selection process should aim for a balanced mix of expertise, experience, age, and gender diversity among board members. Companies are urged to publicly commit to board diversity right from the initial identification of

potential candidates and to adopt a diversity-promoting policy that encompasses measures to ensure a substantial representation of women on the board.

- Sweden

   The Swedish Corporate Governance Code is a product of the efforts of the Swedish Corporate Governance Board, with its revised edition from 2016. Companies are encouraged to aim for a gender-balanced board. Further, board members are appointed by the shareholders' meeting, and their terms usually extend until the next annual shareholders' meeting. The composition of the board should align with the company's operational needs, developmental stage, and other pertinent factors.

The key findings of our analysis are summarized in Table 1.

COUNTRY	ISSUER	YEAR	MANDATORY DIVERSITY GUIDELINES	DIVERSITY GUIDELINES ON COMPLY OR EXPLAIN BASIS	SPECIFIC DIVERSITY GUIDELINES	REPORTING ON DIVERSITY GUIDELINES	COMPANIES ENCOURAGED TO ADOPT DIVERSITY STRATEGY
AUSTRIA	Austrian Working Group on Corporate Governance	2021	YES	NO	YES	YES	YES
BELGIUM	Corporate Governance Council	2020	NO*	YES	NO	NO	NO
BULGARIA	Bulgarian Stock Exchange	2012	NO	NO	NO	NO	NO
CYPRUS	Cyprus Stock Exchange	2012	NO	NO	NO	NO	NO
CZECH REPUBLIC	Working Group of the Czech Securities Commission	2004	NO	NO	NO	NO	NO
DENMARK	Danish Corporate Governance Committee	2017	NO	YES	NO	NO	NO
ESTONIA	Tallinn Stock Exchange and Financial Supervision Authority	2006	NO	NO	NO	NO	NO
FINLAND	Financial Supervisory Authority	2020	NO	YES	NO	YES	YES
FRANCE	AFEP and MEDEF	2022	YES	YES	YES	YES	YES
GREECE	Hellenic Corporate Governance Council	2021	YES	YES	NO	YES	YES
CROATIA	HANFA and Zagreb Stock Exchange	2020	NO	YES	YES	NO	YES
IRELAND	Irish Stock Exchange (Irish Annex) and Financial Reporting Council (UK Code of 2012)	2019	NO	YES	NO	YES	YES
ITALY	Italian Corporate Governance Committee	2020	NO*	YES	YES	YES	NO
LATVIA	Advisory Committee	2020	NO	YES	NO	NO	YES

	for the Development of the New Corporate Governance Code						
LITHUANIA	NASDAQ Vilnius	2019	NO	YES	NO	NO	NO
LUXEMBOURG	Luxembourg Stock Exchange	2017	NO	YES	NO	NO	NO
HUNGARY	Corporate Governance Council of the Budapest Stock Exchange	2012	NO	NO	NO	NO	NO
MALTA	Malta Financial Services Authority	2005	NO	NO	NO	NO	NO
NETHERLANDS	Monitoring Committee of the Dutch Corporate Governance Code	2022	NO*	YES	NO	YES	YES
GERMANY	Government Commission	2022	YES	YES	YES	YES	YES
POLAND	Institute for Market Economics	2002	NO	NO	NO	NO	NO
PORTUGAL	Portuguese Institute for Corporate Governance	2023	NO*	YES	NO	YES	NO
ROMANIA	Bucharest Stock Exchange	2015	NO	YES	NO	NO	NO
SLOVAKIA	CECGA, Bratislava Stock Exchange, INEKO, and others	2008	NO	NO	NO	NO	NO
SLOVENIA	Ljubljana Stock Exchange	2021	NO	YES	YES	YES	YES
SPAIN	National Securities Market Commission	2020	NO	YES	YES	YES	YES
SWEDEN	Swedish Corporate Governance Board	2016	NO	YES	NO	NO	NO

Table 1: The key findings of our analysis

*The corporate governance code does not provide guidelines that point to such legal provisions; however, it is known that there is a mandatory gender quota in the laws of these countries, specifying the proportion of each gender in supervisory board, management boards or board of directors

5. DISCUSSION AND CONCLUSIONS

The comparative analysis of corporate governance codes across European Union member countries has uncovered several key findings that shed light on diverse approaches and practices concerning board diversity and initiatives aimed at enhancing diversity within boards. One of the primary findings of this analysis is the wide spectrum of approaches to board diversity evident in the examined codes. These approaches range from explicit gender quotas to more general diversity principles. For instance, while codes in Austria, Italy, and France place a strong emphasis on gender diversity and set specific targets and reporting requirements, others, like the Belgian and Dutch codes, embrace diversity in a broader sense, encompassing expertise, age, and nationality.

Another significant finding is the prevalence of "comply or explain" mechanisms in many codes, allowing companies to choose between adhering to specific diversity guidelines or explaining their reasons for non-compliance. This flexibility accommodates different corporate contexts and provides opportunities for companies to tailor their diversity initiatives. However, it also raises questions about the effectiveness of voluntary measures in promoting diversity. Transparency and disclosure emerge as common themes across many codes. Companies are often required to publicly report on their diversity policies, objectives, and progress. This focus on transparency aims to hold companies accountable for their diversity efforts and enables stakeholders to assess their commitment to diversity. Finally, gender diversity remains a central concern in most codes. Many explicitly address the need for gender balance within boards, often setting minimum quotas for female representation. This reflects a broader global push for gender equality in corporate leadership. This analysis of corporate governance codes offers several significant contributions to the literature on board diversity and corporate governance. First, the analysis provides a comprehensive overview of board diversity practices in European Union member countries. It highlights the diversity of approaches and practices, offering valuable insights for researchers, policymakers, and practitioners interested in corporate governance and diversity. Further, the examination of codes from various countries allows for benchmarking and the identification of best practices. Companies and policymakers can draw inspiration from successful diversity initiatives and adapt them to their specific contexts. Lastly, the emphasis on transparency and disclosure in many codes underscores the importance of accountability in promoting diversity. This aligns with global trends toward greater corporate transparency and social responsibility. While this analysis provides valuable insights, it is not without limitations. Corporate governance codes are subject to change over time. The codes analyzed in this study represent their respective states as of the time of analysis, and subsequent revisions may have occurred. Thus, the findings are specific to the codes in their analyzed form. Moreover, the analysis does not delve deeply into the contextual factors influencing diversity practices in each country. A more in-depth examination of cultural, legal, and economic factors could provide additional insights. To build upon this analysis and address its limitations, future research in this area could consider investigating the evolution of corporate governance codes and their impact on board diversity over time. Longitudinal studies can provide insights into the effectiveness of diversity initiatives. Furthermore, it would be valuable to carry out case studies on companies in different countries to examine the practical difficulties and achievements in implementing diversity policies across various settings. In conclusion, this analysis contributes to our understanding of corporate governance and board diversity practices across European Union member countries. It highlights the diverse approaches and practices in place and underscores the importance of transparency and accountability in promoting diversity within boards. While the findings provide valuable insights, ongoing research is essential to track the evolving landscape of corporate governance and diversity.

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THE KEY CONCEPT OF THE DISRUPTIVE DEVELOPMENT MODEL

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ABSTRACT

The fundamental principles of the theory of disruptive innovation were set at the end of the 20th century, but controversies surrounding the correct interpretation of the term disruptive innovation continue to this day. The first papers on the model of disruptive innovations were published in 1995, and are based on the assumption that new market participants develop innovations that are launched in the lower part of the market, at lower prices, with lower profits, and attract customers who are outside the focus of the incumbents. the market. Over time, disruptive innovations develop a whole new market and conquer parts of the mainstream market. The transition from niche to mainstream markets is a key period of disruption and creation of a new market. On the one hand, products are being developed that have a disruptive effect on mainstream customers, and on the other hand, user habits are changing, which directly affects the development of new markets. Originating as an idea about disruptive innovations, the theory has evolved and today includes various models used in the interpretation of the disruptive paradigm.
Keywords: digital transformation, disruption, disruptive innovation, disruptive technology

1. INTRODUCTION

The theory of disruptive innovations appeared in the last century, and it appeared for the first time in the work of Bower and Christensen "Disruptive Technologies: Catching the Wave". Although the roots of the theory date back to 1995, even today there are still very frequent discussions about the correct interpretation of the term disruptive innovation and everything related to disruptive development strategies (Lile et. al. 2024). The first comprehensive theory of disruption was presented by Christensen in 1997 in the book "The innovator's dilemma" analysing the disk-drive industry (Williamson et.al. 2020). Very quickly, the theory was extended to the steel, automobile and motorcycle industries (Christensen, Raynor 2003), semiconductors (Christensen 2006), the pharmaceutical industry (Kapoor, Klueter 2015) and the video recorder industry (Ansari et.al. 2016). In 2006, Christensen expanded the term "disruptive technology" to include "disruptive innovation", thereby giving up on a firm hold on disruptive technologies. Markides (2006) will divide disruptive innovations into three types: technological, business model innovations and radical product innovations. Subsequently, Markides supplemented his claims and emphasized that disruptive technological innovation is fundamentally different from disruptive business model innovation and from disruptive product innovation. For disruptive business model innovations and disruptive product innovations, he emphasized that they arise in different ways, have different competitive effects and require different responses from incumbents (Williamson et.al. 2020). Sidorkin (2021) points out that the understanding of disruptive innovation dates back to Marx, who developed the theory of the cycle of destruction and creation of new values. The natural continuation of Marx's cycle theories is recognized in the works of Joseph Schumpeter, especially in the book "Capitalism, Socialism and Democracy" from 1942, in which the term "creative destruction" is mentioned for the first time.

Schumpeter was the first to define the model and way of functioning and renewal of the capitalist model of development, which is never stationary and is constantly in the process of adaptation and development. The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumer goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that the capitalist enterprise creates. Christensen will come to the same or very similar conclusions after more than half a century. The paper analyses the fundamental factors that determine descriptive changes within industries.

2. THREE FOUNDATION MODELS OF MARKET DISRUPTION

Already in his early works, Christensen (1997) established that disruptive technologies are those technologies that offer different values than mainstream technologies and are initially inferior to mainstream technologies in terms of performance for customers in the mainstream sector of the market (Williamson et.al. 2020). Disruptive innovation means an innovation that is characterized by shortcomings compared to the products of leading companies used by their customers, and at the same time they also have characteristics that are a competitive advantage over customers of niche products, namely that disruptive products are cheaper, easier to use, smaller and often more practical for use of already existing established products (Christensen 2006; Christensen et.al. 2018). Disruptive innovations are usually introduced by industry newcomers who introduce a different set of performance compared to existing offerings and change the status quo within the mainstream market (Christensen 1997; Petzold et.al. 2019).

Christensen 1997.	Disruptive technologies are those technologies that offer different values than mainstream technologies, and at the beginning of the launch are inferior according to their technical and other characteristics to technologies in the mainstream market
Christensen 1997.	Disruptive innovations are typically introduced by newcomers to an industry that introduce a different set of performance compared to existing offerings and change the status quo within the mainstream market
Adner 2002	The process of real disruption begins at the moment when customers start massively buying the products of new entities on the market
Markides 2006.	Classifies disruptive innovations into different types: technological, business model and radical product innovations
Markides 2006	Disruptive technological innovation is a fundamentally different phenomenon from disruptive business model innovation as well as from disruptive product innovation: these innovations arise in different ways, have different competitive effects and require different responses from leading companies
Markides 2012.	Disruptive products are initially inferior in the context of performance expected by existing customers, but superior in price competitiveness. After that, disruptive products are developed to become "good enough" and at the same time superior in price. It is necessary to satisfy both characteristics for an innovation to be disruptive.
Nagy et al. 2016.	Disruptive innovation can be defined as innovation that changes performance metrics or consumer expectations in the market by providing radically new functionality, discontinuous technical standards, or new forms of ownership.
Preißner et.al. 2024.	Disruptive innovation defines a process in which, at the beginning of its life, a product or service takes root in the lower part of the market, which is usually cheaper and more accessible to end customers, and after that, interest in the new product or service grows rapidly and they move unstoppably towards the mainstream part of the market , i.e. upwardly displacing incumbents from that part of the market
Preißner et.al. 2024.	Disruptive innovations are more likely to originate from users (producers) if the environment has high turbulence in customer preferences (technology). Disruptive innovations that involve high functional (technological) novelty tend to be developed by users (producers). Users are also more likely to be the source of disruptive process innovations and to innovate in environments with weaker appropriability.

Table 1: Disruptive innovation
(Source: Own illustration)

Markides (2006) classifies disruptive innovations into different types: technological, business model and radical product innovations. In his later works, Markides (2012) agrees with Christensen and emphasizes that disruptive products are initially inferior in the context of performance expected by existing customers, but superior in price competitiveness. After that, disruptive products are developed to become "good enough" and at the same time superior in price. It is necessary to satisfy both characteristics for an innovation to be disruptive. There are two prerequisites for the emergence of such a market disruption: there is over performance on the main attributes of the existing product and there are asymmetric incentives between the existing healthy business model and a potentially disruptive business model. Christensen has documented these processes in a number of contexts including hard disk drives, earthmoving equipment, and engine controls (Williamson et.al. 2020). It can be concluded that (Bower and Christensen 1995; Christensen 1997; Christensen and Raynor 2003; Urbinati et.al. 2018):

- disruptive innovations are usually simpler and cheaper than existing products, services or business models, with poorer performance than existing products or services, but with different value
- generally, promise lower margins rather than higher profits, as they tend to have lower prices
- disruptive innovations are first commercialized in emerging and small market niches, given that the most profitable customers of established companies are reluctant to buy disruptive innovations
- disruptive innovations are usually developed and initiated by start-ups or newcomers, which are not perceived as a challenge to the market position of established companies.

Successful examples of disruptive innovations are Amazon with its online distribution (O'Reilly, Binns, 2019), Apple with its strategic actions in the music and mobile phone industry (Burgelman, Grove 2007) and Dell with the sale of computers directly to the customer (Charitou, Markides 2003).

3. INNOVATION MATRIX
Disruptive innovations are part of the overall innovation processes used in building competitive advantages in the market. Figure 1 shows the Innovation Matrix that defines innovation models in relation to technology development and market expansion. Incremental innovations imply slight improvements of products and processes and target existing users. The technology changes very little and it all boils down to "cosmetic operations" in order to refresh the products for existing customers. Incremental innovation is the most common type of innovation. Architectural innovation implies expanding the market for already existing products and services or selling existing products in new markets while maintaining already existing markets. Already existing and proven technologies are used in new markets. If new markets accept already existing products and technologies, the organization's sales and revenues grow rapidly.

Figure following on the next page
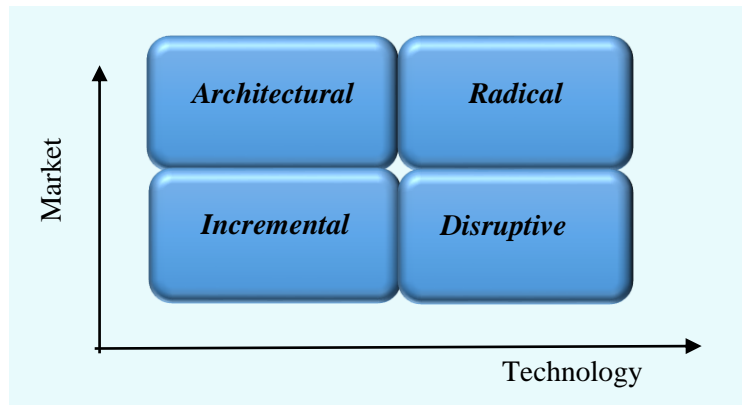
Figure 1: Innovative matrix
(Source: Own illustration)

Unlike innovations that are in the field of market expansion in addition to existing technologies, radical and disruptive innovations imply improvements in the field of technology. This is why Christensen, at the beginning of his study of this phenomenon, exclusively linked disruption to the development of technology. Radical innovation implies building a completely new market, that is, it is based on new technology and new demand. The old industry is slowly dying and being replaced by completely new technological solutions. Disruptive innovation is very similar to radical innovation and there is often a mistake in defining and differentiating these two types of innovation. Disruptive innovations are based on the development of technology, but they still do not develop new demand, that is, they develop within an already existing market. Customers opt for products that are cheaper, and often do not perform better than existing products, but these are products that are the germ of a new market that will suppress the incumbents and their products. In 2006, Christensen abandoned the basic definition of disruptive innovation and admitted that disruptive technology is not the only factor that determines disruptive phenomena. Emphasizing disruptive technology as the main pillar of disruptive innovation was based on research into technological products that caused market disruptions. Subsequently, Christensen demonstrated how disruption can be caused by business model innovations such as discount department stores, low-cost carriers, and online education. Disruptive innovations do not necessarily have to improve to outperform the previous technology. In other words, innovations often turn out to be disruptive not because they use a different technology, but because they embody a different business model (Williamson et.al. 2020). The theory of disruptive innovation was created at a time when the production of physical products was predominant. With the digitization of production processes and changes in the production model, the firm limitations of defining a disruptive process disappeared (Lozić, Fotova Čiković 2024). Disruptive innovation, over time, tends to destroy the dominant position of incumbents who do not recognize current threats because they are too focused on the wishes of their existing customers. A new innovation that is initially considered an "inferior" substitute ultimately improves to the point where it dominates the market. The best-known examples of disruptive innovations are in the field of digital technology: minicomputers versus mainframes, smartphones versus personal computers, flash drives versus Zip drives and CDs, digital photography versus chemical photography, video streaming versus video rental, word processing versus typewriters, etc. (Sidorkin 2021). Preißner et al. (2024) point out four fundamental characteristics of recognizing a disruptive innovation:

- Early identification of disruption: Companies must prioritize timely identification of potential disruptive innovations to stay ahead of evolving market dynamics.

- Understanding the sources of innovation: Almost half of disruptive innovation originates from users, especially in environments with changing customer preferences and weaker appropriation rights.
- Guiding principles for search strategies: Due to resource and attention constraints, companies should adopt guided search strategies, focusing on contextual factors that influence the source of disruptive innovation.
- Seeking user-driven innovation: In scenarios with rapidly changing customer requirements and low adoption, seeking disruptive user ideas can be particularly useful for manufacturing companies.

4. ENTRANCE OF DISRUPTIVE INVASIONS ON THE MARKET

Disruptive innovation most often enters the market by gaining a foothold in a niche or a new market, solving overshooting or non-buying of existing products by offering more suitable product performance, often at a lower price (Govindarajan, Kopalle 2006; Christensen et.al. 2015). The newcomer to the industry subsequently improves the performance of the product, while the incumbents do not react to changes in the environment, because they do not notice competition and new products. The process of real disruption begins at the moment when customers begin to buy en masse the products of new entities on the market (Adner 2002). Figure 1 shows a model of disruptive innovation in existing industry boundaries. The performance of the business practices of the existing entities is limited by zones from low profitability to the zone of high profitability. The central level of profitability determines the mean value of user requests for new technologies. The mean value, that is, the mean level of expectations ("mainstream") in the context of disruptive innovations can also be viewed as the mean level of the profit rate. If we were to translate this to the field of defining average profit rates within the branch of industry, everything above the "mainstream" curve falls into the area of above-average profit rate ("extra profit"), i.e. everything below this curve falls into the area of below-average profit rate. With the passage of time, user expectations increase and both curves have an upward trend. The direction of the curve of incumbents in the industry shows the technological development that moves from the zone of below-average profitability to the zone of above-average profitability. The curve of disruptive innovations is shown in the lower part of the figure. According to the foundations of the disruptive innovation model, this business practice belongs to the area of the low profitability zone, which is beyond the focus of incumbents in the industry. Business activity is moderated to a narrow circle of users who buy products that are cheaper than the products currently present on the market, and it tries to avoid attention to already existing specifics in the industry. In contrast to this strategy, the strategy of building a new market enters the zone of high profitability and targets a new group of users, which has not yet been active in this market, in order to attract the attention of existing entities as little as possible (Lozić 2020). Sahnem et al. (2021), point out that disruptive innovation is characterized by the presentation of innovative products and services that are simpler than those that already exist.
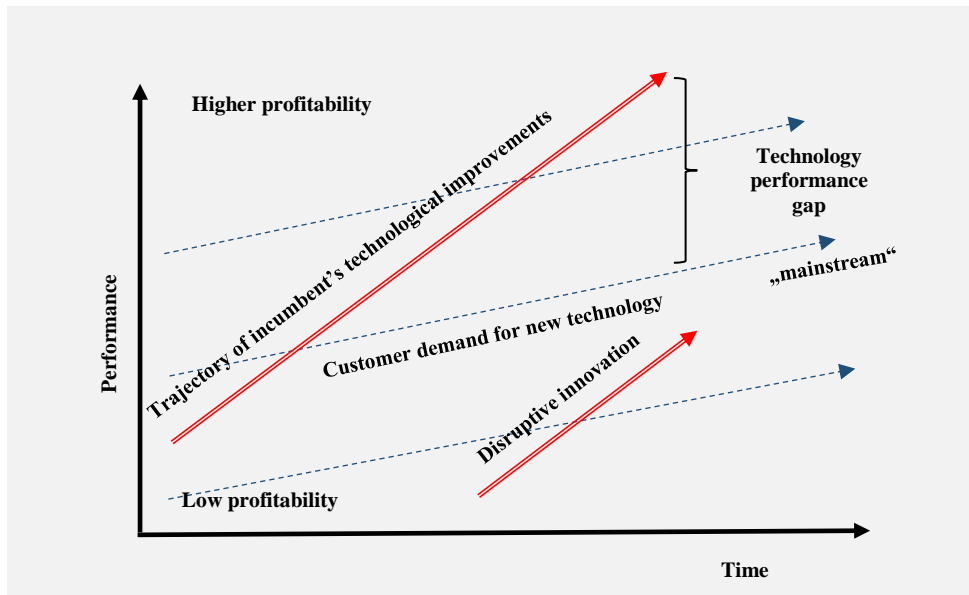
Figure following on the next page

Figure 2: Disruptive innovation process
(Source: Christensen et.al. 2015.)

Disruptive innovations are more likely to originate from users (producers) if the environment has high turbulence in customer preferences (technology). Disruptive innovations that involve high functional (technological) novelty tend to be developed by users (producers). Users are also more likely to be the source of disruptive process innovations and to innovate in environments with weaker appropriability (Preißner et.al. (2024). Accelerated technological development directly affected the precision of the canonical definitions of disruptiveness. Within the same industry and even the same manufacturer, some products are defined as disruptive and others as sustainable innovations. The best example of this is the Tesla car. The Model S retailed at $70,000 in the luxury sports car niche, and it was certainly not a disruptive innovation coming from the bottom of the market (Wilson 2018). Christensen (2014) pointed out that the Tesla Model S is a classic sustainable innovation, which offered progressively better performance at a higher price and competed on a like-for-like basis with the dominant (top-of-the-line) vehicles in the market. A similar theoretical basis could be applied to the iPhone, which was launched as a mobile phone that was many times more expensive and targeted a group of users above the mainstream market. The situation is similar with defining the disruptive basis of the platform economy model for the AirBnB corporation. The platform is a disruptive innovation in the context of expensive hotels, but in the context of cheap accommodation it is not completely disruptive. The difference is reflected in the values recognized by users of cheap hotels compared to users of accommodation found using the platform (Guttentag, Smith 2017).

5. DISRUPTIVE ZONE
Christensen expands the concept of disruptive technology with disruption innovation, and this is proven by the emergence of disruptive business models. Markides (2006) classifies disruptive innovations into three basic types: technological, business model and radical product innovations. In his second book, Christensen emphasizes the special importance of a disruptive business model. The development of a new business model makes the existing business model unprofitable and significantly affects its decline. The existing business model enters a form of paralysis while the new business model not only takes over the market, but builds a completely new market by creating new forms of demand (Petzold et.al. 2019).

A business model is defined as building a new business architecture, creating value, but also taking over existing business entities (Teece 2010). The disruptive model implies the creation of new values and the capture of the existing business model (Cozzolino et.al. 2018).
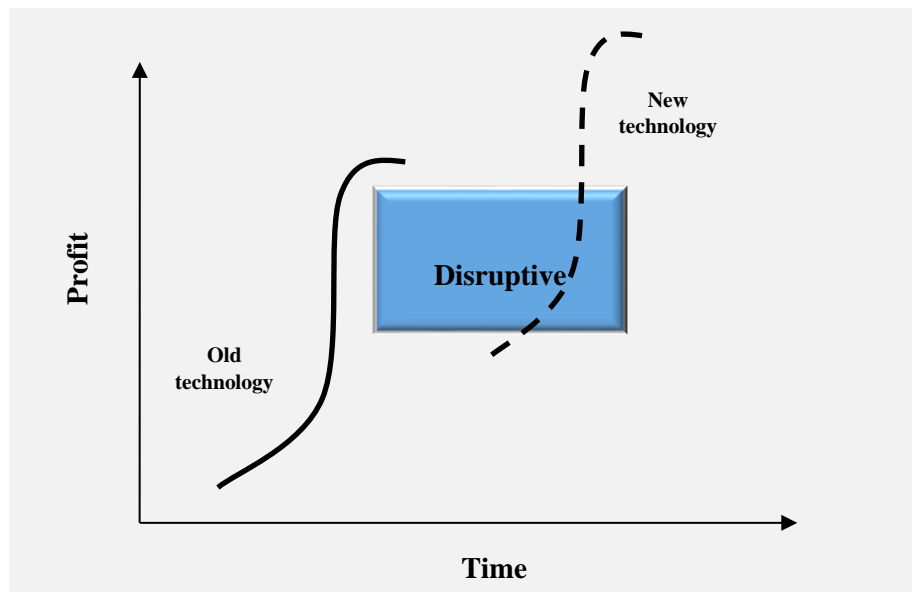

Figure 3: Disruptive zone
(Source: Lozić, 2019.)

Figure 3 shows the S-curve that determines the movement and development of disruptive products or technologies. Existing innovations are growing within the industry and are slowly moving towards the upper rate of productivity or utilization, which brings with it the highest profits. At the beginning of the life cycle, the innovation is supported by a new technology or a new business process that eventually becomes saturated. Before the innovation reaches its point of maximum saturation, a new product or business model emerges within the existing industry that is beyond the focus of the incumbents who control the existing industry. A new product or business model stabilizes in the area of the "disruptive zone" and takes advantage of the new technology or management model. Growth within the disruptive zone implies taking over a part of users from an already existing entity in the industry and slow growth within the industry. At one point, a disruptive innovation suddenly conquers the market and takes over the users of existing products and creates a new market for its products. Old technology is disappearing under the pressure of new technological solutions. A new product or service emerges from the disruption zone and becomes the dominant product in the industry. In the context of the music industry, as well as the media industry as a whole, the production of physical audio carriers reached its saturation point already at the end of the last century. New models of distribution and consumption of music content moved into the zone of disruption, while at the same time the industry of streaming platforms was emerging, which assumed a dominant position in the monetization of music content (Lozić, Fotova Čiković 2023). A similar situation developed in the dating industry. With the digitization of the process, various forms of virtual communication have moved into the zone of disruption while dating platforms were being created. The dating platform Tinder took over users from the disruptive zone and formed new forms of interaction and monetization of the service (Lozić 2021). Disruptive innovation defines a process in which, at the beginning of its life, a product or service takes root in the lower part of the market, which is usually cheaper and more accessible to end customers, and after that, interest in the new product or service grows rapidly and they move unstoppably towards the mainstream part of the market, i.e. upwardly displacing incumbents from that part of the market (Preißner et.al.

2024). Disruption occurs when further development raises the disruptive technology's performance on central mainstream attributes to a level sufficient to satisfy mainstream customers (Adner 2002). Preißner et al. (2024) point out that the primary reason incumbents lose their leading positions in the market is their unwillingness to deal with technological changes coming from the bottom of the market. Incumbents fail to keep up with changes because they listen too closely to the wishes of their customers, and customers place strict limits on company strategies (Christensen, Bower 1996). From this it can be concluded that the classic marketing theory does not have effective answers to rapid technological changes, that is, technology dictates the pace and models of changes, not market research and focusing on the wishes and needs of customers.

6. CONCLUSION

The fundamental postulates of the theory of disruptive innovation were laid down more than a quarter of a century ago, but the actual practice and interpretation of disruptive innovation has not been sufficiently precisely defined until today. One part of that problem can be explained by the development of technology that repeatedly overcame the technological base that was dominant at the time of the emergence of the theory of disruptive innovations. The beginnings of the theory of disruptive innovation are based on the development and launch of physical products that are not in the range of quality and capabilities of already existing products, but are cheaper and easier to use. With the development of technology, and under the increasing influence of digitization, disruptive disruptions took place in the area of new business models and product innovations. Digitization and digital transformation directly influenced new models for defining disruptive innovations. In addition to the direct influence on the determination of disruptive innovations in the area of lower profitability, the development of technology has also directly influenced a part of sustainable innovations, such as the example with the Tesla Model S or the iPhone mobile phone. Within the same industry, electric cars have been developed which are a disruptive innovation just as in the mobile phone industry where disruptive innovations are being developed. The further development of technology will directly affect the expansion of the definition of disruptive innovation.

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THE DETERMINANTS OF PUBLIC SECTOR EMPLOYMENT IN THE ALBANIA

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ABSTRACT
The aim of this paper is to examine the macroeconomic factors influencing public sector employment in Albania. Through investigating the interconnections among economic circumstances, demographic changes, and trends in public sector employment, this study seeks to shed light on the wider socio-economic landscape of Albania and increase understanding of the factors shaping public sector employment in post-communist countries. We use data from 2000 to 2022 to conduct an VAR with exogenous variables. The study indicates that public sector employment in Albania is influenced by factors such as income per capita, trade openness, and income inequality. It finds a positive relationship between income per capita and public sector employment, suggesting that economic growth drives demand for public services. Conversely, trade openness shows a negative correlation with public sector employment, challenging the idea that increased global trade necessitates a larger public workforce. Instead, it suggests that trade openness may stimulate private sector growth. Additionally, the study highlights a positive link between income inequality and public sector employment, emphasizing the role of redistributive policies in addressing income disparities and increasing the size of the public sector employment.
***Keywords:*** *Public-sector, public-sector employment, determinants, labour market, trade openness*

1. INTRODUCTION
Albania is a typical post-communist country in which the public sector is still a dominant and prominent employer. Although more than three decades at transition, the influence is still noticeable. In 2022, there were 184,114 employees in the public sector making up for 12.6% of the labour force (INSTAT, 2024). In the year 2000, the public sector employment rate was 14.5%, and as presented in Figure 1, there is a declining in this rate during these years, with minor comebacks in between.

Figure following on the next page

Figure 1: Public Service Employment as Percentage of Labor Force (2000 – 2022)
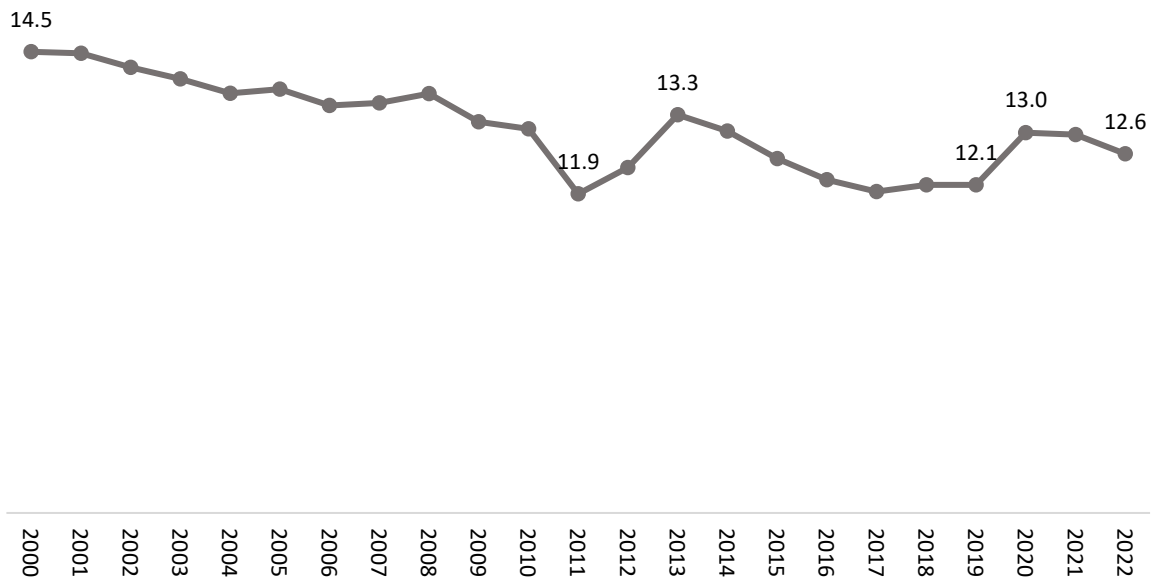
Source: INSTAT (2024).

Filled with economic instability, from an individual point of view, the public sector has provided some key benefits. One of the primary reasons individuals choose the public sector is the perception of greater job security compared to the private sector. Public sector positions, particularly in government roles, often carry a level of prestige and social status. Conversely, the private sector does not always offer a wide range of job opportunities, especially in certain industries, and individuals opt for public sector roles as a more accessible and viable employment option. On a macroeconomic point of view, the public sector employment may be determined by a number of factors that shape the policy making. These factors may be both political and economic, and demographical. Political in the sense that a more leftist government will tend to increase its size and consequently its employment. Economic in the sense that factors such as the rising income per capita may increase the need for more public services and hence more public employees (Rodrik, 1997). On the other hand, factors such as population growth and urbanization may influence the public sector employment. The objective of this paper is to analyse the macroeconomic determinants of public sector employment in Albania. By exploring the nexus between economic conditions, demographic shifts, and public sector employment patterns, this analysis aims to provide insights into the broader socio-economic context of Albania and contribute to a deeper understanding of the dynamics driving public sector employment in post-communist nations.

2. LITERATURE REVIEW

The public sector is frequently regarded as the primary employer within the economy, setting the benchmark for wage determination and exerting substantial influence over employment trends (Marinakis, 1994). In the literature, it's commonly assumed that public employment is driven by the goal of maximizing social welfare, as the primary duty of the public sector, and in contrast, another perspective acknowledges that politicians may have personal objectives influencing their decisions (Forni & Giordano, 2003). In developing countries there has existed for a long time the idea that expanded governments and over-staffed public enterprises are major issues, including too many agencies, duplications of functions, and ghost workers. Alesina et al. (2000) provides supportive evidence that politicians hide their redistributive policies by increasing public employment, rather than using explicit tax-transfer schemes to avoid opposition.

Aaskoven (2016) argues that incumbent governments often increase public employment in response to revenue windfalls from economic growth, but this trend is tempered by factors like fiscal transparency and voter awareness of opportunity costs: higher levels of fiscal transparency are associated with more cautious approaches to public employment expansion during economic booms and elections. The determinants of public sector employment are at large related with the determinants of public sector expenditure, or the overall scale of the government. The larger the government size, the larger the public employment, considering a constant private sector. Hence there are some key influencing factors. Based on the Wagner's 'law', the size of the public sector is positively impacted by the country's income (Shonchoy, 2010). The higher the income per capita, the higher the demand for public good, and the higher the demand for public employment. Trade openness is expected to have a positive impact on public sector expenditures due to the explosion of external risk and volatile internal markets, while is uncertain of the impact on the public sector employment (Maluleke, 2017). Trade openness is often related to economic growth and specifically through the development of the private sector (Huchet-Bourdon et al. 2018), which means a relative reduction of the public sector employment. The demographic pattern, including population growth, urbanization, and age dependency are also important determinants of public sector size (Shonchoy, 2010). Rodrik (2000) proposes a different view on government employment: it posits that stable public sector jobs serve as a form of insurance against economic risks that cannot be diversified. By offering a greater number of secure jobs, governments can help mitigate income and consumption risks for households. While only public sector employees directly benefit from this insurance, its positive effects can extend to the wider economy through informal risk-sharing within extended families. Rodrik (2000) finds that per capita income (GPD per capita) and urbanization have a positive impact on public employment, hence progress in developing countries will lead to more public employment. While on the other hand, trade openness and exposure to external risk has a negative impact on public employment. In a more recent extended model, Herrera & Munoz (2019), include in the model other variables that might macroeconomically impact public sector employment size. Based on the link between public sector expenditures and public sector employment they suggest some key possible determinants including: income per capita; population; urbanization; trade openness, ethnic fractionalization; age dependency and income inequality. They find that population and trade openness have a negative impact on public employment, while GPD per capita has a positive impact.

3. METHODOLOGY AND DATA

The model is based on the Rodrik (2000) framework, with the extension of Herrera & Munoz (2019). The model examines public employment determinants based on several factors, including GDP per capita, urbanization rate, trade openness, population and age dependency both old and young, Gini index. The equation is presented below:

$$\log(Public\ Emp) = \beta_0 + \beta_1 \log(GDP\ per\ Capita) + \beta_2 \log(Urbanization) \\ + \beta_3\ Openness + \beta_4 \log(Population) + \beta_5\ Dependency\ Old \\ + \beta_6\ Dependency\ Young + \beta_7\ Gini$$

Where public employment rate, GPD per capita, urbanization and population are included in logarithmic form. Previous models include panel data, while in this case we explore the same model based on time series data for Albania. The Public Employment Rate is obtained from the Institute of Statistics of Albania (INSTAT), while the other data are retrieved from the World Bank's World Development Indicator Database. The time series includes annual data from 2000 to 2022.

Descriptive statistics of data are show in the table below.

Table 1: Descriptive Statistics

Variable Name	Mean	Std. Dev.	Min	Max
Public employment rate	13.1280	0.8204	11.8879	14.5108
GDP per capita	3885.754	1543.511	1126.683	6810.114
Urbanization rate	53.0217	7.0046	41.70	63.80
Trade openness	73.8204	6.1690	59.8297	85.1497
Population	2,930,282	85,130.94	2,777,689	3,089,027
Age dependency, old	18.0766	3.6823	12.4883	24.7851
Age dependency, young	32.4302	7.7195	24.0284	47.1689
Gini Index	30.8739	1.79	29.00	34.60

4. RESULTS

In order to estimate the model, we employ the Vector Autoregressive Model. Besides otherwise, VAR can be also used to analyse the interactions among economic variables without possessing a precise structural model or upfront knowledge of the constraints necessary for structural model identifiability (Kočenda, & Černý, 2015). Since we are interested in the determinants of the dependent variable, we work under the assumption that other variables included in the model are exogenous. We are aware that in macro-econometric analysis this is often consider as a strong assumption (Lütkepohl, & Krätzig, 2004), however we are limited by a relatively short time series which does not allow for multiple endogenous variables to be included in a VAR. Considering the stationary nature of macroeconomic series, we initially perform the ADF unit root test. Running the unit root test, shows that all variables are stationary at level. Hence, we difference all the variables and perform the unit root test. Since the test of the first difference shows no unit root, we establish that the all variables are I(1), and will be included in the VAR as fist differenced.

Table 2: ADF Test for Unit Root

Variable Name	Level	Difference
Log (Public Emp)	-0.9623	-4.3440**
Log (GDP per capita)	1.1932	-3.0600*
Log (Urbanization)	-1.2921	-4.2968**
Openness	-2.9558	-5.3229**
Log (Population)	1.2688	-3.0307*
Dependency Old	-2.4637	-3.0604*
Dependency Young	-0.8729	-3.9086*
Gini	-2.9207	-4.4153**

** p<0.01, * p<0.05

Before estimating the VAR, we need to determine the lag length criteria. We utilize the Akaike (AIC), Hannan-Quinn (HQIC), or Schwarz Bayes (SBIC) information criteria, which minimaze the information criteria of the unrestricted equation (Kočenda, & Černý, 2015). Since our time series is relatively short, we are constrained to use 3 lags in the test.

Based on the lag length criteria we determine the usage of no lags for the exogenous variables. However, we still have to use one lag for the dependent variable based on the structural form of VAR.

Table 3: Lag Length Criteria

Lag	AIC	SIC	HQIC
0	-3.7053*	-3.3077*	-3.6380*
1	-3.6032	-3.1559	-3.5276
2	-3.5008	-3.0038	-3.4167
3	-3.4181	-2.8713	-3.3255

Table 4 presents the results of the VAR estimation of the model. Results show that the impact of the *GPD per capita* is positive and *statistically significant* on the public sector employment. Specifically, a one percentage point increase in the GPD per capita will increase the public employment by public employment rate by 0.077 percentage points. This is in line with the findings of both Rodrik (2000) and Herrera & Munoz (2019). The coefficient of *urbanization* is positive, implying an increase in public employment with the increase of urbanization, however the coefficient is statistically *not significant*. *Trade openness* has a negative and *statistically significant* coefficient, meaning that increased trade openness will decrease public employment. Although significant the coefficient is very small. The direction of the impact is in line with Herrera & Munoz (2019), while contradicts the theoretical approach of Rodrick (2000). The later suggested that countries that are more open to foreign trade, are more prone to risk, and governments will increase their workforce to mitigate the country from this risk. However, the alternative view might be asserted in this case: that the trade openness develops the private sector and increases private sector employment, and relatively reduces the public employment. *Population* has a negative and *statistically not significant* coefficient. Although not significant the population coefficient is the most impactful and considering the constant decrease of the population since the beginning of the time series, leave much room for further exploration. Both *age dependency* (old and young) variables have a positive but *statistically not significant* coefficient, showing no impact on the public employment. This implies that rapid changes in the population structure do not affect the public employment rate. Lastly, the *Gini index* coefficient is positive and *statistically significant*. This means that the increase of income inequality increases public employment as well. This finding is in line with the literature, as the higher the income inequality, the higher the efforts of government to reduce this by utilizing redistributive measures, and very often redistributive public employment, as Alesina et. al. (2000) suggests.

Table following on the next page

Table 4: Table of Results

Variables	Δ Log (Public Emp)
Δ Log (Public Emp)$_{-1}$	0.0403
	(0.1989)
Δ Log (GDP per capita)	0.0770**
	(0.0361)
Δ Log (Urbanization)	2.7690
	(5.4975)
Δ Openness	-0.0038**
	(0.0013)
Δ Log (Population)	-6.2348
	(4.0021)
Δ Dependency Old	0.0347
	(0.1321)
Δ Dependency Young	0.0359
	(0.0489)
Δ Gini	0.0127**
	(0.0051)
Constant	0.0698
	(0.1109)
R-Squared	0.59

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

5. CONCLUSIONS

The study shows that the public employment is determined by the countries GPD per capita, trade openness and income inequality. Specifically, the positive and statistically significant impact of GDP per capita on public sector employment underscores the relationship between economic growth and the demand for public services, aligning with prior research by Rodrik (2000) and Herrera & Munoz (2019). As income levels rise, there is a corresponding increase in the need for public sector roles to meet societal demands and deliver essential services. Contrastingly, the study reveals a negative and statistically significant coefficient for trade openness, indicating that higher levels of international trade openness are associated with a reduction in public sector employment. This finding challenges the theoretical perspective put forth by Rodrik (2000), suggesting that increased exposure to global trade might stimulate private sector growth rather than necessitate a larger public sector workforce. However, the alternative view might be asserted in this case: that trade openness fosters the development of the private sector, leading to increased private sector employment, which, in turn, may have a relative effect of reducing the proportion of public sector employment. As the economy becomes more integrated into global markets and trade barriers diminish, the private sector may experience growth opportunities, attracting investment and creating job opportunities outside the public sector. Moreover, the positive relationship between income inequality, as measured by the Gini index, and public sector employment highlights the role of redistributive policies in response to income disparities, as discussed in Alesina et al. (2000).

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