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Economic and Social Development

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"Modern technologies and innovative concepts in the function of promoting cultural heritage"

Book of Proceedings

Editors:
Anica Hunjet, Abdelhamid Nechad, Mustapha Machrafi

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THE ROLE OF DIGITAL COMPETENCE AND ENTREPRENEURSHIP EDUCATION IN RELATION TO ENTREPRENEURIAL INTENTION

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ABSTRACT

One current issue among young people is a lack of digital entrepreneurship and competence. As a result, digital transformation is the current challenge for the educational system and its development, which entails focusing management through data and technology integration. Thailand has been focused on several strategies, especially building capacity at all levels of the education system and creating a comprehensive information and communications technology strategy. Despite Thailand's expanding educational development, the emerging role of entrepreneurial digital competence and entrepreneurial education has yet to be investigated. Therefore, this paper provides an important contribution by giving an insight into the influence of digital skills and entrepreneurship education, which are crucial components of students' intentions to start a business. The hypothesis tests on these two variables result in a positive relationship with the students' intention to be entrepreneurs. This would imply that a curriculum emphasizing the knowledge, skills, attitudes, and values of digital and entrepreneurial endeavours is required to prepare all Thai students for the twenty-first century.
Keywords: *Digital Competence, Entrepreneurship Education, Entrepreneurial Intention*

1. INTRODUCTION

The challenges of the twenty-first century are regarded to be external factors of Thailand. This includes changes in the global economy and society caused by factors such as the Digital Revolution, the Fourth Industrial Revolution, achieving the UN's Sustainable Development Goals 2030 (SDGs 2030), preparations for the ASEAN Economic Community (AEC), unsustainable economic growth that causes rapid depletion of natural resources, problems with the educational system, and issues with the educational system, including the quality and management of education at all levels (Office of Education Council, 2021). One difficulty posed by the existing educational system and its evolution is digital transformation, which requires management to be centered on data and technology (Office of Education Council, 2021). Educational institutions, particularly higher education providers, must adopt digital technology into teaching and learning activities, allowing students to gain the digital skills required to generate innovation and employment (Fleaca and Stanciu, 2019). According to the international surveys of the OECD/European Union (2019), more young people are being idle. Over 200 million people – of whom 75 million are under 25 years old – are unemployed (UNESCO EE-Net Secretariat, 2017). Many problems, including a lack of digital entrepreneurial role models and a lack of digital skills, contribute to these problems (OECD/European Union, 2019). The ability to handle complicated challenges, to be an entrepreneur, and to think creatively via the use of digital resources are becoming vital talents for the development of employment and business prospects for young people. Working in conjunction with UNESCO Bangkok, educational institutions, international organizations and private sector entities, Ministry of Education, Thailand seeks to promote entrepreneurship education via a range of activities and channels (UNESCO EE-Net Secretariat, 2017). It established Digital Education Excellence Platform to make education more adaptable, flexible, and adapted to the requirements of individual students (Royal Thai Embassy, 2021). According to the OECD-UNESCO research, which gives ideas on how Thailand might overcome the education promotion policy and implementation gaps (OECD/UNESCO, 2016), Thailand needs to concentrate on several policies, particularly on increasing capacity at all levels of the education system and developing a comprehensive information and communications technology plan to prepare all Thai students for the 21st century. This necessitates an increased emphasis on a wide range of talents, such as flexibility, critical thinking, creativity, problem solving, and cooperation. Despite the raising education growth in Thailand, however, the increasing function of an entrepreneurial digital skill and entrepreneurial education has not been researched yet. This research will make a significant contribution by focusing light on the impact of digital competence and entrepreneurship education on student intentions to become entrepreneurs. The study results will provide ways to convert digital and entrepreneurship teaching and learning to meet student skills in order to accomplish the development of entrepreneurship. And therefore, assist the reform of the curriculum which defines and corresponds to the knowledge, skills, attitudes, and values students. Simultaneously, it promotes the accomplishment of Thailand's 20-year National Plan and enhances economic potential and inclusiveness.

2. LITERATURE REVIEW

2.1. Digital competence

Digital competence may be described as a collection of skills that enable us to utilize technology to improve our everyday life (Ferrari, 2012). Digital competencies are radically transforming markets and society, and several researchers have studied the effect and potential challenges to entrepreneurship brought about by this phenomenon (Nambisan, 2017). According to Ferrari (2012), digitally competent individuals may utilize digital media to seek for information, evaluate what they get from cyberspace, and obtain the capacity to connect with others utilizing a range of digital tools and applications such as mobile phones and social media. Digital competence is a collection of knowledge, attitudes, and abilities required in a digital world that is continuously expanding. The "Digital Competence Framework for Citizens" developed and comprehensively explained digital competence in five major areas using a helpful conceptual model: information and data processing; communication and interaction; digital content creation; security and well-being; and problem-solving. Together, these domains may provide comprehensive reference models to facilitate digital transformation via policy creation and support, instructional education and training planning, and digital skills evaluation (Vuorikari, Punie, Carretero and Van den Brande, 2016). Several academics have analyzed the degree of digital competencies and their effect on the job market (Titan, Burciu, Manea and Ardelean, 2014). While technology provides new methods to organize teaching and learning, the program encourages higher education institutions to develop digital preparation models to assist instructors and students in using digital learning practices and maximizing the potential of cutting-edge technology (European Commission, 2017). Regarding this, Thailand intends to encourage entrepreneurial education through a number of activities and venues (UNESCO EE-Net Secretariat, 2017). It launched the Digital Education Excellence Platform to make education more adaptable, flexible, and individualized to the needs of individual students, and it addressed the processes required for any educational institution that seeks to integrate and effectively use digital technologies in teaching and learning activities (Royal Thai Embassy, 2021). Hence, the effective adoption of digital teaching and learning across the whole educational value chain is predicated on the initial evaluation of digital competencies of students, instructors, and other stakeholders. In this respect, the paper addressed issues for many areas of digital skills in order to give current and relevant information about students' experiences and accomplishments in the learning environment of the digital era.

2.2. Entrepreneurship Education

Entrepreneurship, as defined by Nicolaides (2011), is a process that fosters and supports economic development, job creation, and wealth via successful firms. Entrepreneurship is a human attitude that necessitates growth via inventive acts and the ability to identify possibilities in the surroundings. Entrepreneurship as a profession provides graduates with economic independence and the opportunity to contribute to the economy via employment creation (Wardana et al., 2020). Kuratko (2005) argues that the increasing number of entrepreneurship programs and courses, either in the educational or training systems, and the corresponding increase in the number of entrepreneurship teachers is clear evidence of this recognition and demonstrates that entrepreneurship, or at least certain aspects of it, can be instructed. It is commonly acknowledged that entrepreneurship education may create entrepreneurial culture and activity. Entrepreneurship education not only teaches students about starting and operating a firm, but also encourages innovative thinking, self-respect, and discipline. Rothaermel et al. (2007) define university entrepreneurship broadly to encompass all entrepreneurial activities in which a university could be involved, including, but not limited to, patenting, licensing, creating new firms, facilitating technology transfer through incubators and science parks, and facilitating regional economic development. Entrepreneurship education, so as the mindset is concerned, influences attitudes, beliefs, and values, which play a crucial role in initiating and strengthening entrepreneurial goals (Fayolle and Klandt, 2006). Entrepreneurship education encourages students to pursue self-employment after graduation (Premand, Brodmann, Almeida, Grun and Baroumi, 2016). Also, preliminary studies have effectively established the major impact of entrepreneurship education on entrepreneurial aspirations. Many studies, such as Maresch et al. (2016) and Shinnar et al. (2018), demonstrate a strong association between entrepreneurship education and entrepreneurial intentions. Kim and Park (2019) illustrated the major roles of entrepreneurship education. It facilitates the transmission of knowledge, information, and experience from learning sources to students via entrepreneurial learning activities. Practice area of entrepreneurial education will motivate students to become future success stories. Most of the research on entrepreneurship education has focused on program components and their effect on self-efficacy or entrepreneurial goals (O'Connor, 2013). As a result, entrepreneurship education should emphasize the development of an entrepreneurial mindset or intention since it may serve as the catalyst for additional entrepreneurial behaviors.

2.3. Entrepreneurial Intention

The previous literature has attempted to provide a unified description of a people's entrepreneurial intentions. Many concepts in the study of entrepreneurial intentions try to enhance our knowledge of intention (Nowinski et al., 2019). Entrepreneurial intention is the perception that entrepreneurs aim to launch a firm (Thompson, 2009). Peng, Lu, and Kang (2012) defined entrepreneurial intention as a mental orientation such as desire, wish, and hope that influences an individual's decision to engage in entrepreneurship. Entrepreneurial intention, according to DeNoble et al. (1999), is the entrepreneur's inherent knowledge, preferences, and behavioral tendency to establish a new firm. According to Krueger, Reilly and Carsrud (2000), entrepreneurial intention is the subjective attitude and anticipation of prospective entrepreneurs on whether they would participate in entrepreneurial activity. Jena (2020) found that entrepreneurial intentions are the most important characteristics in predicting an individual's entrepreneurial activities. Peng, Lu, and Kang (2012) believed that mental orientations such as ambition, wish, and hope impact their choice of entrepreneurship. Entrepreneurial intention is, in a word, a psychological condition that directs our focus toward certain business objectives in order to generate entrepreneurial outcomes. There is also an acknowledgement that people form new companies or generate new values in current organizations.

3. CONCEPTUAL FRAMEWORK

This research utilized an integrated approach to investigate the performance determinants of undergraduate students, drawing on previous research. In this research, we hypothesized that digital competence and entrepreneurship education are crucial components of students' intention to start a business. The rational conceptual framework was developed as below:

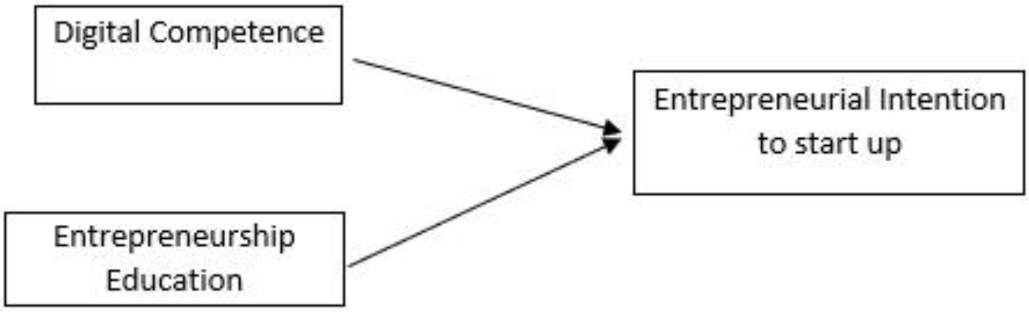

Figure 1: A Conceptual Framework

From the above framework, the study employed two main hypotheses for analyzing the data:

- H_1: The students' perception on digital competence is positively related to their entrepreneurial intention to start up a business.
- H_2: The students' perception on entrepreneurship education is positively related to their entrepreneurial intention to start up a business.

4. METHODOLOGY

4.1. Population and Sample Determination

The population of this research consists of undergraduate students from Srinakharinwirot University who enrolled in entrepreneurship-related business courses. 328 students were enrolled in these classes during the first semester of 2022. Thus, a sampling technique based on probability was used to calculate the sample size. According to the Taro Yamane Formula (Yamane, 1973), the sample size (n) is equal to N divided by (1 + Ne2). The sample size was 180.22, where N = population size (328), e = error (0.05), and confidence level = 95%. Using rounding to the nearest hundred ensures that the sample size is always representative of the population. Consequently, 180 undergraduate students were selected using a convenience sample technique to collect data. Convenience sampling is a useful strategy for data collection because it satisfies certain practical requirements, such as simple accessibility, geographical closeness, availability at a specific time, or the participant's desire to participate (Dornyei, 2007). Convenience samples are frequently referred to as "accidental samples" because items may be included in the sample if they are visually or administratively located close to where the researcher is collecting data (Etikan, Musa and Alkassim, 2016).

4.2. Research Tools

This paper deployed survey research, the most essential method for quantitative results. For data collection, only one instrument, a self-administered questionnaire, was used. The questionnaire had been constructed with four areas of digital competency: data and information, communication and cooperation, content creation, and problem solving (Vuorikari et al., 2016). The questionnaire's digital variables were modified based on the digital expertise of Fleaca and Stanciu (2019). The entrepreneurship education and entrepreneurial intention variables had been adjusted according to research conducted by Handayati et al (2020). The first section of the questionnaire requested demographic information from respondents.

The second section explored students' perceptions of digital competence. Each digital competency measure was accompanied with a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to indicate the degree of perception. In the third and fourth sections, students were questioned about their perceptions of entrepreneurship education and their entrepreneurial intentions, respectively. Each variable was accompanied with its perception degree on the same Likert scale ranging from 1— strongly disagree to 5— strongly agree. SPSS 21.0 (IBM Corp., Armonk, New York, USA) was used for data analysis. Also used were descriptive statistics like number, percentage, mean, and standard deviation. Exploratory Factor Analysis (EFA) using Principal Component extraction and Varimax (Orthogonal) rotation was performed to assess the data's validity. The Pearson correlation test was used to test the association between variables, while multiple linear regression analysis was conducted. The level of significance was determined at 0.05.

5. RESULTS

This study's constructed survey questionnaire contained questions regarding the respondents' demographic characteristics such as gender, age, and income. The frequency and percentage of demographic distribution among 180 respondents are shown in Table 1.

	Frequency	Percentage
Gender		
Male	28	15.56%
Female	152	84.44%
Total	180	100.00%
Age		
19	123	68.33%
20	45	25.00%
21	12	6.67%
Total	180	100.00%
Income		
Below 10,000 baht	131	72.78%
10,000-15,000 baht	30	16.67%
Above 15,000 baht	19	10.55%
Total	180	100.00%

Table 1: Demographic Data

Table 1 shows that 15.56% of the 180 respondents were male, while 84.44% were female. 68.33% were 19 years old, while 25.00% were 20. 72.78% had incomes below 10,000 baht, while 16.67% had incomes between 10,000 and 15,000.

Table following on the next page

Digital competence	Factor		
	Information processing	Digital communication	Digital problem solving
1.Customizing search tactics for a particular search engine, application, or device	.860		
2. Choosing information based on own search objectives	.854		
3. Acknowledging the information's utility, timeliness, correctness, and reliability	.800		
4.Assessing which software/application is the optimal fit for a certain kind of content	.785		
5.Editing information for communication via email, presentation in slides, social media posts, and so on.		.843	
6.Sharing information based on personal wants or goals		.759	
7.Using digital media to create visual representations of knowledge (e.g., diagrams, infographics).		.748	
8. Actively searching for fresh and unique methods to create content.		.619	
9. Being aware of the most recent digital technologies in use by others, as well as their potential.			.932
10. Being able to quickly adapt to new technologies and integrate it into one's own learning environment.			.921
Eigenvalue	4.436	1.882	1.094
% of Variance	44.362	18.815	10.935
KMO measure of sample adequacy	0.744		
Bartlett's Test of Sphericity (Approx. Chi-Square) p<0.01)	1176.147		

Table 2: Exploratory Factor Analysis for Digital Competence

In reliability testing for the digital competence variable, all ten proposed items had communalities more than 0.70, and all ten items had factor loadings greater than 0.50. Hence, it was certified that every item was accepted. Table 2 demonstrates the EFA findings which produced a yield of three factors (Factor1=Information processing, Factor 2=Digital communication, and Factor 3=Digital problem solving) with a KMO value of 0.744%, Bartlett's Test p =0.000 (p < 0.01). The three factors explained 74.113% of the variation in the total collection of variables. The first factor accounted 44.362% of the variation, the second factor explained 18.815%, and the third factor explained 10.935%. Consequently, each of the three factors of digital competence was reliable for gauging entrepreneurial attitudes. Considerable structural validity could be attributed to the digital competence scale variable.

Entrepreneurship education	Factor	
	Courses & Lecturers	Education
1. The course teaches the fundamental skills required for entrepreneurship.	.846	
2. The course discusses how to identify business possibilities	.841	
3. The course gives students hands-on experience in entrepreneurship through field work	.830	
4. The lecturers make the lesson relevant to real-world situations	.800	
5. The lectures employ a variety of business cases to provide in-depth knowledge of entrepreneurship in various sectors/industries	.768	
6. Entrepreneurship education is appropriate for all economies.		.910
7.Entrepreneurship education fosters creative and inventive thinking.		.848
8. Entrepreneurship education provides graduates with the ability to start their own businesses		.616
Eigenvalue	4.702	1.255
% of Variance	58.775	15.689
KMO measure of sample adequacy	.874	
Bartlett's Test of Sphericity (Approx. Chi-Square) p<0.01)	910.542	

Table 3: Exploratory Factor Analysis for Entrepreneurship education

The communalities and factor loadings of all 8 proposed items for the entrepreneurial education variable were more than 0.70 and greater than 0.5, respectively. Hence, it was certified that every item was accepted. According to Table 3, the EFA findings provided two factors (Factor1= Courses & Lecturers and Factor 2 = Education) with a KMO score of 0.874, Bartlett's Test p=0.000 ($p < 0.01$). The two factors contributed for a total of 74.464 percent of the total variation in the variables. The first factor accounted for 58.775% of the cumulative variance, whilst the second factor accounted for 15.689%. Thus, both factors of entrepreneurship education were reliable for measuring intention.

Entrepreneurial intention	Factor
	Entrepreneurial intention
1. My ambition is to become an entrepreneur.	.856
2. I will do everything in my power to start my own business.	.827
3. Being an entrepreneur fulfills me.	.815
4. Regardless of failure, I will continue to build my own business till I succeed.	.723
Eigenvalue	2.604
% of Variance	65.101
KMO measure of sample adequacy	.789
Bartlett's Test of Sphericity (Approx. Chi-Square) p<0.01	251.707

Table 4: Exploratory Factor Analysis for Entrepreneurial Intention

For the entrepreneurial intention variable, the communalities and factor loadings for all 4 proposed items were more than 0.70 and greater than 0.5, respectively. Hence, it was certified that every item was accepted. In addition, EFA analysis yielded a single component (Factor1= Entrepreneurial intention) with a KMO score of 0.789, Bartlett's Test p=0.000 ($p < 0.01$). The variable that explained 65.101% of the cumulative variation for the whole collection of variables, as seen in Table 4. Thus, the factor of entrepreneurial intent was likewise dependable for assessing the relationship between the other factors (digital competence and entrepreneurship education)

Variables	Mean	Variance	Cronbach's Alpha	No. of Items
Digital competence	3.374	.010	.821	10
Entrepreneurship education	3.308	.022	.897	8
Entrepreneurial intention	3.425	.009	.818	4

Table 5: Descriptive Analysis and Reliability

Table 5 displays the results of the descriptive analysis and reliability test. According to Vogt (2007), Cronbach's Alpha values greater than.70 for constructed questions imply that the measuring items were suitable for assessing a construct. The variable means varied between 3.308 and 3.425.

Variable	Entrepreneurial intention	Digital competence	Entrepreneurship education
Entrepreneurial intention	1.000		
Digital competence	.832	1.000	
Entrepreneurship education	.723	.791	1.000

Table 6: Pearson Correlation

The Pearson Correlation value indicates the relationship between variables and should range from -1 to 1. The value near to 1 indicates a strong correlation, whereas a negative value indicates a negative correlation. The correlation between the independent variables (Digital competence and entrepreneurship education) and the dependent variable (Entrepreneurial intention) was relatively strong, since all Pearson values were more than 0.70, as shown in Table 6.

Model	R	R Square	Adjustd R Square	Std. Error of the estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.839a	.704	.701	.342	.704	210.658	2	177	.000

Table 7: Model Summary

a. Predictors: (Constant), Entrepreneurship education, Digital competence

b. Dependent Variable: Entrepreneurial intention

The model summary for the analysis conducted using the model provided by this research is shown in Table 7. In the model summary table, digital competence and entrepreneurship education were identified as explanations for entrepreneurial intent. Through the use of an adjusted R2 of 0.701, it was determined that digital competence and entrepreneurship education accounted for 70% of the variance in entrepreneurial intention.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	49.371	2	24.686	210.658	.000a
	Residual	20.741	177	.117		
	Total	70.113	179			

Table 8: ANOVA
a. Predictors: (Constant), Entrepreneurship education, Digital competence
b. Dependent Variable: Entrepreneurial intention

The findings of F-test showed how much the model offered in this research was an acceptable model to reflect variation in entrepreneurial intention. Table 8 indicates the P-value for ANOVA was 0.00 less than .05 suggesting that the model proposed in this research is an appropriate model.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.151	.177		-.853	.039		
	Digital competence	.885	.085	.695	10.399	.000	.374	2.674
	Entrepreneurship education	.179	.069	.174	2.596	.010	.374	2.674

Table 9: Multiple Regression Results
a. Dependent Variable: Entrepreneurial intention

Table 9 reveals the P-value was .000 for the relation between digital competence and entrepreneurial intention. The value suggested that there was a positive correlation between digital competence and entrepreneurial intent. The beta coefficient for this association was 0.885. The tolerance is not less than 0.1 and VIF is not higher than 10 indicated no multicollinearity (Pallant, 2016). Hence, H_1 was acceptable. Likewise, the P-value for the relationship between entrepreneurship education and entrepreneurial intention was also .000. Accordingly, it concluded that entrepreneurship education had a substantial relationship with entrepreneurial intent. In addition, the beta coefficient for this association was 0.179. Thus, H_2 was acceptable. Based on results of multiple regression analysis, the following formula for the linear regression model of this study was explored:

Entrepreneurial intention = -.151 + .885* Digital competence **+ .179 *** Entrepreneurship education

6. DISCUSSION

The findings from this research confirm the studies of Titan, Burciu, Manea, and Ardelean (2014). They emphasized that digital competencies are connected to digital education and ultimately satisfy the requirements of the digital world. The findings are consistent with the European Commission's (2017) belief that education must make better use of digital technology for teaching and learning, develop relevant digital skills and competencies for digital transformations, and enhance education through better data analysis and foresight. Several preliminary research have effectively established the major impact of entrepreneurship education on the desire to become an entrepreneur, which is supported by the results of this study. It reveals that all identified constructs have a favorable relation with entrepreneurial intention. Therefore, the correlations between digital competence, entrepreneurship education, and entrepreneurial intent are substantial. This research investigated if digital competence and entrepreneurship education had a substantial positive association with entrepreneurial intention. In accordance with the results of Maresch et al. (2016) and Shinnar et al (2018). They demonstrate a link between entrepreneurship education and entrepreneurial intentions.

Fayolle and Gailly (2015) found that the distinctive aspect of educational activities will raise the desire to engage in entrepreneurial activity, or one of the elements that affect this intention. Hasan et al. (2017) discovered that entrepreneurship education may explain the desire of students to become entrepreneurs via motivation, skills, social network, and experience. Although Westhead and Solesvik (2016) shown that comparable elements of entrepreneurial education might explain students' intentions, Iakovleva, Kolvereid, and Stephan (2011) emphasized that entrepreneurship education allows students to increase their awareness and intention of pursuing entrepreneurship as a career route. Entrepreneurship education focuses on the improvement of competences, knowledge, and experience, which is the primary justification for this conclusion (Handayati, 2020). Hence, it is one of the most prevalent hypotheses used to explain the cause and effect of entrepreneurial aim (Iakovleva, Kolvereid and Stephan, 2011). Students are more likely to pursue self-employment after graduation if they have an education in entrepreneurship (Premand, Brodmann, Almeida, Grun & Baroumi, 2016). Entrepreneurship education, as it relates to the mindset, influences attitudes, beliefs, and values, since they play a crucial part in the development of entrepreneurial intentions (Fayolle and Klandt , 2006). All of the aforementioned data show that they corroborate the statement of Fayolle and Gailly (2015), who said that entrepreneurship education at all levels of school encourages students to gain experience and become entrepreneurs. Kim and Park (2019) argued that entrepreneurship education via field studies would motivate students to become future examples of success. Finally, inspiration from peers, business actors, and educators will aid and promote entrepreneurial aspirations. Thus, the development of entrepreneurial education presents a challenge (Handayati et al, 2020). As for Thailand, the data indicate that all nation’s plans perform a good job of fostering entrepreneurship education via a number of activities and platforms. According to the OECD-UNESCO research, the practices of educational institutions that seek to integrate and efficiently use digital technology in teaching and learning activities are adapted and implemented (OECD/UNESCO, 2016). The research urges Thailand to concentrate on a number of strategies, including stimulating digital entrepreneurship at all levels of the school system and developing an all-encompassing information and communications technology policy. In conclusion, digital competence and entrepreneurship education encourage students to increase their knowledge and desire for entrepreneurship as a career option, therefore preparing every individual for the 21st century.

7. CONCLUSION

This study demonstrates that there are significant relationships between digital competency (Information processing, digital communication and digital problem solving), entrepreneurship education (Courses & lecturers and education), and the students' intention to start a firm. In order to adapt to the interests and demands of both students and the job market, it is essential to recognize the entrepreneurial intentions of students. This would help universities develop and promote effective policies to boost entrepreneurship. First, the institution should include entrepreneurship into the business curriculum by employing entrepreneurial businesspeople as lecturers or professors. Also, it will be feasible to adjust and affect the mindsets of university students with business aspirations. The university should encourage the development of an entrepreneurial attitude among its students. The university curriculum should include digital technology into teaching and learning activities in order for students to gain the digital skills necessary for innovation and employment. The ability to handle complicated challenges, to be an entrepreneur, and to think creatively via the use of digital resources are becoming vital talents for the development of employment and business prospects for young people. Digital entrepreneurship is not a solution for making entrepreneurship more widespread, but there is a role for policy in eliminating the obstacles to digital entrepreneurship via programs that develop digital and entrepreneurial skills, particularly through entrepreneurship training and education.

The foundation for the effective implementation of digital learning across the whole educational system is the first assessment of students' digital competencies. Similarly, such measures will aid in the development of entrepreneurial digital skills at universities.

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SATISFACTION OF USING QR CODES BY CUSTOMERS ON THE CROATIAN MARKET

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ABSTRACT

The use of QR codes has been on the rise in recent years due to their practicality of use, ease and low cost of production, dynamic form that is effective, but also the ability to monitor analytical data in real-time, which gives companies a simpler and faster way to connect with customers. Although this is an area of mobile marketing that is well accepted in practice and research papers on the subject of the application of QR codes in marketing, and satisfaction with QR codes exist, these topics are insufficiently researched in the Croatian market. Therefore, this paper provides insight into the acceptance, use, and satisfaction of customers of QR codes in the Croatian market, both theoretically and empirically. The theoretical part of the paper provides an insight into the application of QR codes in mobile marketing and previous research in this field, while the empirical part of the paper presents the results of quantitative descriptive research conducted through a questionnaire as an instrument for collecting primary data on end customers in the Croatian market. So, the main scientific contribution of this paper is in understanding the circumstances and habits of using QR codes by customers in the Croatian market and the satisfaction of using them.

Keywords: *QR code, mobile technologies, mobile marketing, customer satisfaction, satisfaction factors*

1. INTRODUCTION

Companies strive to reach existing as well as potential customers in increasingly innovative ways, so among other things, QR codes are found in sales and hospitality facilities, on promotional materials, on product packaging, in public transport, on websites, etc. By scanning a QR code, customers can quickly access various content such as additional information about the product, a discount code, participation in a prize draw, or subscription to the newsletter. However, previous research has shown that there are still significant barriers to using QR codes in everyday life, as well as potential risks and dangers. All circumstances and results of scanning QR codes can affect customer satisfaction, and thus, consequently, decisions about repurchasing products or reusing services.

2. CONCEPT OF SATISFACTION

Customer satisfaction is one of the most researched terms in marketing, and marketers have been trying to specify it through different theories and approaches for many years. Through business, companies strive to achieve and maintain customer satisfaction because it has numerous benefits and can affect their long-term success, creating competitive advantage and sustainability on the market (Kuncoro and Suriani, 2018). Most experts agree that satisfaction positively influences customer loyalty and the decision to repurchase products or reuse services (Kim, 2012) (Hsu, Chang and Chen, 2012) (Anderson and Srinivasan, 2003). Satisfied customers will more often recommend the company's products and services to others in their environment, which can affect the increase in profitability and market share of a particular company (Reichheld and Schefter, 2000). Equally, dissatisfied customers tend to express their dissatisfaction with the company's operations, product, or service, and may complain and also pass on their negative experiences to others (Oliver, 2014) (Vranešević, Pandža Bajs and Mandić, 2018). Thanks to the ubiquity of digital business, customers can express their dissatisfaction publicly through reviews, comments on websites and social networks, which is visible to a large number of people and can seriously damage the image and business of the company. In addition, it is important for companies to maintain the level of satisfaction of their customers and try to convert them into loyal ones, because the cost of acquiring new customers is up to five times higher than the cost of retaining existing ones (Kalinić *et al.*, 2021) (Dobrinić and Gregurec, 2016). Although numerous authors have studied the concept of satisfaction there is still some terminological inconsistency, most experts agree that there are several steps when observing the creation of customer satisfaction. Before the customer comes into contact with the company (or its products and services), he/she already forms certain expectations. After that, the customer evaluates his purchasing experience and the result and compares it with the initial expectations (Kim, 2012) (Oliver, 2014). If the initial expectation is not confirmed, that is, if the result or experience is worse than expected, dissatisfaction occurs. However, if the customer rated the experience equal to or better than expected, satisfaction arises and it is possible for the customer to make a decision to purchase again or interact with the company in the future (Vranešević, Pandža Bajs and Mandić, 2018) (Dobrinić and Gregurec, 2016). According to all of the above, customer satisfaction can be defined as the opinion or attitude they have about products, services or the company, which they compare with their previous expectations about their use (Oliver, 2014). Therefore, there is an increasing need to maintain the level of satisfaction not only through maintaining the quality of products and services, but through investing in the overall experience and relationship with customers (Cengiz, 2010).

3. SPECIFICS OF CUSTOMER SATISFACTION WITH QR CODES USAGE

Thanks to the increasing prevalence of mobile devices and mobile technologies in general, advertisers today have an ever-greater opportunity to reach customers with interactive marketing messages and encourage them to make a purchase. Mobile marketing has developed at a high speed precisely because of the possibility for advertisers to deliver personalized and extremely relevant messages to customers at a precise moment (Atkinson, 2013). Customers also benefit greatly from mobile marketing. With the increasing technical capabilities of mobile devices, customers have access to a wealth of information in the palm of their hand and can access it wherever they are and at any time, as long as they have their mobile device with them (Vaidya, Pathak and Vaidya, 2016). Through a mobile device, they can search and compare different products and services, view profiles on the brand's social networks, look for additional information about products and make a purchase (Yusof, Hooi and Abas, 2021) (Slunjski, Dobrinić and Gregurec, 2020). It is important to highlight how a customer can make a purchase of a particular product from the comfort of their home through a mobile application or a mobile-friendly website (Dobrinić, Gregurec and Dobrinić, 2021). But he can also use his mobile device inside the physical store to get various benefits (Grewal *et al.*, 2016). It is a well-known practice that customers in stores often use mobile devices to simultaneously search competitors' products and compare quality and/or price. QR codes can also play a big role in this.

Placing QR codes on windows, shelves or signs inside stores has proven to be an effective way to intrigue potential customers and encourage them to communicate with the company (Sang Ryu and Murdock, 2013) (Albastroiu and Felea, 2015). By scanning QR codes, customers can quickly and efficiently access additional information about the products they are interested in, instructions and tips on how to use them, information about the store, potential discounts and promotions, etc. This application of mobile technologies such as QR codes allows customers to save time and makes it easier to bring a decision that has a positive effect on increasing satisfaction (Kohli, Devaraj and Mahmood, 2004) (Lou, Tian and Koh, 2017). QR codes as a mobile marketing tool give customers more control than SMS messages, given that customers can choose whether and at what time to scan them (Atkinson, 2013). In addition, QR codes overcome customers' mistrust of businesses and fear of sharing personal information, as scanning them does not require sharing your number with the business, as is required to receive SMS messages (Watson, McCarthy and Rowley, 2013). In order for customers to accept mobile technologies, they must first of all have the technical ability to use them (e.g. a smart mobile device for using QR codes), they must have knowledge of how to use them and what advantages they will gain. In addition, they must have enough confidence in new technologies to accept using them. After accepting and starting to use new mobile technologies, satisfaction with their use can be measured.

The specific factors that influence the satisfaction of using the QR code include:

- *Ease of use*: Ease of use is an important factor that affects the rate of use and satisfaction with QR codes because customers do not want to make a lot of extra effort to access the content. In order to be satisfied when scanning a QR code, the process must be easy, fast and simple (unambiguous) for the customer (Shin, Jung and Chang, 2012) (Ozkaya *et al.*, 2015).
- *Quality of information (content)*: The quality of information, that is, the content of a QR code, refers to the precision, completeness, relevance and reliability of information that can be accessed by scanning the code (Shin, Jung and Chang, 2012) (Ozkaya *et al.*, 2015).
- *Comprehensibility of information (content)*: Comprehensibility of information, or content, refers to the clarity and ease of interpretation of information. Customers want to access information quickly and easily, and it should be presented in a clear and easy-to-understand manner for all customers (Cheung & Lee, 2005).
- *Functionality*: Functionality refers to the technical reliability of the connection between the mobile device and the QR code, the speed of loading the content of the code and the safety of their use (Shin, Jung and Chang, 2012) (Lee and Chung, 2009).
- *Usefulness*: In this context, usefulness can be defined as the property of a QR code to help the customer make a decision or achieve a desired result (Kalinić *et al.*, 2021). Previous research has shown that customers highly value the usefulness of QR codes and the messages contained in them, and that advertisers should tailor messages to each of their target groups to meet their specific needs at a given moment. For example, some customers will scan codes with the intention of obtaining an additional discount through coupons, and some want to access additional information, video content, etc (Sang Ryu and Murdock, 2013).
- *Interactivity*: By scanning a QR code on a physical surface such as product packaging, a sign in a store or a flyer, the customer moves into the digital domain and has the possibility of dynamic interaction with the brand. Depending on the code, customer can access content such as web pages, quizzes, video and photo content, and click further to continue interacting with the content and better connect with the brand (Shin, Jung and Chang, 2012). If the QR code is well integrated into the marketing campaign in a way that offers customers greater interactivity, this positively affects satisfaction (Probst and Brokaw, 2012).

- *Enjoyment*: The enjoyment derived from the use of technology, and in this case QR codes, has proven to be an important indicator for the acceptance of the use of codes and has a positive impact on the satisfaction and continuity of their use (Kalinić *et al.*, 2021) (Sang Ryu and Murdock, 2013).

4. RESEARCH

4.1. Research methodology

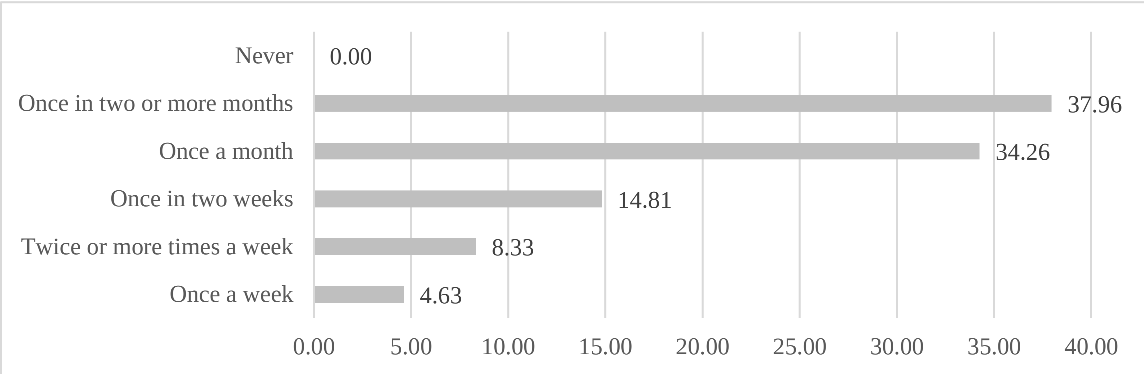
Authors conducted desk research for the purpose of collecting secondary data. Desk research showed that research on the use of QR codes in mobile marketing, acceptance and customer satisfaction has been conducted in many countries over the past ten or more years, but also that there is a lack of research conducted in the Croatian market. This research should give insights into the behavior and attitudes of Croatian customers regarding QR codes. Therefore, the problem of this research was the lack of a real picture of the satisfaction of Croatian customers with QR codes as a mobile marketing tool, and the goals of the research were to examine the satisfaction of Croatian customers of QR codes in mobile marketing, to determine which factors lead to the emergence of satisfaction and to gain a general insight into the circumstances of their use. In order to achieve the objectives of the research, a quantitative descriptive research was conducted using a questionnaire as an instrument for collecting primary data. The questionnaire was divided into three groups: demographic characteristics of respondents, questions related to determining the circumstances of scanning QR codes (such as their frequency and intention of use), and at the end the statements related to satisfaction with QR codes measured on a five-point Likert scale. The statements used in the questionnaire were taken and adapted according to previous research conducted by (Sang Ryu and Murdock, 2013) (Shin, Jung and Chang, 2012) (Cheung and Lee, 2004). The questionnaire was created in the Google forms tool and was published on social networks in July and August 2022, therefore a deliberate sample, an avalanche sample was use for collecting data. 132 respondents took part in the survey, and a total of 108 of them answered all the questions in the questionnaire and the statistical analysis shown in this paper was performed on their answers.

4.2. Research results

Demographic characteristics		Real number	Frequency
Gender	Male	21	19,44
	Female	87	80,56
Age	18-25	67	62,04
	26-35	37	34,26
	36-45	3	2,78
	46-55	0	0,00
	56-65	1	0,93
	65+	0	0,00
Education degree	High school	47	43,52
	Undergraduate studies	44	40,74
	Graduate study	16	14,81
	Doctorate	1	0,93
Working status	Student	59	54,63
	Employed	43	39,81
	Unemployed	6	5,56

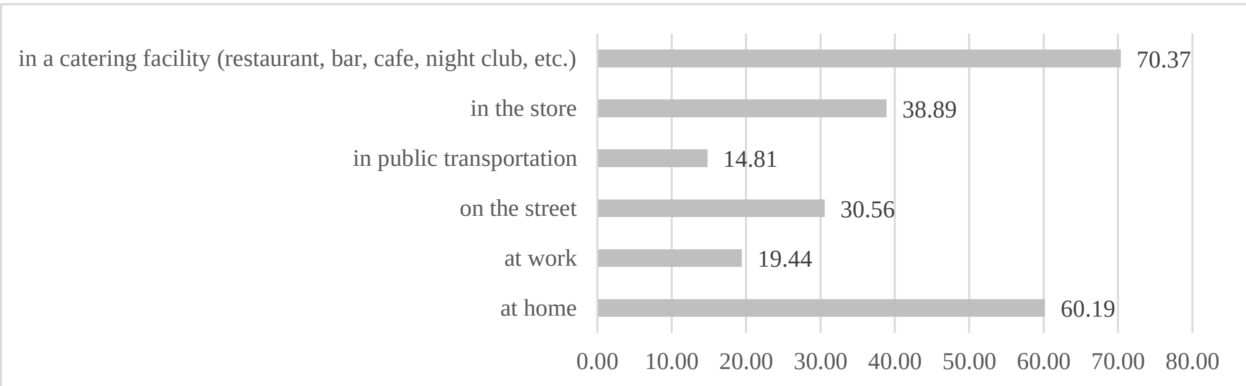
Table 1: Demographic characteristic of respondents
(Source: research)

From Table 1, it can be seen that in the sample of respondents, the majority were female (80.56%), between the ages of 18 and 25 (62.04%) and they were mostly students (54.63%). When looking at the level of education, the majority of respondents were from the group of completed undergraduate studies (43.52%) and graduate studies (40.74%). It is from this distribution of the sample that the basic limitation of the conducted research can be recognized. Apart from the sample which consisted of only 108 respondents, nor is their distribution even. So, the results cannot be generalized to the Croatian market, but they can certainly be a good basis for future research in this area.



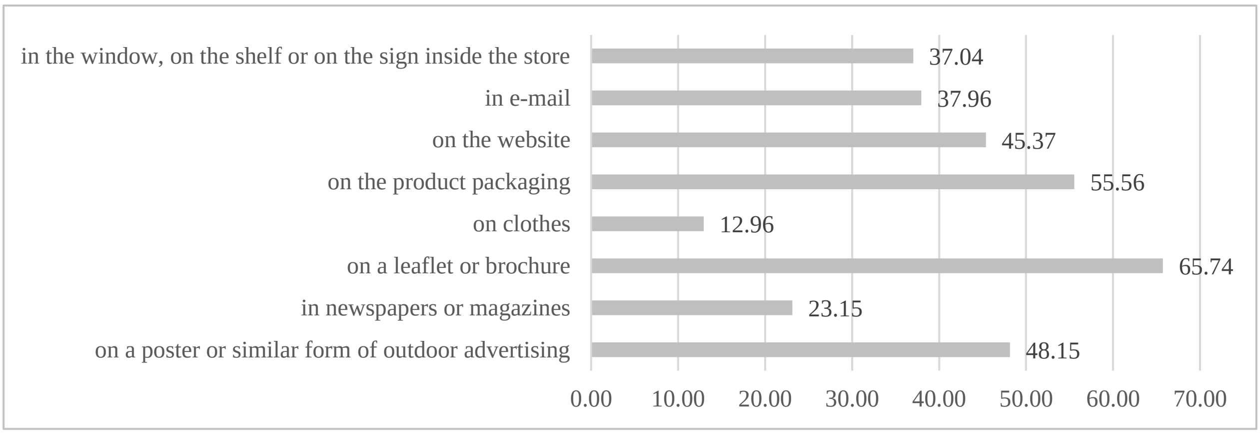
Graph 1: Frequency of QR codes usage
(Source: research)

From graph 1, it can be seen that the largest number of respondents, 37.96% of them, answered that they scan QR codes once every two months or less often. 34.26% of respondents use (scan) QR codes once a month, 14.81% once every two weeks, 8.33% once a week. The smallest number of respondents, 4.63% of them, use QR codes two or more times a week. None of the respondents chose the option "never". If some chose this option, the questionnaire would end for him/her with this question. At the same time, it should be noted that 98.15% of respondents use their mobile devices for scanning, which is somewhat logical considering that mobile devices are the ones that are constantly with customers and the most personal thing that customers can have.



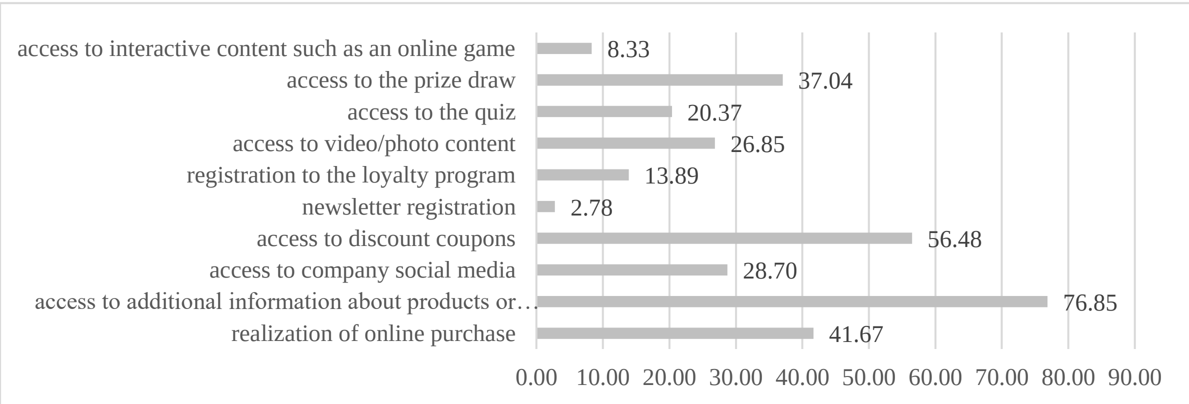
Graph 2: Where customers scan QR codes
(Source: research)

Respondents scan QR codes most often (70.37%) when they are in catering facilities such as restaurants, bars, cafes, nightclubs, but also when they are at home (60.19%), and less often in public transport (14.81%) and at work (19.44%) which can be seen from graph 2.



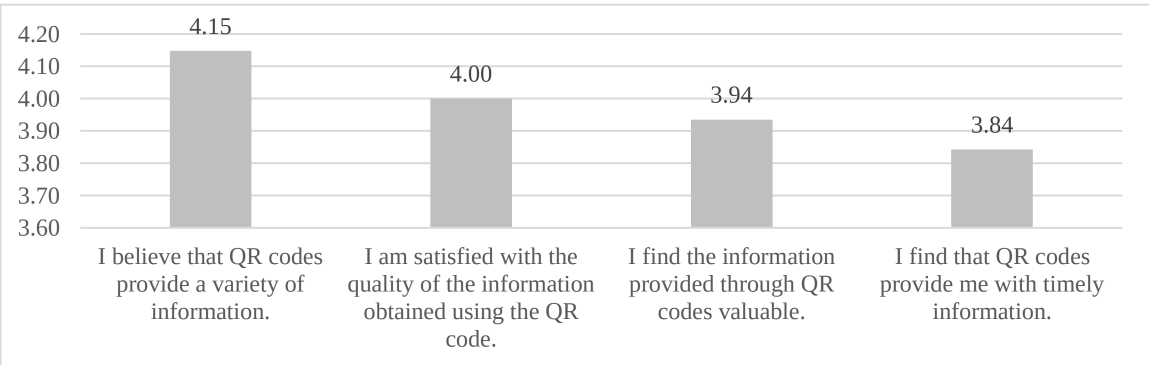
Graph 3: Where customers find and scan QR codes
(Source: research)

From graph 3, it can be concluded that respondents most often find and scan QR codes on flyers or brochures (65.74%), product packaging (55.56%), and less often on clothes (12.96%), and in newspapers or magazines (23.15%).



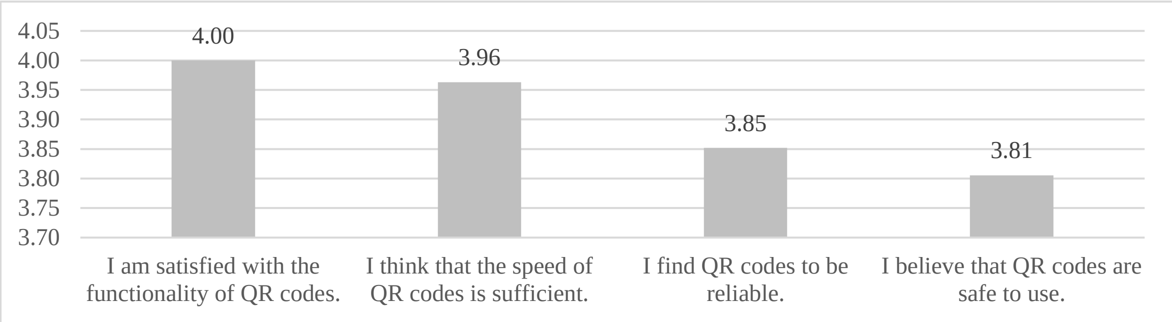
Graph 4: Purpose of QR code usage
(Source: research)

Graph 4 shows how the respondents mostly use QR codes to access additional information about products or services (76.85%), to access discount coupons (56.48%) to realize online purchases (41.67%) and to access prize games (37.04%). While they scan QR codes the least to register for newsletters (2.78%), access interactive content (8.33%) and register for a loyalty program (13.89%).



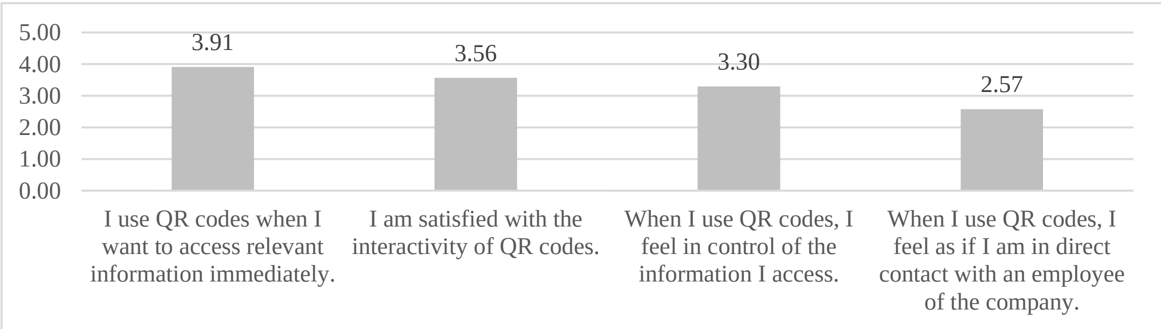
Graph 5: The quality of information obtained by scanning the QR code
(Source: research)

Graph 5 shows statements related to the quality of information obtained by scanning a QR code, measured on a 5-point Likert scale. The respondents gave the highest mean grade (4.15) to the statement "I believe that QR codes provide a variety of information.", which means that on average they agree with this statement. While they gave the lowest mean grade to the statement "I find that QR codes provide me with timely information." (3,84). However, if all statements from this category are observed, on average, the respondents agree with all of them.



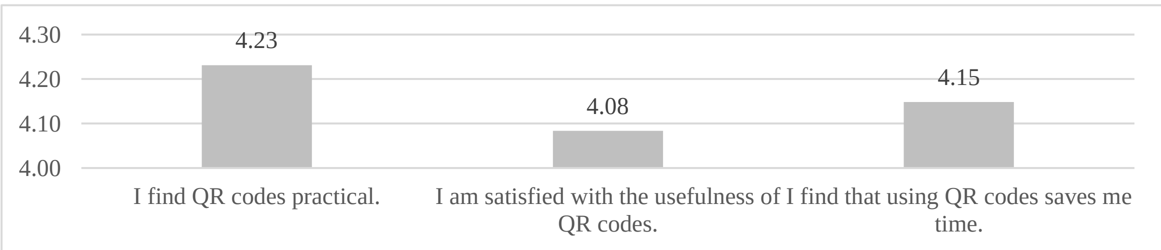
Graph 6: QR code functionality
(Source: research)

Graph 6 shows the results related to the statements that observe the functionality of the QR code. It can be concluded that, on average, respondents also agree with all the statements from this category.



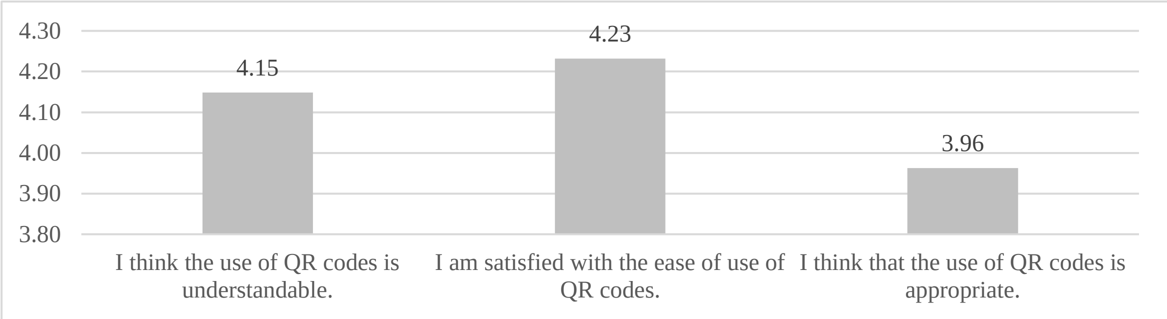
Graph 7: Interactivity of the QR code
(Source: research)

The situation is somewhat different with statements related to the interactivity of QR codes. Except for the statement "I use QR codes when I want to access relevant information immediately", with which respondents on average agree, as shown by the mean grade of 3.91, respondents gave lower mean grade to other statements from the interactivity category (Graph 7).



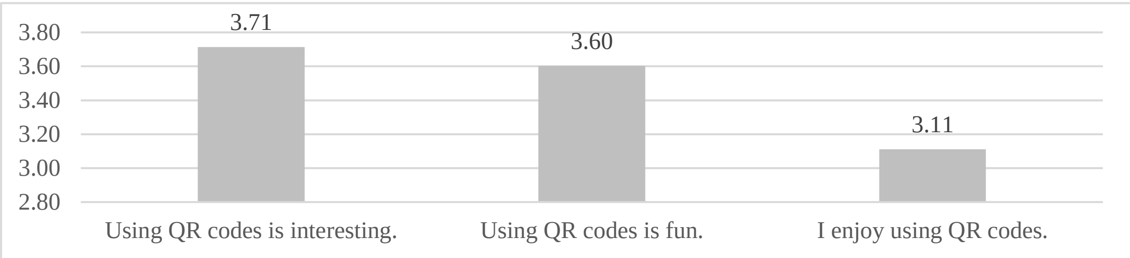
Graph 8: Usefulness of QR code
(Source: research)

Graph 8 shows the respondents' answers to the statements related to the usefulness of QR codes. On average, respondents agree with the statements "I find QR codes practical." (mean grade 4.23), "I am satisfied with the usefulness of QR codes" (mean grade 4.08) and "I find that using QR codes save me with that" (mean grade 4.15).



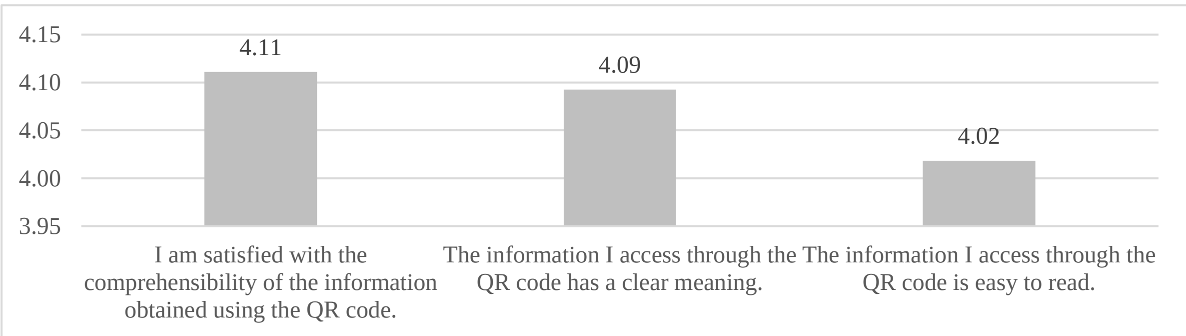
Graph 9: Ease of use of QR code
(Source: research)

On average, respondents also agree with the statements related to the ease of use of QR codes, which is also shown in chart 9.



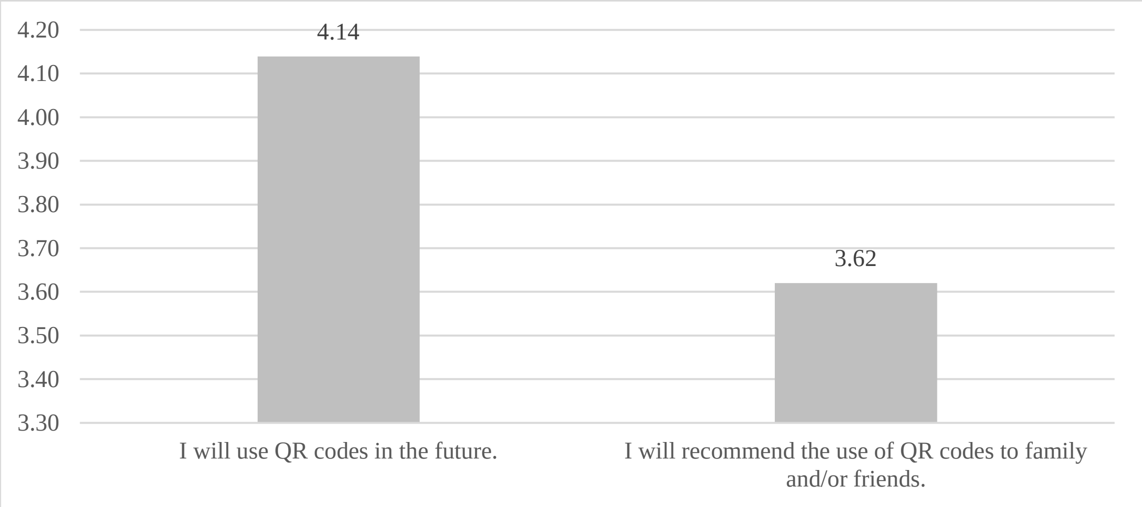
Graph 10: Enjoyment of using a QR code
(Source: research)

If we look at the statements related to the enjoyment of using QR codes, the mean grades are somewhat lower. Thus, the respondents agree on average when it comes to the statements "Using QR codes is interesting." (3.71) and "Using QR codes is fun." (3,60), while regarding the statement "I enjoy using QR codes.” respondents were undecided, they neither agree nor disagree with this statement, which is also confirmed by the mean grade of 3.11.



Graph 11: Understanding the information obtained by scanning a QR code
(Source: research)

Graph 11 shows the results of statements related to the comprehensibility of information obtained by scanning a QR code. On average, respondents agree with all the statements in this category.



Graph 12: Intention of future use of the QR code
(Source: research)

And finally, if we look at the statements related to the intention to use QR codes in the future from graph 12, it can be seen that the respondents gave an mean grade of 4.14 for the statement "I will use QR codes in the future", and 3.62 for the statement "I will recommend the use of QR codes to family and/or friends.", so on average they agree with both of them.

4.3. Discussion

By analyzing the previously presented questions and statements, it is evident that QR codes are predominantly used by the younger population, i.e. students and young employed people in the age groups of 18 to 25 and 26 to 35 years old. But the limitation of the research should be considered with regard to their demographic characteristics when it comes to the distribution of respondents. The research gained insight into the various circumstances of using the QR code, for example, the place where the QR codes are located, the place where the respondents are when they scan the QR code, the type of content obtained by scanning and the intention of scanning. Although all respondents included in this research are familiar with QR codes and have scanned them at least once, their use is still relatively rare and the largest percentage of respondents stated that they scan them once every two months or even less often. However, QR codes are present in various places, and respondents mostly find them on flyers or brochures, on product packaging and on posters or similar forms of outdoor advertising. The largest part of the respondents was in a "catering facilities" when they scanned the QR codes, and a higher proportion of respondents' answers were also recorded for the options "at home", "in the store" and "on the street". This suggests that respondents scan QR codes mostly when they are on the move. As for the intention of scanning QR codes, it was most often about accessing additional information about products and services, which is in line with the results of the research conducted by the authors (Okazaki, Li and Hirose, 2012) and with the research conducted by (Ozkaya *et al.*, 2015). However, research by authors (Okazaki, Li and Hirose, 2012) found that a large number of advertisers use QR codes to encourage (potential) customers to register for a loyalty program and/or newsletter, which is not the case in the research conducted by authors of this paper. The smallest number of respondents, 3% of them, said that after scanning the QR code they signed up for the newsletter, and only 14% registered for the loyalty program.

Also, a small percentage of respondents, 8% of them, used QR codes to access interactive content such as online mobile games, which contradicts the results of the research conducted by (Watson, McCarthy and Rowley, 2013). After accessing additional information, the respondents in this study chose access to discount coupons and online shopping as the second and third most common reasons for scanning a QR code, which is similar to the results of the research conducted among Turkish students (Ozkaya *et al.*, 2015). By observing the specific factors that influence the satisfaction of using the QR code, the respondents expressed satisfaction with the claims related to usefulness. At the same time, the majority of respondents completely agreed with the statements that using codes saves them time and that they are practical. Authors (Hossain, Zhou and Rahman, 2018) found that the practicality of QR codes has a great influence on satisfaction and the intention to use them again. Also, a high degree of satisfaction was expressed in all three claims related to the comprehensibility of information obtained by scanning a QR code, which indicates that advertisers in Croatia who use QR codes in their campaigns present their information in a clear and comprehensible way for customers. In addition, the research also found that respondents are generally satisfied with the quality of information obtained by scanning QR codes and their functionality. The question about the functionality of the codes included several statements, among which the respondents spoke most positively about the reliability of QR codes and their speed. In earlier studies, it was determined that the speed and reliability of codes have an extremely positive effect on satisfaction and the intention to use them again. Ease of use is another factor that affects satisfaction with the use of a QR code, which the previously mentioned group of authors emphasize in their research results. This was also confirmed in this research, because respondents marked all three statements regarding ease of use with a high level of agreement. As for interactivity as a factor affecting satisfaction with the use of QR codes, the results show that respondents were more reserved with this group of statements than with statements related to the quality of information, usefulness, functionality or comprehensibility of information obtained with QR codes. The enjoyment of using QR codes can be mentioned as the last factor of satisfaction with the use of codes included in this research. Although a large number of respondents agreed with the statements about interactivity, there is also a significant part of those who were reluctant or expressed disagreement, which indicates that the content and experience of using QR codes in Croatia is not yet sufficiently interactive. In conclusion, it is evident from the research results that the respondents are familiar with the various possibilities of using QR codes. However, their use is mainly focused on obtaining additional information, discount coupons and online purchases, and less on interactive content or building long-term relationships with customers through loyalty programs. Regarding satisfaction, respondents expressed satisfaction with most factors (quality of information, functionality, usefulness, ease of use and comprehensibility of information). A lower degree of satisfaction was expressed regarding interactivity and the enjoyment of using the QR code. Finally, it is extremely positive that as many as 84% of the respondents expressed that they plan to continue using QR codes in the future, which is confirmed by the average rating of 4.14.

4.4. Limitations and recommendations for future research

There are several limitations of this research, and they are mostly related to the sample itself. Firstly, with a relatively small number of respondents, only 108 of them, and secondly, related to their distribution. It is therefore not possible to give a broad picture of the satisfaction of using the QR code on Croatian market, and the results cannot be generalized, but they can certainly be a good basis for future research considering that the topic itself has not been sufficiently studied in Croatian market. Furthermore, the research was not intended to collect information about the respondents who would have declared in the first question that they do not use QR codes.

Therefore, it is recommended to include a special set of questions for that group of respondents in future research in order to find out their demographic characteristics and reasons for not using QR codes. An insight into that reasons could help marketing experts in coming up with future marketing strategies for the purpose of winning over that customer segment as well.

5. CONCLUSION

In today's era of globalization and increasing competition, both online and offline, marketers must constantly discover new ways to reach their target audience. Considering the number of smart mobile devices used in the world, and the fact that most of us always carry them with us, mobile marketing has emerged as one of the most suitable and effective ways to make contact and reach the target audience at the right time and in the right place. At the same time, QR codes represent a tool that is cost-effective, and that can be integrated into offline or online campaigns, and enables monitoring of results in real time. In addition, unlike push media, QR codes give customers the choice of whether and when to scan each code and access the information contained in it. This makes them less intrusive than, for example, sending SMS messages, e-mails or notifications via social networks. Furthermore, their versatility allows customers to perform various actions by scanning, such as information about products, access to photo or video content, access to a quiz or a discount coupon, or to register for a newsletter. At the same time, they save time because they do not have to search, for example, company websites or look for a specific online sales point or other information that interests them at that moment. Despite the topicality of the topic, there is generally little research available related to the satisfaction of using QR codes, especially not in the Croatian market. This paper presents the results of quantitative descriptive research on a sample of 108 Croatian customers, which gained insights into the frequency of QR code usage, the location of the usage, the customer's goal when scanning and various other circumstances. The greatest contribution of the research is manifested in the fact that it covers seven factors that influence satisfaction with QR codes, and in the case of all of them, respondents expressed positively. On average they are mostly satisfied with the use of codes, that is, with all observed satisfaction factors. The results of the this research can serve as a starting point for future research on the topic of QR codes in the Croatian market, and can also indicate to managers the importance of their use in marketing campaigns.

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THE CHALLENGES OF THE MINING INDUSTRY'S TRANSITION TO SUSTAINABLE DEVELOPMENT

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ABSTRACT

The mining industry has long been marred by many incidents around the world, the number of industrial accidents caused by mining in the four corners of the world are multiple, from the most mediatised to the least mediatised, the mining industry has been the cause of several environmental disasters, human rights abuses...It is therefore one of the industries strongly concerned by sustainable development in the sense that its activities directly impact the environment. Whether at the international or national level, mining companies never cease to multiply their efforts in terms of sustainable development. It is important to note that this is not without interest. Indeed, sustainable development involves various issues for the mining industry. These issues are environmental, social, economic and ethical. They are indeed the reasons why mining companies are increasing their sustainable development practices. Talking about the challenges of the mining industry's transition means analysing the impacts of mining activities on the four dimensions: economic, environmental, social and ethical. In this paper we will analyse the challenges of transitioning the mining industry towards sustainability so that it is economically efficient, socially equitable and environmentally acceptable.

Keywords: *Sustainable development, Issues, Mining industry, Transition*

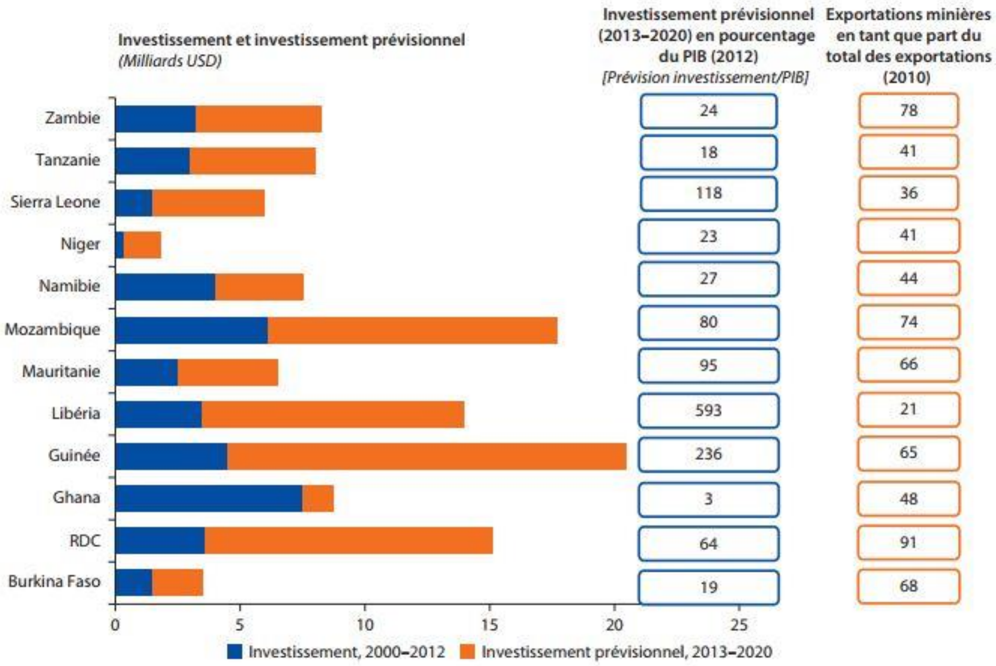
1. INTRODUCTION

The mining industry is one of the industries most concerned by sustainable development in the sense that its activities have a direct impact on the environment. Whether at the international or national level, the efforts of mining companies are constantly increasing in terms of sustainable development. It is important to note that this trend is not without interest. Talking about the challenges of the transition of the mining industry means analysing the impacts of mining activities on the four dimensions: economic, environmental, social and ethical. The mining industry is essential to the development of a modern economy, as these minerals are essential raw materials for the development of a whole range of strategic industrial sectors. These minerals are used in the production of a wide range of industrial products, consumer goods, infrastructure elements, inputs to improve agricultural soils, as well as for transport, energy, communications and countless other services. As the demand for these raw materials in the world is constantly increasing, especially to meet the needs of emerging countries such as China and India, the exploitation of these raw materials is in most cases carried out under conditions that do not respect the environment, human rights, social cohesion and ethics. Sustainable development is based on the combination of three interdependent economic, social and environmental components. Achieving a sustainable mining industry therefore requires mining that is economically efficient, socially equitable and environmentally acceptable.

This approach to pursuing the public interest ensures the sustainability of society, the environment and the economy. Indeed, sustainable development involves various issues for the mining industry. These issues are environmental, social, economic and ethical. They are indeed the reasons why mining companies are increasing their sustainable development practices. These practices are presented in the following lines, as well as the challenges of the mining industry's transition to sustainable development.

2. ECONOMIC ISSUES

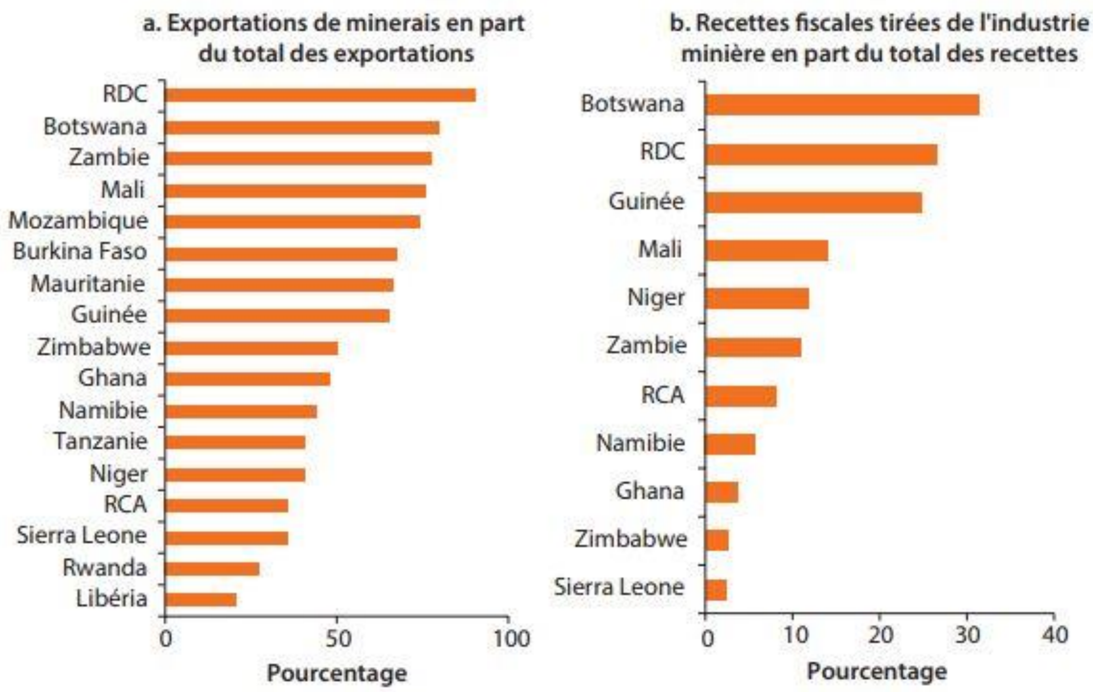
The mining sector has considerable development prospects and presents many opportunities for the economy. From an economic point of view, mining resources represent natural capital that must be exploited to produce wealth, some of which will be used for consumption and some of which will be reinjected into the creation of other forms of capital that will contribute to economic dynamism and foster economic growth. Indeed, the exploitation of mineral resources requires heavy investments over several years, so it is with great interest that governments in their industrial and mining policies have shown their willingness to put in place strategies to improve the contribution of these resources to the creation of wealth in the countries concerned. In the vast majority of countries, the mining sector is an important driver of economic development, and it is quite clear that private investment will be attracted to this sector if the states concerned put in place an enabling framework (regulatory and fiscal) that would encourage investors in the mining sector.



Source: World Bank (2012); Page 3

Tax revenues from the mining industry account for more than 20% of government revenues and yet their potential is yet to be tapped, in the coming years many resources will be exploited and these impressive figures represent only the beginning of the high economic growth that is yet to be achieved[1].

[1] Sudeshna Ghosh Banerjee, Zayra Romo, Gary McMahon, Perrine Toledano, Peter Robinson and Inés Pérez Arroyo (2012); The Transformative Potential of Mining - An Opportunity for Electrification of Sub-Saharan Africa



Source: World Bank (2012), page 7

The vast majority of countries with abundant mineral resources fall into a kind of economic specialisation and this creates a kind of dependency of these countries. The abundance of natural resources has long been considered a powerful lever for growth and has been the subject of criticism, particularly the work of Prebisch and Singer (1950), who showed that countries with abundant mineral resources, by focusing solely on the exploitation of these minerals, gradually deteriorated their terms of trade, especially the developing countries. These countries would end up impoverished by the fact that these countries, having remained in a primary insertion in international trade, exported primary products whose prices fell over the years and imported manufactured (processed) products from developed countries. Another phenomenon observed in countries that specialised in the exploitation of mineral resources is known as the Dutch disease, described by Sachs and Warner (1995) in reference to the difficulties encountered by the Netherlands following the development of its natural gas reserves. The economic performance of these countries decreased when they were too dependent on exports of these minerals. The increase in international demand leads to a rise in the country's currency exchange rate, so the vast majority of investments are redirected to the mining sector and the labour force of other national productive sectors, which would lead to a decline in industrial and agricultural production and exports. However, other work, such as Kolstad (2007) and Béland and Tiagi (2009), has shown that good management and appropriate political and economic arrangements can help ensure that resources from mining create a spillover effect towards industrialisation. To avoid this, it is better to put in place and implement public policies that will allow the reinvestment of revenues from mining in the creation of other forms of capital. The exploitation of these resources to increase tax revenues, export earnings, and the creation of thousands of jobs should be used to launch the foundations of economic development towards industrialisation by promoting:

- The technology
- Education
- Health
- The infrastructure

The approach of politicians and stakeholders to the mining sector has evolved over the years, from a focus on regulatory and fiscal reforms to promote private investment and improve economic performance, to a focus on environmental concerns in the early years of the 20th century , and reforms to preserve the environment, and numerous efforts to improve the economic and environmental performance of the mining sector.

3. SOCIAL ISSUES

The reforms carried out in the mining sector over the years are both environmental protection and community and local development issues, and aim to increase the value added at the community level by developing human and institutional capacity building programmes etc. It is essential for mining industries that come to exploit mineral resources in areas or sites to take into account the consequences on local communities because mining projects sometimes require large-scale development works and occupy large areas of agricultural land belonging to local populations for many years. As mining activities are known to have negative consequences on the environment by polluting the air, water, fauna and flora, especially for local populations, this has led on several occasions to social demands which have led to violent demonstrations and sometimes to the cessation of activities on certain mining sites. Over the years, these local populations have received the support of other actors such as national and international non-governmental organisations, trade unions and associations to plead their causes and claim their rights. Sometimes these claims can have financial consequences for the mining companies listed on the stock exchange which will see their share price fall or sometimes their image tarnished to the point of boycotts of their products. It is important to recognise that mining industries contribute to the local development of host communities in many ways. The mining industries participate in the financing and implementation of many community projects, and this consists of a redistribution of the wealth generated by mining and contribute to maintaining the social cohesion around the mining areas that is essential for the proper conduct of their activities. The mining industries also fund the provision of development infrastructure such as schools, health centres and electricity facilities in many villages around the mining sites[2] . In some sites, the mining industries are very innovative in setting up microfinance mechanisms to encourage local women to undertake income-generating activities. Another important aspect of the contribution of the mining industry is the emergence of small and medium-sized enterprises close to the mines which provide goods and services for the mine. Subcontracting to local companies is being promoted by mining code reforms in several countries to encourage local entrepreneurship and development.

4. ENVIRONMENTAL ISSUES

The consequences of mining activities are multiple and cannot be listed in full. They also vary according to the phase of the mine cycle and affect air quality, water quality, biodiversity (fauna and flora) and climate change. We will analyse here the different environmental issues related to the mining industry.

4.1. On water resources

Mining operations require the mobilisation of very large volumes of water and may even divert one or more rivers if necessary. The sites where tailings are stored are the source of the most significant water pollution through the production of mine drainage water. The drains may contain a number of chemical substances such as nitrate in the case of gold mines, or contaminating leachates with high sulphate concentrations and very low levels of toxic heavy metal elements (cadmium, copper, lead, arsenic, etc.), or radioactive substances, especially in

[2] Allah-Kouadio, Remi,Cissé, Babacar,Grégoire, Luc-Joël (2015); Développement durable et émergence de l'Afrique; Editions: Grandvaux ;Pages 491

the case of uranium mines. Some mining activities are the cause of the disruption of the hydraulic system and river systems such as[3]:

- Deforestation and clearing to install mining infrastructure such as access roads, construction of storage sites....
- Changing geography and soil desertification.
- Excessive withdrawal of fresh water for mineral processing
- Pumping of groundwater reserves to keep galleries and pits dry.
- Discharge of large quantities of soil from washing or dumping of overburden into watercourses.

4.2. On air quality

Mining activities are also an important source of air pollution and the most important sources of air pollution are

- Heavy equipment used in digging, cars, large trucks or machinery used for logistics and transport of mining products, etc., are also used. The level of pollution depends on the quality of the fuel and the condition of the equipment used. These types of pollution include particulate matter, carbon monoxide, as well as organic elements that promote the formation of the tropospheric ozone layer under the right circumstances (high temperature, strong sunlight and low wind).
- Thermal power plants, drying or roasting plants and smelters are responsible for the emission of gases from the combustion of their fuels. The production of gold and silver requires smelting furnaces which often emit significant amounts of mercury into the air.
- Dust, rocky waste, noise from engines of machines and equipment etc.

4.3. On biodiversity

Mining has consequences for the environment and also for the fauna and flora because mining activities often require the destruction of vegetation, the degradation of the soil cover, the emission of pollutants and the creation of noise:

- Displacement and extinction of fauna: the species of fauna living in the same ecosystem and dependent on each other will move because their living conditions have deteriorated with the destruction of vegetation and soil conditions. The displacement of certain species of fauna has direct repercussions on other animals, e.g. the displacement of game animals leads at the same time to the displacement of predatory animals because they can no longer feed. If rivers, lakes or marshes are filled in or drained, mammals are directly affected...
- Habitat fragmentation: when large areas of land are split up or divided into smaller and smaller parcels, the habitat of some species is fragmented, animals disperse and become isolated from each other, which can lead to the decline of some local species or to adverse genetic effects.

4.4. Climate issues

The mining industry's share of the change in the carbon footprint is clear and this is mainly due to:

- Low carbon dioxide uptake: forest destruction and land clearing are the main causes of low carbon dioxide uptake
- Greenhouse gas emissions, mainly CO_2 and other gases: these gases destroy the ozone layer that protects us from ultraviolet radiation. Mining activities emit a large amount of CO_2 and other greenhouse gases.

[3] Dominique Ferrand; Claude Villeneuve (2013); Mining and Sustainable Development; pages 8

All elements of the natural environment (flora, fauna, air, water, soil, etc.) are often irreversibly destroyed by mining, hence the need and priority to put in place policies and approaches to preserve natural resources, protect biodiversity and fragile ecosystems and at the same time reduce greenhouse gas emissions.

5. CONCLUSION

The public authorities must therefore implement rigorous policies to reduce the negative impacts of the mining industry. In several countries, the mining code imposes as a sine qua non condition before issuing an operating permit or an industrial operating authorisation that an environmental and social impact study be carried out first. In these studies, corrective measures must be foreseen for the rehabilitation of the exploitation sites, for example filling in the extraction pits and reforesting certain sites. In some countries, provisions to ensure the completion of the work have been imposed on the mining industries, such as the opening of an escrow account for rehabilitation domiciled in a banking institution.

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ORTHODOX AND HETERODOX VIEWS OF SUSTAINABLE DEVELOPMENT

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ABSTRACT

Sustainable development is the result of the evaluation of the impacts of economic models, particularly industrial ones, on the environment and society in general. Thus, for several authors such as Vaillancourt (1990, p.21), sustainable development is a cry from those who work for the protection of the environment and who support the vision that any real economic development must not destroy the environment in the long, medium or short term. It is in this perspective that several authors propose, support and defend a conscientious management of natural resources and recommend the conservation of heritages from one generation to the next in an undegraded state (AUBRY and RAU, 1997). Sustainable development may have slight variations depending on the context in which it is used. The unclear nature of this concept has created several approaches to sustainable development that can be grouped into two: the orthodox approach and the heterodox approaches that have emerged from criticisms of the former.

Keywords: *Orthodox approach, Heterodox approaches, Sustainable development*

1. INTRODUCTION

Sustainable development is a normative term like freedom or equality according to the German philosopher Immanuel Kant. The sustainable development concept results from evaluation of impacts of economic models, particularly industrial ones, on the environment and society in general. Thus, for several authors such as Vaillancourt (1990, p.21), sustainable development is a cry from those who work for the protection of the environment and support the vision that all true economic development must not destroy the environment in the long, medium or short term. It is in this perspective that several authors propose, support and defend a conscientious management of natural resources and recommend the conservation of heritages from one generation to the next in a non-degraded state (AUBRY and RAU, 1997). Sustainable development may have slight variations depending on the context in which it is used. In the current context, this notion refers to the understanding of SADLER Bary and JACOBS Peter in 1998, which is the convergence of economic, social and environmental development. The figure below illustrates this point well.

Figure following on the next page

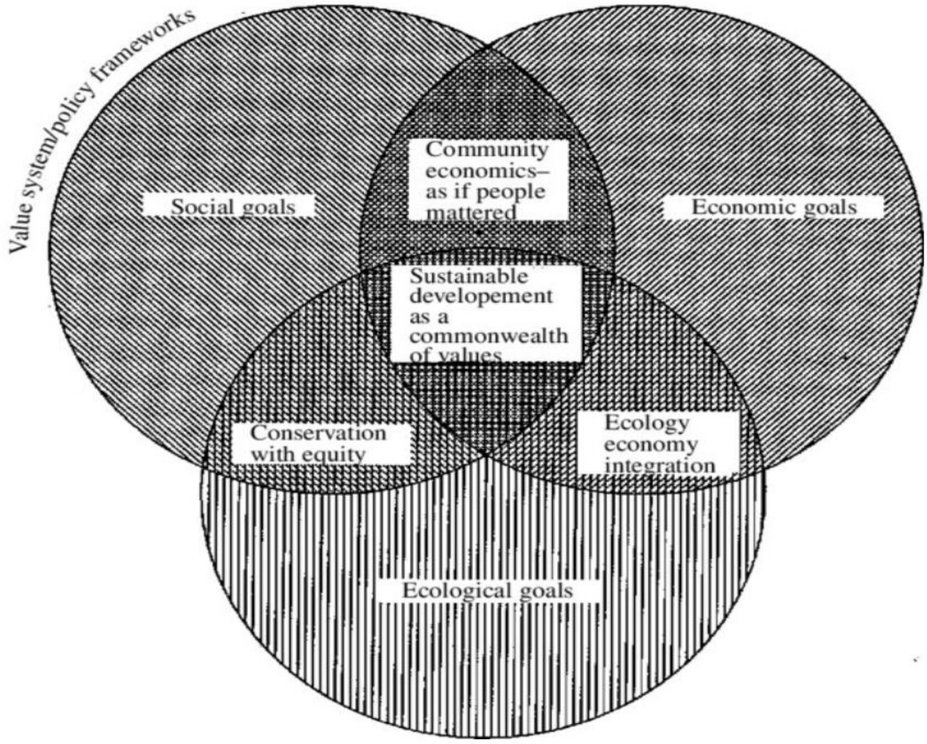

Figure 1: SADLER and JACOBS model of sustainable development
(Source: Sadler (1988))

The vague character of the sustainable development concept, associated to its growing prominence in international, national and corporate policies, created a major political challenge aimed at influencing the future by linking the concept to the meaning. This led to a wide variety of definitions and interpretations focusing on the prerogatives of institutions and groups, rather than incorporating the substance of the concept, which was intrinsic to traditional views and practices. Indeed, there are several approaches to sustainable development that can be grouped into two: the orthodox approach and the heterodox approaches that have arisen from criticisms of the former. These approaches will be presented in the following.

2. THE ORTHODOX APPROACH

The orthodox approach to sustainable development focuses on the environmental and economic aspects. It does not take into account the variability of the social component (the fight against poverty, the reduction of social inequalities, etc.) and its interactions with the others. The orthodox approach highlights the relationship between economic development and environmental protection (Charles FIGUIERE and Gilles ROTILON, 2007). In other words, it shows the impact of taking into account the nature of exhaustible natural resources on the economic analysis of development. From this perspective, there is a kind of conflict between the exhaustible nature of natural resources and the infinite nature of future generations. This conflict seems to be resolved by the fact that exhaustible natural resources can be substituted by manufactured capital that can be reproduced. The degree of substitutability between these two types of capital makes it possible to distinguish between two strands of the orthodox approach: weak sustainability and strong sustainability. Weak sustainability maintains that manufactured capital can replace the natural one, while strong sustainability argues that certain natural resources should not be used below a certain level that is considered critical.

The figure below shows these two forms of sustainability.

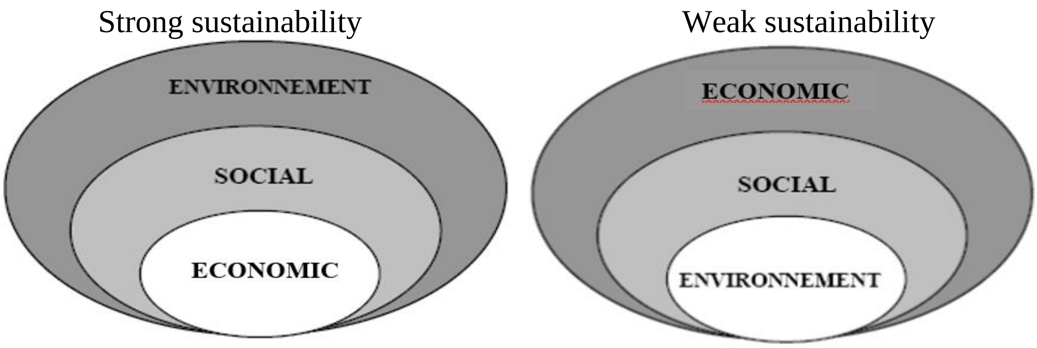

Figure 2: Strong sustainability and weak sustainability
(Source: BEAUTAUD (2002))

2.1. Weak sustainability

As previously, presented, weak sustainability indicates that manufactured capital can replace natural capital. The artificial capital refers to the wealth created in a given economy while the natural capital refers to the natural resources (Hartwick, J.M. 1977). Other researchers such as Susan BAKER and John BARRY have defended this approach, which is not exhaustive. The "weak sustainability" concept goes back to the Seventies. It emerged from an expansion of the neo-classical theory of growth, which considered the non-renewable natural resources as factors of production. Nevertheless, the adoption of weak sustainability as the mainstream of the debate on sustainable development became dominant in the nineties. Following the Rio Summit in 1992, the large majority of nations have made a commitment to promote sustainable development. The result of that is the signature of Agenda 21, a global action plan on sustainable development. The work of Robert Solow, winner of the Nobel Prize, and John Hartwick introduces weak sustainability as an idea of environmental economics according to which 'manufactured capital' can replace 'natural capital'. Manufactured capital comprises resources like infrastructure, employment and skills. The natural capital means the environmental resource base such as fossil fuels, biodiversity and other structures and services of ecosystems. Weak sustainability studies have shown positive as well as negative results. The weak sustainability concept has always attracted much criticism, even suggesting that the sustainability concept is redundant. The scientific debate on the weak sustainability paradigm is part of the general framework of economic theories of growth. Different approaches aim at maximising a certain criterion under various constraints, including those associated with natural resources depletion that characterise the specific economy. From an economic point of view, we then seek to verify whether the optimal evolutionary trajectories of the economy defined in this way make it possible to control the constancy of per capita consumption of the different generations. The first problem that arises is related to the choice of the criterion to be maximised. The first approach, which takes into account the criterion of discounted utility or the dictatorship of the present, concluded that the optimal rule for allocating an exhaustible natural resource is the one that equates the growth rate of the incremental utility of its consumption and the discount rate, until depletion of resources. In this case, a given generation is satisfied not only with the consumption of the resource, but also with the very existence of the resource. The optimal extraction pattern of the resource then requires the conservation of a certain stock of the resource with a decreasing consumption over time, which is zero once the minimum stock is reached (Heal G. 1998). The second approach is based on Hartwick's rule, according to which the rent earned from the exploitation of natural resources is reinvested in physical and/or manufactured capital at each moment.

However, the theoretical model induced by Hartwick's rule does not overcome the problem of the dictatorship of the present inherent in the discounted utilitarian criterion. Numerous alternatives to this criterion have therefore been proposed to try to take better account of intergenerational equity considerations, the application of which has also proved difficult.

2.2. Strong sustainability

In opposition to weak sustainability, the strong sustainability underlines that natural ressources and manufactured ones are not perfectly substitutable. Thus, Herman DALY (1994) speaks of the complementarity of natural and manufactured capital. For him, these two capitals are only "marginally" substitutable (Herman DALY 1994). Strong sustainability therefore rejects the substitutability of natural and manufactured capital and seeks the protection of the life of living beings above all else, insofar as these beings are not substitutable. In this context, the economical aspect of sustainable development is not at the centre but rather considered as a part of the biosphere (BOUTAUD, 2009). Strong sustainability distinguishes between two types of natural capital: substitutable and non-substitutable capital. Because of this distinction, the authors of strong sustainability, such as Corine GENDRON and Jean-Pierre REVERET (2000), stress the importance of maintaining a constant stock of natural ressources. Other authors such as GODARD Olivier and SALLES Jean Michel (1991) emphsise the importance of taking into account the irreversible nature of the environment, which is reflected in several facts including environmental degradation and the disappearance of animal and plant species. Strong sustainability implies the identification of natural resources that are not substitutable and that must therefore ot be left to fall below their critical levels. Strong sustainability has two main limitations:

- The problem of identifying non-substitutable natural resources: it is difficult to define, based on objective criteria, those natural resources that cannot be substituted by manufactured capital, as this depends on the technological possibilities that can be envisaged.
- The problem of defining the critical levels not to be exceeded: this refers to the difficulty of defining not only the criteria for defining critical levels but also of monitoring the evolution of the quantity of critical natural resources to ensure that they do not fall below their thresholds.

The analysis of the weak/strong sustainability pair has many limitations. This will lead several authors to put this pairing on the back burner and to turn to another approach, the heterodox approach presented in the following.

3. THE HETERODOX APPROACH

The heterodox approach has its origins in the criticism by some authors of the classical mainstream theses, which had ignored the social aspect of sustainable development in their analyses. These authors consider that the social component is too often neglected and wrongly so by most of the authors we will call orthodox. The social component of sustainable development deals with aspects related to justice, social equity, guaranteeing all members of society access to basic services (health, education, water, etc.); reducing social inequalities in order to maintain social cohesion. Some authors have defined the heterodox approach as a conception of sustainable development that is inspired or even deduced directly from a critical approach to the neoclassical mainstream: Keynesian, institutionalist, Marxist. Several lines of thought have been addressed in this approach, and here we will discuss the work supported by certain authors. Some authors have tried to analyse the relationship between growth and income distribution in relation to environmental policies that force companies to make unwanted investments; indeed, public authorities, through their policies, can impose on companies investments that are not in line with strategic and economic objectives (the profitability of capital) in order to reduce pollution and preserve natural resources. They define unwanted or forced investments as all types of investments that do not aim to increase productive capital but to increase their total capital stock (Laurent Cordonnier, Franck Van de Velde and Benoît Desmarchelier 2010). Firms are reluctant to make this type of investment due to the fear of a negative impact on the return on capital. This hypothesis is obviously refuted by the proponents of this approach, who consider that forced investments do not only have disadvantages but also significant advantages, since they support demand and, consequently, an increase in demand would automatically increase the profitability of capital. The public authorities would like to limit the negative externalities that accompany economic growth, such as pollution, global warming and income inequalities, by means of unwanted investments, all of which have an impact on the health of the population. These authors argue in their analyses based on various simulations that the consequences of environmental policies have repercussions on four levels:

- Unwanted investment increases the capital stock and thus gross investment.
- The increase in gross investment has a direct impact on the dividends to be paid to shareholders.
- The above two changes in turn lead to changes in aggregate demand.
- As aggregate demand increases, the return on capital increases indirectly.

Through the different simulations, they concluded that the reluctance of companies to make unwanted investments due to environmental policy has no sustainable basis because this particular fear that the return on capital of companies would be negatively affected is unfounded. Unwanted investment can be described as unproductive in the stock of gross capital just in the short term, but it would be illogical to consider that, in the long term, it would not become part of the effective productive capital, which increases overall production. The contribution of environmental policy being to reduce or limit the negative externalities of production, the expected effects are realised to the extent that companies in their productions include the ecological dimension. When unwanted investment becomes productive, this does not mean that the quantity of products increases, but it also means that production increases in quality and this reduces pollution (Laurent Cordonnier, Franck Van de Velde and Benoît Desmarchelier 2010). This would create a shift in the macroeconomic dynamics; consequently, growth would be more environment friendly and would include both social and environmental dimensions. This long-term environmental policy would lead to a significant flow of ecological investments in the long term, which will be recouped by the demand for more and better quality products thanks to social progress. Promoting environmentally compatible production methods has been the subject of several reflections for a very long time and many proposals have been formulated and even in some countries have been the subject of legislative proposals. Of the suggestions received, the one that consists of using taxation to initiate a modification of the production process has been the most widely adopted. This ecological or environmental tax would take the form of a tax (VAT) or an additional tax, but these tools will not be well received by public opinion because, once again, the final consumer is the one who is sacrificed for the ecological cause. This easy solution, which would consist of taxing households even more, is not the best way to unite public opinion around this ambitious project. It would therefore be necessary for the public authorities to make ambitious fiscal proposals capable of promoting sustainable economic development that respects the environment, creates jobs and reduces social inequalities. Before going any further, it is important to define what is meant by environmental or ecological taxation. Some authors define it as the use of a set of fiscal means or devices with the aim of encouraging economic agents to behave in a way that is conducive to the preservation of the environment. This requires public authorities to implement innovative tax policies because there is a constraint to maintain economic performance but also to carry

out actions that are in line with sustainable development. An effective ecological tax policy is one that aims to profoundly transform the modes of production and the combination of productions factors: labour (manpower), capital (technology) and natural resources. The implications of this new taxation on investment and employment were analysed in the 1980s and the results showed that an indirect tax could not bring about profound transformations in the combination of production factors, so it would be appropriate to tax production factors directly, particularly capital, which would encourage companies to review their technological combinations in depth. Substitution mechanisms should be put in place to replace certain taxes such as social contributions to tax capital directly. This seems more efficient but it would be necessary to analyse the ex-ante and ex post effects of these environmental tax policies. The notion of the double dividend is a good illustration of this need. This notion of ouble dividend stipulates that the introduction of an environmental tax followed by the reduction of one or more taxes, with unchanged budgetary revenues for the State, results in both an environmental benefit and an economic benefit such as job creation, reduction of inequalities and social equity. However, governments often cite the idea of a dual ecological and fiscal dividend resulting from environmental taxation. However, it has never been applied and cannot be confirmed by economic theory. However, some authors claim that the introduction of environmental taxation would encourage sound public spending and the promotion of green economic growth.
There are two main approaches to environmental policy:

- The first is the traditional regulatory approach which stipulates the prohibition or obligation to adopt certain behaviours and,
- The second is to orient or shape the behaviour of economic agents through economic and financial instruments.

Even if there are still some countries where economic capitalism is still contested, it is still the mainstream, with private property of the means of production, competition and the free movement of goods and services being supported by a very large public opinion. In this economic context, the second approach, which consists of using economic and financial instruments in addition to the first approach, is the best addressed. This approach is considered to be the most economically efficient because it is more flexible to apply and can easily bring public opinion together. Public authorities use a wide range of tools, which can take the form of tradable quota markets, deposit/return systems, subsidies or environmental taxation. It is important to stress that environmental taxation, which would lead to a double dividend, has never been proven, so the results of such taxation should be tempered. The rule of economics by Tinbergen, which won the Nobel Prize, makes it clear that economic theory has never proven that a single instrument can achieve several objectives, and that if it ever does, it will be by pure chance or, as he puts it, by "pure coincidence (a happy combination of objectives)". For the achievement of one objective to lead mechanically to the achievement of one or more other objectives, there would have to be not only correlations between the different objectives but also links that are strong enough between them. At first sight it is difficult to find correlations between the issue of environmental preservation and budgetary revenues, some authors It is not clear how an additional tax or levy could promote environmentally sustainable development, create jobs and reduce social inequalities. It is appropriate for governments to tax capital directly and reduce other taxes. Businesses will not be able to transform their technological combinations if there are still additional taxes that hamper their performance. To act directly on productive capital, some authors have distinguished two types of productive capital, namely (Bernard Dupont 2010):

- Ecological capital is the component of productive capital that meets the eco-industry criteria.
- Non-ecological capital is the component of productive capital that is highly polluting.

This distinction has been necessary to allow fiscal reform to target directly, through taxes, productive capital that is harmful to the environment. The aim is therefore to push companies to thoroughly review their trajectories and technological mix in order to move towards a harmonious use of natural resources and raw materials and by reducing polluting capital through a substitution mechanism. This reform will boost employment and increase the equity component in efficient productive capital. It is important to stress that a direct tax would be more effective than an indirect tax such as the "social VAT" because it is not integrated in the production costs of companies and therefore would not influence a change in the technological mix in favour of environmental preservation. With the help of several Keynesian macroeconomic models, several authors have tried to provide a scientific justification for the feasibility of a tax reform based on the taxation of the capital factor while de-taxing the labour factor. As far as sustainable development is concerned, a whole range of instruments and measures have been deployed by the public authorities and all economic agents that can contribute to it have been involved, especially companies, so that they adopt responsible behaviour. At the very beginning of the twentieth century, the European authorities extended the responsibilities of companies to include much more social considerations. These new expectations of companies gave rise to the concept of Corporate Social Responsibility. Several definitions try to explain this concept to us but the one of the European Commission in 2006 seems to define the concept well: "*Corporate Social Responsibility (CSR) is a concept whereby companies integrate social and environmental concerns into their business operations and in their interaction with their subcontractors on a voluntary basis. It involves companies deciding to go beyond minimum legal requirements and commitments from collective agreements in order to meet social needs".* Behind this CSR movement, there are more important ambitions, namely to transform profoundly the capitalist mode of production in its two main characteristics: the maximisation and accumulation of profit and the submission to market logic, which are the causes of serious problems in our societies. Our companies have been guided for a very long time by market logic, whose objective is the continuous pursuit of profit and the accumulation of wealth and the means of production. This is why CSR is intended as an answer or a solution to an existential problem, and why we need to think about a compromise between the capitalist and his stakeholders, to allow all the actors to participate and benefit equitably from the wealth produced. We must therefore review our institutions and rethink our socio-economic system in order to find the right balance between ethics and efficiency. In capitalist thinking, factors of production are commodities to be exploited for maximum profit. This is not to question the validity of rationalising the factors of production in order to produce efficiently and improve economic performance. But treating labour and the environment as if they were only commodities is unsustainable and poses many threats to our societies as workers or the proletariat resist this exploitation or commodification and demand more rights and protections, mass migrations because of the degradation or depletion of natural capital such as water, vegetation etc. There are two main approaches to the establishment of the CSR movement:

- The standard approach, which considers that CSR should be a free and spontaneous movement that enjoys organisational and management autonomy and does not need to be supervised by any institution.
- The institutional approach, which considers that CSR should become formalised in order to serve as a collective reference for a set of stakeholders

The institutional approach is considered the most appropriate to respond to the CSR ambitions. In order to limit the harmful consequences of capitalism, it is therefore necessary for the public authorities, by virtue of their powers, to provide a framework for relations between companies and their stakeholders. In order to establish a profound change in capitalism, CSR can only participate in the construction of common and legitimate institutions.

That will permit the collective framing of the relationship between work and nature, because if each company is given the freedom to organise itself freely, the movement risks losing its scope and its federative objective by defining common rules. It is necessary for it to come from institutions that can provide the different actors in this movement with common references. The aim of CSR is to establish in our societies a model of society where production processes integrate work and the environment in a collective and participatory contribution logic by valuing work and the environment as pillars of sustainable development. Other authors have tried to reflect on sustainable development by addressing a concept dear to the dominant economic theory. These authors have tried to associate economic patriotism with the concept of sustainable development. Let us recall the notion of economic patriotism, which is the fact that in a country or a region all or part of the economic agents - companies, consumers, public administrations, to name but a few - have the feeling of belonging to a national economic or social system, whose durability they all have an interest in preserving. This sense of belonging is reflected in the willingness of economic actors to prioritise the national interest over foreign interests. Extending the concept of economic patriotism to sustainable development therefore means integrating the other two pillars of sustainable development, the social and the environmental, into its thinking. Economic patriotism can very well contribute to the promotion of environmental development on the social level through social security policies and solidarity programmes implemented in different nations. The implementation of a national system for social protection is a clear illustration of this economic patriotism. Which aims to reduce social inequalities by creating a more equitable and just society, in order to protect vulnerable social categories who are unable to protect themselves against some of life's risks, such as illness or cessation of activity, by resorting to collective financing through the implementation of a social security system. With the exacerbation of globalisation, which favours the free movement of goods, people and capital, these social benefit systems have come under pressure from the market and are tending to reduce more and more towards fewer benefits. Many countries have therefore wanted to homogenise their social benefits with purely market criteria, as illustrated by the various pension reforms carried out in the European Union, for example, in order to avoid reducing the social benefits of vulnerable groups in order to maintain economic attractiveness, the wealthiest households have been asked to show economic patriotism by increasing their contributions. The same applies to certain sectors of activity that need to be protected so that they do not disappear at the stake of foreign competition, this logic being in line with List which stipulated that developing industries should be protected. It can also take the form of subsidies or grants or exemptions from certain taxes. Economic patriotism can also take the form of a refusal to integrate or strengthen their integration into one or more regional unions that impose constraints on their economic policy choices; this is the case of free trade agreements or monetary unions. Economic patriotism can also contribute to the protection of the environment in the sense that actors can agree to abandon their own personal interests in order to preserve the environment or even improve it. This will materialise through the fact that companies, consumers or local authorities will participate in the process of preserving the environment by limiting the consumption of natural resources or the preservation of certain natural species. In their production process, companies will limit the use of polluting substances; take care of the treatment of certain waste products from the production process and dispose of them in the environment or the collection of raw materials.

4. CONCLUSION

In conclusion, the heterodox approach brings together a group of authors whose work has contributed to sustainable development, each author bringing a specific aspect that enriches sustainable development concept. It is impossible to circumscribe all the work of the authors of the heterodox current because it also includes approaches that are sometimes contradictory.

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UNDERSTANDING THE FACTORS AFFECTING UNIVERSITY STUDENTS' INTENTION TO PURCHASE TERROIR PRODUCTS: AN S-O-R MODEL APPROACH

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ABSTRACT

The objective of this research is to investigate the determinants of students' intention to purchase terroir products using the S-O-R theoretical model. While prior research has primarily focused on the theory of planned behavior, this study aims to provide insights using an alternative theoretical framework. The choice of students as a sample enables the identification of the key attributes of terroir products.A quantitative survey was conducted among 386 students from Mohammed V University of Rabat to collect data for analysis.The data analysis was performed using SPSS software.Correlation tests and chi-square tests wereused to examine the research hypotheses, and logistic regression was applied to determine the limitations and potential for future research. The findings from the correlation test confirm the hypotheses of the proposed research model. The model highlights the influence of terroir of origin, terroir label and know-how, as environmental cues, on consumer perception of product quality and terroir image. These factors are significant emotional responses that impact the purchase intention of terroir products.This study contributes to the literature by applying the S-O-R model to the analysis of terroir products. While the study is limited to students, it provides a useful basis for future research.

Keywords: *Consumer purchasing behavior, Image of the terroir, Know-how, Perceived quality, S-O-R model, Terroir label, Terroir of origin, Terroir product*

1. INTRODUCTION

The National Initiative for Human Development program (INDH – Inititative Nationale de Développement Humain) was launched in 2005 under the orders of his majesty the King Mohammed VI. It aims to create development inside society by fighting against poverty in the rural environment and to encourage social inclusion in the urban environment as well as encouraging the organization of production in, for and of cooperatives (Elgozmir & Chouhbi, 2021). According to the Statement on the Cooperative Identity, a cooperative is *"autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise"*

(Ahrouch et al., 2017). To initiate a new dynamic of agricultural development in the country, and to create a sustainable market, the Green Morocco Plan (GMP) encourages the creation of cooperatives by providing grants and organizational support. (Raif & Aitheda, 2018). The GMP created two types of labels to promote local products in 2009 (Faouzi, 2015): a regional label (specific for each product and its origin), and "Terroir du Maroc" label. The labelling of agricultural products is governed by the law n° 25-06, relating to the distinctive signs of origin and quality (SDOQ – *Signes distinctifs d'Origine et de Qualité*) of foodstuffs, agricultural and fishery products, promulgated by the Dahir n° 1-08-56 of May 23, 2008. According to a report on labeled agricultural products in Morocco published in 2019 by the Ministry of Agriculture of the Kingdom of Morocco, since the introduction of law 25-06 sixty-six (66) products have been labeled. They are devoted to cooperatives and small businesses to gain better access to local, national and international market and to encourage terroir products consumption by consumers' awareness of domestic products and their origin (Bouchouar et al., 2017; Lambarraa-Lehnhardt et al., 2021). To alleviate buyers' concerns about food risks, the Agency of Agricultural Development (ADA) launched recently a new collective label "Terroir du Maroc", which guarantees the quality of products for distributors and consumers (Raif et al., 2021). The ADA developed a marketing strategy to promote and commercialize Moroccan terroir products. This strategy intends to rethink the marketing mix of products in terms of packaging, pricing and promotion. It is seeking new ways to access markets by creating a win-win relationship between producers and distributors on domestic and foreign markets. (Bouchouar et al., 2017). Furthermore, ADA creates an online platform dedicated to introduce different categories that can be identified as terroir products and presents different cooperatives and their products. Moreover, it launched the first e-showcase inside their website "terroirdumaroc.gov.ma". This digital shop presents different local products certified "Terroir du Maroc" and organized in the following categories:

- Honey, Amlou & Jam;
- Edible oils;
- Well-being products;
- Semoulina & Flour;
- Spices & condiments;
- Dried fruits;
- Hydrosols & Essential oils;
- Teas & Herbal teas.

Since 2021, the ADA went digital in order to promote Moroccan terroir products by being active on their social media page. It is present on Instagram, Facebook, and YouTube. They are not only focusing on the label "Terroir du Maroc" but they are trying to incite consumers to consume locally via hashtags (e.g. #consommons_terroir & #terroir_du_maroc). Many marketing actions have been taken in order to raise awareness about terroir products and to encourage producers of local products and consumers to sell and buy Moroccan. Based on Stimulus-Organism-Response (S-O-R) model, this research aims to study consumer intention to purchase behavior among university student.

2. CONCEPTUAL AND THEORETICAL BACKGROUND

2.1. Concept of Terroir product& Country of origin effect

A "terroir product" is often borrowed from the French language. Related to a specific place and a specific soil and land, this concept is much complicated than it seems. It involves three elements: space and time and know-how (savoir-faire), expressed through traditions shared in a community that deals with different types of products from dairy products, fermented beverages, oils (Amilien, 2011; Bérard et al., 2004; Riviezzo et al., 2017) to cosmetics.

A terroir product refers to natural components coming from the soil and its quality (Peng et al., 2021) and cultural practices coming from ancestors’ heritage (Cappeliez, 2017; Lenglet & Giannelloni, 2016). Calling a product by its terroir of origin gives nostalgic feeling to a geographical area, to which geographers associate a preserving role shared with ethnography (Delfosse, 1997). Valuing a place or a terroir assigns a uniqueness to local products, which influences consumers’ authenticity perception about a product and that is the case of wine products which is considered a terroir product in France(Riviezzo et al., 2017). In some nations such as Mongolia, local products are called traditional products because they represent emblematic products that embody the culture of the nation (Gardelle & Ruhlmann, 2009). This relationship between local products and its territory of origin builds a strong consumers’ perception towards terroir product. A study (Riviezzo et al., 2017) shows that terroir products are not only a geographical indicator (GI) of a product but also refer to a collective project where human efforts gather together to create an economic benefit. The country of origin (COO) or the region of origin covers the GI for terroir product. The practice of labelling a product to its terroir is ancient and expended around the world because each part from earth is related to a particular agricultural product (Bérard & Marchenay, 2006). Terroir of origin label, as an extrinsic cue, is a marketing variable affecting consumers’ preference and perception of quality and attitude towards terroir products consumption (Zindy et al., 2018). Marketing labelling covers up the lack of information on a product by focusing on the aspect of GI for local products (Charters et al., 2017). Those signs of COO are information, which help consumers to evaluate products. It is important to know that COO’s labels (e.g. “made in”) and the country image are in a positive correlation (Heine et al., 2019). The COO effect on the perception and attitude of consumer lies in the image of the product’s place of origin. This image is the individual’s stereotype developed a nation, which will subsequently associate with the products of this country. Series of dimensions can judge a nation and its quality production. It includes the innovative approach (technology innovation in a country); the product’s design (the aesthetic side of a product such as packaging quality and elegance); prestige (exclusiveness, brand name reputation); and workmanship (product’s sustainability, craftsmanship) (Godey et al., 2012). From the perspective of social psychology country images are analyzed regarding individual cognition, emotion and behavior. The field has developed concepts of country image and country self-image like country identity(Buhmann, 2016). In the COO, consumer attitude is a result of four (4) processes that can explain consumers’ attitude towards country of origin. The first one is the cognitive, which includes beliefs about country and quality of products; the second is the affective processes that are emotional and symbolic values attributed to a specific country. The third one is the conative processes. They are expressed through motivation and desire towards a country; and lastly normative processes includes social standards (Magier-Łakomy & Boguszewicz-Kreft, 2015).

2.2. Stimulus-Organism-Response (S-O-R) Model

The S-O-R theory analyzes the behavior of the environment to induce the individual to make internal changes and then generate behavior(Sun et al., 2022). Originally, Mehrabian & Russell introduce the S-O-R model, which proposes measuring instruments to classify the environment according to three "basic emotional responses" (Mehrabian & Russell, 1974) that influence consumer’s perception and behavior (Aslam & Luna, 2021). The S-O-R framework has proven effective in explaining behavioral changes resulting from various marketing stimuli and cognitive factors. The greatest strength of the S-O-R framework is its flexibility(Jacoby, 2002; Sultan et al., 2021). The Stimulus (S) represents environmental stimulus(Zhu et al., 2019), they are external influencing factors that represent different contextual inputs (Han et al., 2022), they could be tangible and intangible such as products, brands, logos, advertisements, packaging, prices, stores and their ambience, word of mouth, newspapers, television and countless other influencing factors. In other words, it is better to think of stimuli as a "package" of many stimuli, often interactive and competing (Jacoby, 2002).When it comes to the second element of the model, the Organism (O) refers to internal processes and structures including perception, physiology, sensation and thought, it's intervening between external cues and final actions adopted (Chang et al., 2011; Suparno, 2020). Lastly, the Response (R) is the last stage of the linear relationship (Karedza & Mike, 2017) between the three factors of the model. It is the outcome of the individual from stimuli and organism in form of a positive or negative action.

3. HYPOTHESIS DEVELOPMENT & PROPOSED MODEL

3.1. Hypotheses

To buy a terroir product or not, many cues could influence consumer purchase behavior including the terroir of origin itself, the terroir labeling proposed to evaluate the authenticity of the product and the cultural heritage which could be expressed through traditional practices inherited from consumer cultural background. Those three (3) stimulus can play a role when it comes purchase behavior of a terroir product. As mentioned in the previous literature review, cues related to COO are considered information that influence the image built about a country and the quality perceived. For the case of our study, we will ignore the term country as a place nevertheless; we will focused on terroir as a place of origin. According to the literature review, we developed six (6) hypotheses to study, as demonstrate in the proposed research model bellow:

H1: The influence of terroir of origin on purchase behavior is mediated through perceived quality (a) of terroir product and its terroir image (b)

H2: The influence of terroir label on purchase behavior is mediated through perceived quality (a) of terroir product and its terroir image (b)

H3: The influence of the know-how (savoir-faire) from cultural heritage on purchase behavior is mediated through perceived quality (a) of terroir product and its terroir image (b)

H4: There is a positive relationship between perceived quality of TP and terroir image

H5: The perceived quality of terroir product affects positively consumer purchase behavior

H6: The terroir image of terroir product affects positively consumer purchase behavior

3.2. The theoretical model:

The theoretical model of this study, as shown in Fig. 1, comprises external factors related to the characteristics of terroir products (such as origin, label, and expertise) on the left side. On the middle side, the model includes two internal factors represented by consumer perceptions of quality and the image associated with the terroir product. These internal factors are emotional responses that may arise from environmental cues. On the right side, the model includes the behavioral response of purchasing the terroir product, which was chosen as the focus of the study.

Figure following on the next page

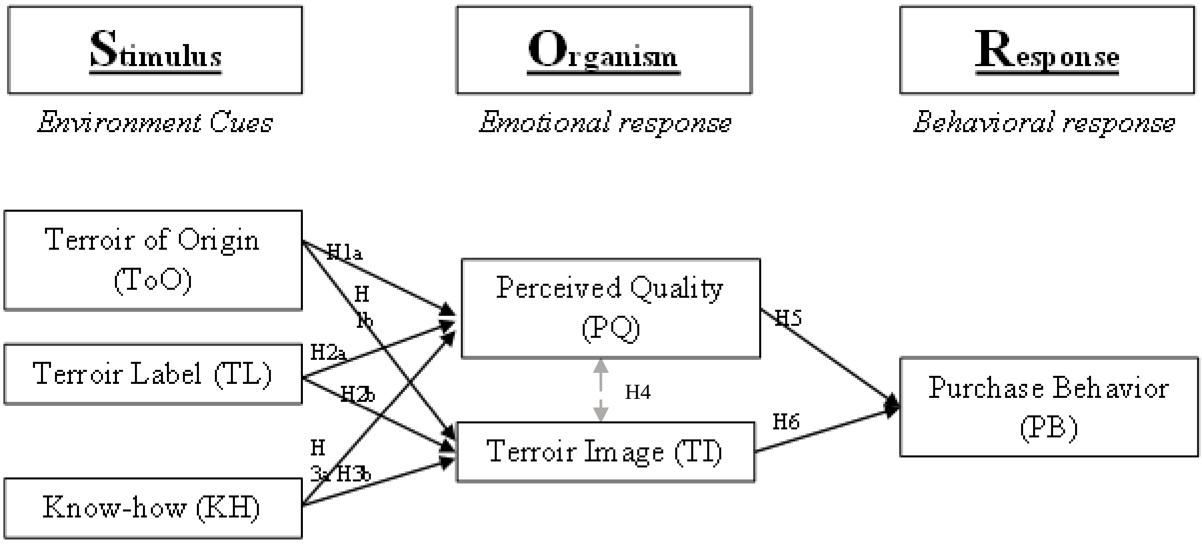

Figure 1: Research Proposed Model

4. RESEARCH METHODOLOGY

4.1. Sampling choice

The data of this study was collected through the use of a survey questionnaire that was distributed among a sample of student consumers enrolled in various faculties and schools at the University of Mohammed V Rabat. To ensure the validity of the questionnaire, we conducted a preliminary test to (1) assess the clarity of the questions in both French and Arabic, as well as to (2) evaluate the time required to complete the questionnaire. On average, the participants took approximately 7 minutes to finish the questionnaire, which provided valuable information for the authors regarding the feasibility of the survey for future research studies.

4.2. Questionnaire distribution

The final survey questionnaire was distributed to 386 students of the Mohammed V University of Rabat during the last two weeks of October 2022. We implemented a dual distribution strategy by distributing the questionnaire both online and offline. The online distribution entailed sending the questionnaire to the students via email or social networks with an invitation for them to fill it out and share it with their contacts. On the other hand, the offline distribution involved directly reaching out to students and requesting them to fill out the questionnaire either in French or in Arabic. Given the mandatory nature of all questions on the questionnaire, the authors were able to obtain a complete dataset with no missing values. It is worth noting that student participation in the survey was strictly on a voluntary basis and all answers were kept anonymous. This anonymity was maintained even during the offline distribution process, where students were also given the opportunity to voluntarily participate and had access to explanations for each question. The authors aimed to create a safe and non-intimidating environment for students to provide their responses, thus enhancing the validity of the results obtained.

4.3. Structure of questionnaire

The purpose of our study was to measure the perception of students at Mohammed V University in regards to Moroccan terroir products. Our investigation focused on three key areas: the characteristics of terroir products (such as origin, label, and know-how), consumer perceptions of quality and the image associated with the terroir product, and the behavioral response to purchasing the product.

In order to gather the necessary data for our study, we employed the use of a questionnaire that was divided into three distinct sections. The first section aimed to provide an overview of the study's context and objectives, as well as allowing respondents to select their preferred language of response, either French or Arabic. In the second section, we collected demographic data, such as gender, age, and faculty or school affiliation, from the respondents to verify their status as students at Mohammed V University. This information was crucial in ensuring the representativeness and reliability of the data collected in the study.

4.4. Research methods

In the third and final section of the questionnaire, we employed the use of a five-point Likert scale, with options ranging from "strongly disagree" (represented by the number 1) to "strongly agree" (represented by the number 5). The 5-point Likert scale is widely used in research as it provides a simple and effective means of measuring attitudes, opinions, and beliefs. The scale allows for the collection of quantitative data on a particular topic by asking the respondent to rate their level of agreement or disagreement with a particular statement. The use of a 5-point scale allows for a more nuanced understanding of the respondent's viewpoint compared to a binary yes/no response, and enables the researcher to differentiate between degrees of agreement or disagreement. This scale was utilized to gather information on the three primary areas of focus in our study, as previously mentioned, namely the characteristics of terroir products, consumer perceptions of quality and image, and consumer behavior in response to purchasing the product. The objective of this section was to evaluate the degree to which the respondents take into account the defining characteristics of the terroir products they consume, their perceptions of the product's quality and image, and their purchasing behavior. The results from this section provided valuable insights into the influence of terroir product characteristics on consumer perceptions and behavior.

5. DATA ANALYSIS AND RESULTS

5.1. Respondent's profile

Table 1 illustrates the sociodemographic characteristics of the survey's respondents. It includes gender, age, the institution they are enrolled in, their education level, and their experience in buying a terroir product.

Table following on the next page

	Frequency	Percent
Gender		
Female	275	71,2
Male	111	28,8
Age		
Between 17 and 21 YO	248	64,2
Between 22 and 24 YO	86	22,3
Between 25 and 30 YO	39	10,1
More than 30 YO	13	3,4
Education Level		
University Diploma of Technology - Bac+2	89	23,1
Bachelor - Bac+3	206	53,4
Master - Bac+5	70	18,1
Doctorate	21	5,4
Enrollment Institution		
EMI	2	,5
ENSIAS	4	1,0
ENSAM	4	1,0
ENS	5	1,3
EST Salé	15	3,9
FSJES Agdal	57	14,8
FSJES Salé	148	38,3
FSJES Souissi	32	8,3
FSE	24	6,2
FLSH	55	14,2
FS	31	8,0
FMD	4	1,0
FMP	5	1,3
Have already bought a terroir product		
Yes	354	91,7
No	32	8,3
TOTAL	***386***	***100***

Table 1: Socio-Demographic Characteristics of Repondents (N=386)
(Source: Authors data analyses from SPSS)

The results of the frequency analysis indicate that the majority of respondents are female (71.2%) and fall within the age range of 17 to 21 (64.2%). This demographic is also largely composed of bachelor students, accounting for 53.4%. It is clear that a significant proportion of students come from the fields of economics, law, social sciences, and humanities, as represented by the major departments of FSJES Agdal and FSJES Salé (faculties of law, economics, and social sciences) and the faculty of arts and humanities (14.18%, 38.3%, and 14.2%, respectively). Lastly, the majority of students (91.7%) reported having previously purchased a terroir product, indicating a level of familiarity with it.

5.2. Respondent's and terroir products

Table 2 indicates that the most preferred types of terroir products are food and wellness/beauty products. There is a slight difference between food products at 33.9%, and wellness/beauty products at 30.1%. Additionally, 16.1% of respondents preferred both of these types of products. These results suggest that terroir products tend to focus more on food and wellness/beauty, rather than other types of products such as artisanal goods.

	Frequency	Percent
Type of terroir product		
Other	35	9,1
Food product	131	33,9
Food product / Other	3	,8
Food product / wellness and beauty product	62	16,1
Food product / wellness and beauty product / Other	30	7,8
Wellness and beauty product	116	30,1
TOTAL	***386***	***100***

Table 2: Preference of Respondents towards Different Types of Terroir Products (N=386)
(Source: Authors data analyses from SPSS)

5.3. Verification of hypotheses

5.3.1. Correlation

Starting with testing the reliability of the survey, Cronbach's alpha is about 0,817, which means that the internal consistency of research items is high. In order to investigate the relationship between the various variables in our proposed research model, the non-parametric Spearman correlation technique is employed. Because of the ordinal nature of the questions (Likert scale), it is appropriate to use the Spearman correlation method, and then chi-square statistics contribute to studying de dependence of variables. A Spearman's rho is correlation coefficient that is generally between 0 and 1. A 0 suggests that there is no linear association between two continuous variables. On the other hand, a correlation coefficient of -1 or 1 shows a complete linear relationship. The correlation coefficient can range between -1 and 1, indicating the strength of the relationship(Mukaka, 2012). The results in Table 3 indicate that there is a moderate positive correlation between the Terroir of Origin (ToO) variable and Perceived Quality (PQ) with a correlation coefficient of 0,361. However, the correlation between ToO and Terroir Image (TI) is weaker, with a correlation coefficient of 0,108. When it comes to Terroir Label (TL), it is clear that it has a moderate correlation with both PQ and TI with correlation coefficients of 0,258 and 0,325 respectively. Furthermore, the results also show that Know-how (KH) has a moderate correlation with PQ (0,398) and a weak positive correlation with TI (0,183). Overall, these results suggest that all the variables tested, ToO, TL and KH have a positive correlation with PQ and TI, which indicates that as one variable increases, the other variable also tends to increase and vice versa.

		ToO	ToO & PQ	ToO & TI	TL	TL & PQ	TL & TI	KH	KH & PQ	KH & TI
ToO	Correlation Coef	1,000	**,361****	**,108***	,172**	,109*	,153**	,225**	,233**	,161**
	Sig. (2-tailed)		,000	,035	,001	,031	,003	,000	,000	,001
	N	386	386	386	386	386	386	386	386	386
TL	Correlation Coef				1,000	**,258****	**,325****	,192**	,178**	,175**
	Sig. (2-tailed)					,000	,000	,000	,000	,001
	N				386	386	386	386	386	386
KH	Correlation Coef							1,000	**,398****	**,183****
	Sig. (2-tailed)								,000	,000
	N							386	386	386

***Correlation is significant at the 0.05 level (2-tailed).*
**Correlation is significant at the 0.01 level (2-tailed).*
Table 3: Spearman correlation for Stimulus and Organism variables
(Source: Authors data analyses from SPSS)

5.3.2. Chi-square test

Spearman Correlation analysis alone will not provide adequate information to address our research issue. Therefore, a chi-square test is usedto study the existence of a systematic association (Malhotra, 2004). It measures the degree of association between two variables, and a low p-value suggests that the association is systematic and not due to chance.The statistical significance of the findings was determined using an alpha (α)level of 0.05. Before analyzing the dependence between Stimulus and Organism items, we will provide results of the dependence between Organism and Responses. Table 4 shows that there is a weak positivestatistical association between PQ and purchase behavior (PB) (a spearman coefficient of -0,110) but chi-square test results show that p-value = 0,180, which is >0,05. In the other hand, the spearman correlation calculated for both variablesTI and PBis about -0,159, which means there is a weak positive association between both variables. In both cases, both relationships are not very strong, and other factors may be contributing to these results. However, chi-square statistics shows that p-value = 0,014 is significant, which means that both variables are dependent and there is a relationship between them.

			PQ	TI	PB
		Correlation Coef	1,000	**,376****	**-,110***
	PQ	Sig. (2-tailed)	.	,000	,031
		N	386	386	386
		Correlation Coef	**,376****	1,000	**-,159****
Spearman's rho	**TI**	Sig. (2-tailed)	,000	.	,002
		N	386	386	386
		Correlation Coef	**-,110***	**-,159****	1,000
	PB	Sig. (2-tailed)	,031	,002	.
		N	386	386	386

**Correlation is significant at the 0.05 level (2-tailed).*

***Correlation is significant at the 0.05 level (2-tailed).*

Table 4: Spearman correlation for Organism and Response variables

(Source: Authors' data analyses from SPSS)

Using spearman correlation and chi-square statistics proves that varied positive correlations exist between independent variables (stimulus represented by ToO, TL, and KH as environment cues) and mediator variables (Organismrepresented by PQ and TI) and there is an association between TI and PB. The results generated from chi-square statistics show that there is a significant association between ToO and PQ and between ToO and TI at a p-value of 3,4306E-20 and 0,000001 in the order given which are <0.05 (strongly associated and dependent).Hence, *H1 is accepted*. Concerning TL and PQ, the p-value = 4,8618E-13 so the result is significant at p <0.05 (variables are strongly dependent). The same thing with TL and TI, the p-value = 5,7583E-21<0.05 (there is a strong evidence of association between variables). As a result, *H2 is accepted*. When it comes to the third variable in the environmental cues from the proposed model, the chi-square test results prove that both p-values of KH and PQ and KH and TI are <0.05 with 1,3487E-24 and 1,255E-9 respectively. The chi-square test shows that Organism variables from the research model are dependent to items from Stimulus.Consequently, *H3 is accepted*. The nature of collected data is qualitative and ordinal so spearman correlation is used to study the relationship between PQ and buying a terroir product and the relationship between TI and buying a terroir product. The spearman correlation coefficient is equal to 0,352, which means that there is a moderate associationbetween PQ and TI. In the other hand, the chi-square test shows that p-value = 5,9277E-24<0,05 (PQ and TI are dependent). So, *H4 is accepted*, PQ and TI are mediated variables.

However, this statistical test cannot illustrate the causal relationship between variables. So, for that reason, a regression analysis is applied.

5.3.3. Logistic regression

The classification table shows that prediction based on the most frequent category correctly classifies 86.3% of participants (table 5). The logistic regression analysis finds that both variables had a significant impact on purchase intention, with a positive slope, meaning that as the perception of quality increased, the likelihood of purchasing the product also increased. The Wald statistic and sig probability values were calculated to test the significance of the relationship between quality perception and purchase intention. The Wald statistic value of 2,996 and sig probability value of 0.083 for the ToO indicate that there is a significant impact on purchase intention, although the significance level is slightly above the commonly used threshold of 0.05. The Wald statistic value of 10,078 and sig probability value of 0.002 for the KH indicate a highly significant impact on purchase intention. The Odds Ratio also supports these results, showing that a student is 1,275 times more likely to purchase a terroir product if the perceived quality is based on ToO compared to that of poor quality, and 0.621 times for KH.

Observed			**Predicted**		
			Purchase intention behavior		Percentage Correct
			Will buy	***Will not***	
Step 1	Purchase intention behavior	***Will buy***	333	0	100,0
		Will not	53	0	,0
	Overall Percentage				86,3
Step 2	Purchase intention behavior	***Will buy***	333	0	100,0
		Will not	53	0	,0
	Overall Percentage				86,3

Table 5: Classification table
(Source: Authors' data analyses from SPSS)

Overall, the results suggest that both ToO and KH have a significant impact on purchase intention for terroir products, with KH having a stronger impact. The results in table 6 provide a logistic model that can be seen in the following mathematical equation:

$$\pi(\text{will buy}) = \frac{G(x)}{1 + G(x)}$$

$$\pi(\text{will not buy}) = 1 - \pi(\text{will buy}) = \frac{1}{1 + G(x)}$$

$$G(x) = \exp(-1{,}838 + 0{,}243X_1 - 0{,}476X_2)$$

		B	**SE**	**Wald**	**df**	**Sig.**	**Exp(B)**
Step 12	QualitybasedonToO*(X_1)*	,243	,140	2,996	1	,083	1,275
	QualitybasedonKH*(X_2)*	-,476	,150	10,078	1	,002	,621
	Constant	-1,203	,451	7,127	1	,008	,300

Table 6: Regression logistic biner
(Source: Authors' data analyses from SPSS)

6. DISCUSSION, LIMITATIONS AND FUTURE RESEARCH AVENUE

The results of the correlation test and chi-square statistics support the validity of the proposed research model. Logistic regression analysis revealed that only two variables, quality based on Terroir of Origin and quality based on know-how, are significant contributors to the cause-and-effect relationship and can be effectively utilized to predict the dependent variable of purchase intention behavior. The results suggest that the Terroir Label has no impact on the purchase intention behavior of terroir products among students. Additionally, the factor of terroir image was also found to be insignificant. These findings indicate that students consider the region of origin and cultural heritage, embodied in the know-how, as crucial cues in their perception of quality. However, the findings raise questions about the effectiveness of the labeling initiatives led by the Minister of Agriculture, which invest heavily in regional and national terroir labels such as "Terroir du Maroc." This prompts a reevaluation of the purpose of these labels and their impact on the Moroccan market, as well as potential limitations in the study design. It is important to acknowledge that the sample used in this study was drawn from the University of Mohammed V in Rabat, which may limit the representativeness of the findings to the broader population. Additionally, conducting the survey in both languages to accommodate students may have resulted in misunderstandings or confusion in the interpretation of concepts. The study's conceptual framework was general in nature, as the specific terroir of origin was not specified. This limits the ability to determine whether the students were already familiar with products from a specific region. Furthermore, the research did not specify the type of terroir product, such as food, beauty, or artisanal products, which could have provided more detailed and contextually specific results. While the aim of this research was to provide preliminary data on the understanding of terroir-related concepts among university students, these limitations should be taken into consideration when interpreting the results and designing future research studies. Further research should be conducted to examine consumer purchase behavior of terroir products using the Stimulus-Organism-Response (S-O-R) model as an explanatory framework.

Abbreviations	***Meaning***
KH	**K**now-**H**ow
PB	**P**urchase **B**ehavior
PQ	**P**erceived **Q**uality
S-O-R model	**S**timulus **O**rganism and **R**esponse Model
TI	**T**erroir **I**mage
TL	**T**erroir **L**abel
ToO	**T**erroir **o**f **O**rigin

Table 7: List of abbreviations
(Source: Authors)

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SWOT ANALYSIS AND DEFINITION OF POSSIBLE STRATEGIES FOR ACCEPTANCE OF THE NEW MODEL OF INSPECTION OF UNREGISTERED BUSINESS ACTIVITIES IN THE CUSTOMS ADMINISTRATION

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ABSTRACT
In order to define their basic activities, organizations need to answer the following three questions: Who are we and what do we do (i.e., mission), who do we wish to become and what do we wish to do in the future (i.e., vision), and how are we going to get from the present to the future state (i.e., how can we get from the existing "AS IS" model to the future "TO BE" model). In order to develop a new model of inspection of unregistered activities, the Customs Administration needs to assess the organization's level of preparedness to accept the aforementioned new inspection model and follow through on the changes it brings. This paper will present a SWOT analysis that describes all the elements that affect the organization and the possible effects of said changes. The process of determining internal and external factors is carried out to identify internal elements that will allow easier implementation of the new inspection model (S – strengths) or weaknesses that will hinder its implementation (W – weaknesses). This paper defines possible strategies for implementation of the new inspection model using internal strengths and external opportunities, but also taking into consideration the severity of internal weakness and external threats, thus utilizing said strengths and opportunities to eliminate or minimize weaknesses and threats.
Keywords: *SWOT analysis, Customs Administration, inspection and supervision, strategy, efficiency*

1. INTRODUCTION

Measurement of organizational efficiency enables the organization to monitor the development and progress of their strategic initiatives. Furthermore, it helps organizations achieve the desired results through management activities (Poister, 2003). Organizations measure their efficiency in order to find out whether they are doing their job well, and whether they are satisfying the service users. Moreover, the efficiency measurement is also used to determine whether there is room for improvement.
The organization must answer the following three questions in order to the defined the foundation of its business (Bryson i Alston, 2010, p.5):

- Who are we and what do we do?
- Who do we wish to be and what do we wish to do in the future?
- How are we going to get from the present to the future state?

The first question is answered by the "AS-IS" model, which depicts the current state and business processes in the organization. In order to create the "AS-IS" model, it is necessary to define the mission and the purpose of the organization. The second question is answered by the "TO-BE" model, which provides a description of the desired future state. In order to create the "TO-BE" model, it is fist necessary to define the vision and the future key elements of the organization. The answer to the third question is related to the organization's strategic plan. The strategic plan describes how to get from the present state to the desired future state (Tomičić and Dobrović, 2006).

The organization must follow certain steps in order to get from the present state to the desired future state. Tomičić (2016, p. 277) provides a model of measuring organizational efficiency that contains steps the organization must follow in order to develop concrete measures and build a manageable system of measuring organizational efficiency. The model consists of five steps.

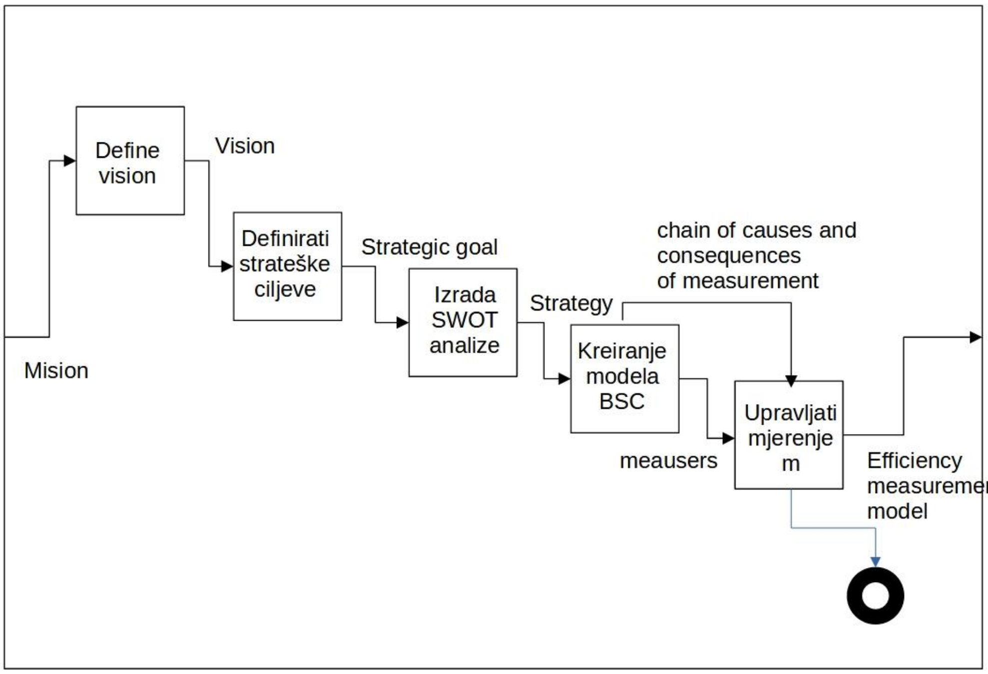

Figure 1: An organizational efficiency model in public administration
(Source: Tomičić, 2016:278)

The first step is to *define a vision.* A vision gives an overview of the organization in the future. All strategic objectives must be vision related. The second step is to *define the strategic objectives* of the organization. The strategic objectives include basic tasks and activities that the organization wishes to achieve within a certain timeframe. The third step is to perform a *SWOT analysis.* SWOT analysis evaluates the defined strategic objectives through four key factors (strengths, weaknesses, opportunities, and threats). All elements of the SWOT analysis related to one strategic objective are marked by a type and an index. It is necessary to determine the mutual rank of the SWOT analysis elements that refer to one objective and belong to the same group (S, W, O, T), i.e., the intensity of their influence on the attainability of the strategic objective. This process is called ranking of SWOT elements and is used to ensure successful implementation of strategies and a rational usage of resources. The fourth step is *creation of the BSC model* (the Balanced Scorecard Method), which contains three basic steps: definition of the activity, definition of the goals, and definition of the measures. The final, fifth step is *measurement management*, i.e., the activity of monitoring the achieved goals. Certain software tools and programs are usually used. The measures represent the values that tell us how much progress a business owner or an organization has made on the way toward realization of the goal. Each model is different and specific, just like each organization. However, it is possible to define the guidelines and steps an organization can apply in order to make the process of development easier and more successful. This paper includes the first three steps of the organizational efficiency model, which are necessary for the achievement of the goal - the development of a new model of inspection supervision of unregistered activities in the Customs Administration.

In this paper, unregistered activities are understood as activities performed by legal or natural persons, which have not declared or registered these activities with the competent authorities of the state administration. Ministry of Finance, Customs Administration, on January 1, 2014. took over the tasks of the canceled body of the State Inspectorate. Part of the undertaken inspection supervision tasks were also related to the tasks of inspection supervision of unregistered activities. Insufficient knowledge and experience in this area, as well as the absence of an effective model of inspection supervision in the area of unregistered activity, had impact to the need for the development of a new model of inspection supervision. (Maršić, 2019). Because of that, the new model of the inspection process of unregistered activity is one of the goals that the Customs Administration must adopt and apply in order to perform these tasks in the way prescribed and required by the Law on the Prohibition of Unregistered Activity (NN 61/11, 66/19), with the goal of suppressing forms of unregistered activities in the economy and increase the number of registered business entities. (Maršić, Oreški, 2014). In order for the new model to be accepted, it is necessary to assess the current situation, i.e. the internal and external environment in which the Customs Administration operates.

2. THE VISION, MISSION AND BASIC OBJECTIVES OF THE CUSTOMS ADMINISTRATION

The vision of the Customs Administration is "To be a modern and competitive customs service of the European Union that operates reliably, efficiently and transparently in the unique territory of the Customs Union, applying national, European and international customs standards and practices". (Strategija carine) The basic mission of the Customs Administration refers to the implementation of more efficient procedures, ensuring effective protection and security of society, markets and financial institutions. Besides that, trade facilitation and strengthening partnership relations with the economy, competent authorities and agencies are also mentioned (source). This is exactly the way that the stated mission includes the proposed measures for the implementation of inspection supervision in the area of unregistered activity, which the Customs Administration should accept and apply. The Customs Administration wants to be a modern and competitive service, whose activities are in accordance with regulations, standards and legislation, both in the territory of the Republic of Croatia and in the territory of the EU.
The tendency of the country's economic recovery and growth also refers to the effective implementation of the Law on Prohibition and Prevention of Unregistered Activities, which is the responsibility of the Customs Administration. The Customs Administration highlight basic values that include: equalised and uniform application of regulations, efficiency, being econimcal and transparent, in cooperation with the customs services of member states and other countries, reliability, openness and conformity in the performance of all work that involves economic partners and the public, and professionalism based on expertise. (Strategic Plan, 2020 - 2023). In order to carry out the inspection in a transparent manner, the organization must use the strengths that it has, which relate to experience in such types of control through inspections already carried out in that area. Professional potential and existing knowledge is neccessary, as well as overcoming weaknesses that appear due to ignorance of the legislation and regulations, limited financial resources and inadequate technical and organizational equipment. (Maršić, Dobrović, 2021).

3. SWOT ANALYSIS

One of the key tasks of business environment analysis comes down to identification of opportunities and threats from the external domain, as well as recognition of strengths and weaknesses in the internal environment (Bošković, D., Vukčević, M. 2005). Given the aforementioned vision of Republic of Croatia’s Customs Administration, one must assess the probability of the new inspection model’s success, i.e., evaluate whether the organization is ready to accept the new model and implement the changes it brings. The following pages contain a SWOT analysis that describes all factors that affect the organization and the possible effects of said changes. During research, internal factors that facilitate implementation of the new inspection model were identified (S - strengths); furthermore, weaknesses (W – weakness) that impede said implementation were also noted. Next, this research assessed the overall business environment of the Customs Administration, thus identifying opportunities (O - opportunities) that facilitate the adoption of the new model and threats (T – threats) that impede it. (Buble, M. et al. 2005). The first portion of this research identifies elements that affect implementation of changes this new inspection model would bring. The second portion of research compares said elements and determines their strengths, whereas the third portion brings forth the conclusion with regards to the possible strategies that utilize the previously determined strengths and benefits of certain elements. The fourth portion provides recommendations as to how to solve the problem of the remaining weaknesses and threats. The source of the conducted SWOT analysis and the henceforth provided ranking of individual elements lies within the available theoretical and scientific knowledge, as well as the author's personal experience gained through years of work in the domain of inspection and supervision with the State Inspectorate and the Customs Administration.

STRENGTHS (S)	*WEAKNESSES (W)*
S1 – the management's and inspectors' willingness/readiness to accept changes	*W1 – ineffective organizational structure of the Inspection Services (precisely defined job position, job description and consistency in the work of defined jobs, multiple solvers involved in one inspection supervision*
S2 – possession of professional knowledge and expertise due to experience in the field of inspection (knowledge about inspections that took place in the Customs Administration)	*W2 – insufficient funds (overtimes, work outside of the office hours, free days) and material resources (vehicles, offices)*
S3 – high levels of expertise and work specialization by employees of the State inspectorate	*W3 – interpretation problems pertaining to certain legal provisions; continuous changes in the Law*
S4 - support and professional help provided by other State Administration bodies (help with acquiring information, jurisprudence, institutions of the European Union)	*W4 – insufficient knowledge of the Law and inspection protocols due to constant change – insufficient time to adapt, lack of knowledge pertaining to the relevant laws and inspection protocols*

Table 1: Internal elements that affect the implementation of the new inspection model (Source: Source: Author's work in accordance with Croatian legislation)

OPPORTUNITIES (O)	*THREATS (T)*
O1 – Available legislation and the European Union's jurisprudence	*T1 - constant changes made to laws and regulations*
O2 – excellent cooperation with other state institutions and administrations	*T2 - state of the economy*
O3 - Possible funding from the European Union Projects and the European Union	*T3 - inconsistencies and insufficient organization in the field of inspection on state level*
O4 - Cooperation with entrepreneurs	*T4 - false reports and claims (waste of time, inadequate filing system for petitions)*

Table 2: Elements of the environment (external elements) that affect the implementation of the new inspection model
(Source: Authors work)

3.1. Determining the influence of the element

The elements were ranked in accordance with how strongly they affect the implementation of the new inspection model. The results were obtained via matrix analysis and are shown in the table below. The names of the elements that were determined to have stronger effects upon the new inspection model were entered into the matrix fields that depict relations between two various elements. The results are shown in the tables below.

	S1	**S2**	**S3**	**S4**
S1	**-**	**S1**	**S1**	**S1**
S2	**-**	**-**	**S3**	**S4**
S3	**-**	**-**	**-**	**S3**
S4	**-**	**-**	**-**	**-**

Determining the influence of Strengths (S)

	W1	**W2**	**W3**	**W4**
W1	**-**	**W1**	**W1**	**W1**
W2	**-**	**-**	**W3**	**W4**
W3	**-**	**-**	**-**	**W4**
W4	**-**	**-**	**-**	**-**

Determining the influence of Weaknesses (W)

	O1	**O2**	**O3**	**O4**
O1	**-**	**O1**	**O1**	**O1**
O2	**-**	**-**	**O3**	**O2**
O3	**-**	**-**	**-**	**O3**
O4	**-**	**-**	**-**	**-**

Determining the influence of Opportunities (O)

	T1	**T2**	**T3**	**T4**
T1	**-**	**T1**	**T3**	**T4**
T2	**-**	**-**	**T3**	**T4**
T3	**-**	**-**	**-**	**T4**
T4	**-**	**-**	**-**	**-**

Determining the influence of Threats (T)

Table 3: Determining element influence
(Source: Author's work)

Table 3 depicts the following ranking of strengths: **S1; S3; S4 and S2**. Thus determined, said ranking shows that the element *S1*, *Readiness of management and employees to accept changes*, has the strongest influence on possible implementation of the new inspection model, as it has been entered into the matrix three times (as a dominant element). Element *S2*, *Possession of expert knowledge due to experience*, hasn't been entered into the matrix at all, therefore it won't have a particular effect on the new inspection model. Furthermore, weakness elements have ranked as follows: **W1; W4; W3** and **W2**. It is possible to conclude that the biggest problem lies within **W1**, *Ineffective organizational structure of the Inspection Service,* as it exerts the most significant negative influence. Element **W2**, *Insufficient funds*, doesn't have an effect on the new inspection model. Table 3 provides the following ranking of opportunities: **O1; O3; O2 and O4.** This ranking of opportunities shows that *O1*, *Available legislation and the European Union's jurisprudence,* affects the new inspection model the most. O3, *Possible funding from the European Union's Project Fund*, doesn't affect the new inspection model as much, given that it only appears twice. The threats were ranked as follows: **T4; T1; T3 and T2.** According to this ranking, the biggest threat is T4, *False reports and claims,* given that it appeared three times. T2, *Suboptimal economic situation,* doesn't have a particular effect on the new inspection model.

3.2. Defining sustainable strategies for implementation of the new inspection model

Table 4 displays possible strategies for the implementation of the new inspection model. These strategies were defined using the predetermined influence of the most significant strengths and opportunities in order to eliminate the most significant weaknesses and threats. The following table shows how the aforementioned strengths and opportunities were used to eliminate the biggest weaknesses and threats.

(S, W) *Using strengths to eliminate weaknesses*	*(S1, W1) – It has been determined that the management is ready to accept and adopt necessary changes due to the current lack of organization within the Inspection Services. Both elements have ranked highly, which indicates significant problems within the organization, such as inefficient workload division and ineffective manner of operation. Therefore, the management is ready to make necessary changes.* *(S1, W4) - The management is aware of problems with regards to knowledge of legislation and inspection protocols; hence, this strategy might have a positive impact on the model.* *(S1, W2) – This could be an inciting strategy, as the funds are instrumental to the new model. Such investments are important in order to induce efficient changes.* *(S1, W3) – Management and employees are aware of some shortcomings with regards to interpretation of legislation, i.e., of certain problems regarding the law in the domain of inspection of unregistered business activities. Given that the problem was recognized, this might be and inciting strategy.* *(S3, W1) – This strategy defines the readiness of current employees to utilize their knowledge and experience in order to help organize the Inspection Services and divide the workload in a more efficient manner.* *(S3, W4) – Given their experience and legislation knowledge, the former State Inspectorate employees can easily interpret certain provisions of the law and thus help Customs Administration employees who work in the domain of unregistered business activity. This can therefore be an inciting strategy.*
(O, T) *Using opportunities to eliminate threats*	*(O1, T4) – A large number of false or incomplete petitions and an inefficient petition filing system represent the most significant threats. Good practice and the European Union's legislation could help adopt the European Union's current models, which, in turn, contribute to the development of an inciting strategy.* *(O1, T1) – Benefits, measures and good practices resulting from the European Union's legislation could provide a good strategy for improvement of the current inefficient legislation in the domain of unregistered business activity.* *(O1, T3) – The current problems of the nation-wide inspection services could be partially solved by adopting the European Union's inspection and organization models.* *(O3, T4) – To fix the current inadequate petition filing system, one must first obtain certain funds. These funds could be acquired from the European Union, which could be a good, inciting strategy.*
(S, T) *Using strengths to eliminate threats*	*(S1, T4) – The management is ready to solve the existing problems related to the current petition filing system. A good petition filing system will positively affect the quality of the new inspection model.* *(S1, T1) – The management's readiness to adapt to constant changes in legislation is a very important strategy. The problems regarding constant legislation changes could be solved by establishing legal services within the organization. Said legal services would be in charge of keeping track of the current laws and regulations in order to educate the inspectors and other employees about the relevant changes.* *(S3, T3) – Positive and negative elements of the former State Inspectorate's business operation can be used in order to facilitate the Customs Administration's adaptation to the changes within and outside of the organization. These changes are mostly related to the organization of the inspection services and the inspection systems.* *(S3, T4) – The old system of filing and processing petitions that was used by the former State Inspectorate could provide an inciting strategy and thus help develop a new system of filing and processing petitions at the Customs Administration.*
(O, W) *Using opportunities to eliminate weaknesses*	*(O1, W1) – Examples of good practice from the European Union, particularly those related to the organization and operation of inspection services, could provide an inciting strategy and thus help improve upon the organization system of the inspection services with the Customs Administration.* *(O1, W4) – The European Union's system of filing and processing petitions could be used as a base to construct a new system for the Customs Administration. This could generate significant savings and good work results.* *(O1, W3) - Adoption of certain laws and regulations from the European Union could be a very inciting strategy.* *(O3, W2) – Funds from the EU Project Funds could help fix the problem of lacking monetary and material resources (computers, company's cars…) at the Customs Administration; hence, this strategy could be very important to the new inspection model.*
(S, O) *Simultaneous usage of strengths and opportunities*	*(S1, O1) – Both management and employees are ready to adopt regulations and legislation from the European Union, which makes this strategy very important. It is instrumental to establish a strong collaboration with inspection services outside of Republic of Croatia in order to learn about their business practices and implement them into the existing system.* *(S1, O3) – Management is ready to utilize their knowledge in order to obtain funds from the European Union. These funds could be used to purchase necessary resources and finance other elements of the inspection protocol. Two very strong elements could affect the implementation of this strategy.* *(S1, O2) – Collaboration between the Customs Administration management and other State institutions is key to establishing a high-quality and efficient inspection system. Strong correlation exists between both elements; therefore, it is necessary to take advantage of this possibility.*

Table 4: Defining sustainable strategies
Source: Author's work in accordance with Croatian legislation

4. CONCLUSION

The SWOT analysis determined that the main inefficiency of the existing inspection model of unregistered business activities in the Customs Administration is disorganization of the supervision service as well as the system of receiving and working on petitions. The existing supervision service is missing a good systematic definition and division of main tasks of all inspectors and other employees in Custom Administration and all also professional competence of inspectors and other customs officials in the field of unregistered activities. The existing supervision system involves too many inspectors which are working per one application that makes that the current model lose its consistency and wastes information and time. There is a strong strength of management staff and management and also of employees for changes what we can see from the previous analysis through the strengths of the element with which the mentioned element is correlated.(table 1.) From the analysis, it is also evident that the Customs Administration did not make sufficient use of the inherited knowledge, experience, and good practice in the tasks of inspection supervision of unregistered activities from employees who performed the same tasks in the State Inspectorate. Inspection supervision in the area of unregistered activity is a specific inspection supervision because it is carried out over persons who perform prohibited activities for which they do not have a permit issued by the competent authorities and therefore requires special expertise and knowledge of the entire implementation procedure. The Republic of Croatia has significant benefits from the effective implementation of inspection supervision of unregistered activities, and any harmonization of legislation, obtaining additional financial resources, as well as increased cooperation with all organizations and state administration bodies of the same interest will be of interest. Part of the financial resources for the new model can be obtained from existing EU funds and projects, and it is necessary to work on this. The reduction in the number of unregistered activities and the opening of new business entities through the new supervision model will have a positive effect on the country's economic growth rate (X). Therefore, the new model has a significant application in the part of economic growth of the entrepreneurial activity of the Republic of Croatia, and the presented SWOT analysis points to the current situation and the changes that must be made for the new model to be applied.

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THE EFFECT OF AMBIDEXTROUS STRATEGIC LEADERSHIP ON CREATING SHARED VALUE

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ABSTRACT

The success of any organisation relies heavily on the quality of its strategic leadership. With the increasing importance of addressing societal challenges, including delivering and measuring social results, it's crucial to identify which strategic leadership characteristics impact both social and business results. Using bibliometric and data-driven methods, recent research has identified ambidexterity as a key characteristic of strategic leadership that impacts social and financial results (Beveridge et al., 2021; DeCieri et al., 2020). Ambidexterity refers to a leader's ability to exploit current resources while exploring future opportunities and trends. The objective is to understand the impact of ambidextrous strategic leadership on creating shared value, including creation of social and financial results (Porter and Kramer, 2011). By examining how leaders with ambidexterity capabilities can achieve shared value, and organisations can develop more effective leadership development programs to drive business performance. The research aim: provide an overview of how the strategic leadership characteristic ambidexterity, impacts the creation of shared value in companies. This study builds upon a previous literature content analysis and relies on primary data collection and comprehensive analysis of the collected data. The structural equation modelling (SEM) technique was applied to examine the two constructs such as exploration and exploitation, as characteristics of ambidextrous leadership and its effect on business and social results. In this paper, the authors recognise the limitations in the application of the construct of ambidextrous strategic leadership. Although strategic leadership has several characteristics and constructs, this research focuses on ambidexterity and the two related its sub-constructs of exploiting and exploring. Moreover, the sample size of companies analysed in the study may not represent all types of organisations as the focus has been on medium and large sized companies. The analysis revealed that ambidexterity plays a significant role in creating shared value for companies. The results show that ambidextrous strategic leaders are more effective in creating social and business results simultaneously compared to those who do not possess this characteristic. The findings suggest a positive relationship between ambidexterity and creating shared value, meaning that the more ambidextrous the leader, the higher the likelihood of creating shared value. Furthermore, the study shows that leaders tend to be more optimistic about future opportunities and trends, which indicates that they focus more on exploring new opportunities rather than exploiting existing resources. However, the study also revealed that there is a more pessimistic view when it comes to exploiting current resources to their full potential.

Keywords: *Ambidexterity, Strategic leadership, Shared value, Data analytics, Resources*

1. INTRODUCTION

According to Barbara J. Davies and Brent Davies (2004), strategic leaders possess several key characteristics: they have a clear vision, are proactive, innovative, analytical, collaborative, decisive, and communicative. These characteristics are essential for guiding organisations through change and positioning them for long-term success (Davies and Davies, 2004). The quality of leadership performance is a critical factor in the success of any organisation, as highlighted by Singh et al. (2016). In recent years, the importance of addressing societal challenges while achieving business results has become increasingly recognized recognised. While various findings are available in the literature, there is evident a research gap on strategic leadership and its impact on creating shared value, which includes both business and social results (Porter and Kramer, 2019). Based on an initial literature review, the authors identified contextual ambidexterity as a crucial leadership characteristic. Contextual ambidexterity refers to a leader's ability to exploit the firm's current resources while exploring future opportunities and trends. Ambidexterity is crucial in helping enterprises navigate the challenges associated with the dynamic business environment, steer organisations through change, and create shared value. However, questions remain about whether the impact of ambidexterity is significant and whether it can be measured, which this paper aims to address. A recent study showed that the question of whether ambidexterity leads to improved organisational performance or not still needs to be developed and the results still need to be more conclusive (Alamayreh et al., 2019). This paper has two main contributions. First, it discusses the literature on the ambidextrous leader as the vital characteristic of enterprise leaders. Breaking down ambidexterity into two sub-characteristics: exploiting the firm's current resources and exploring future opportunities and trends. Second, the paper analyses the impact of ambidextrous strategic leadership on creating social and business results, isolating each construct and measuring their impact. The paper's structure is as follows. First, the authors present the theoretical background supporting the development of four hypotheses. Then, an explanation of the survey method and the structural equation modelling (SEM) technique used in the analysis is given. It is followed by the analysis results. Finally, the paper concludes with a discussion and suggestions for future research.

2. BACKGROUND

Businesses and entrepreneurial enterprises struggle to compete in highly dynamic environments (Chan et al., 2018). Early exploration of strategic leadership topics indicates an increased complexity for strategic leaders in creating shared value compared with companies solely focusing on creating business results (Jackson et al., 2017). According to Jackson et al. (2017) the complexity lies within levels of ambiguity, fast-changing social trends and the need for an established theoretical and practical knowledge base to rely on, making strategic leadership more challenging. Another study identifies different characteristics of strategic leadership, such as driving transformation, engaging with stakeholders and diversity (Schlosser and Volkova, 2022). In this study, the authors identified three key attributes of strategic leadership essential for achieving success: driving transformation, engaging with stakeholders, and promoting diversity. The study provides a detailed analysis of each of these attributes and discusses how they can be developed and implemented in the context of strategic leadership. (Barnett and Davis, 2020). Ambidexterity refers to an organisation's ability to simultaneously engage in exploratory and exploitative activities, which enables them to adapt effectively to changing market conditions and improve overall performance (O'Reilly and Tushman, 2014).

2.1. Ambidextrous strategic leadership

Strategic leadership is viewed upon as the foundation for the successful performance of any organisation operating in the constantly changing and complex environment of the 21st century

(Jaleha and Machuki, 2018). Hitt et al. (1998) and Ireland and Hitt (1999) described the capabilities needed for effective strategic leadership in the new competitive landscape expected for the 21st century. They argued that effective strategic leaders had to: (1) develop and communicate a vision, (2) build dynamic core competencies, (3) emphasise and effectively use human capital, (4) invest in the development of new technologies, (5) engage in valuable strategies, (6) build and maintain an effective organisational culture, (7) develop and implement balanced controls, and (8) engage in ethical practices (Hitt et al., 1998; Ireland and Hitt, 1999). Ambidextrous leadership refers to the ability of leaders to simultaneously manage the existing operations of a company while also promoting innovation and exploration of new opportunities. This type of leadership is important for organisations that need to balance their current performance with future growth and development. Ambidextrous leaders are able to navigate these competing demands by creating a culture that supports both incremental improvements and breakthrough innovations. On the other hand, ambidextrous strategic leadership refers to the ability of leaders to develop and implement both exploitative and exploratory strategies. Exploitative strategies focus on optimising existing products or services, while exploratory strategies involve developing new products or services that may disrupt the current market. Ambidextrous strategic leaders are able to balance these two types of strategies to drive sustained growth and competitiveness (Birkinshaw and Gibson, 2004). Overall, ambidextrous leadership and ambidextrous strategic leadership are related but distinct concepts that are both important for organisational success. According to recent research, ambidexterity is a crucial characteristic of effective strategic leaders (Teece et al., 2018; Beveridge et al., 2021; DeCieri et al., 2020). Research on ambidexterity is an important topic in management research, having grown meteorically over the past 17 years (Hughes, 2018). Frogeri et al.(2022) propose a conceptual and theoretical hypothetical model that explains the influence of various types of ambidexterity at three levels such as structural, contextual, and sequential (Frogeri et al., 2022). Another study aims to investigate the impact of ambidexterity capability and resource availability on firm resilience, along with perceived environmental uncertainty playing a moderating role. The research also looks into the interchange relationship between exploration and exploitation capability as components of ambidexterity (Gayed and Ebrashi, 2022). Gayed and Ebrashi (2022) used SEM to analyse a sample of 202 companies located in one country, and the results indicated that both organisational ambidexterity capability and resource availability impact organisational resilience. Ambidextrous leadership is a vital aspect of this process, as it involves balancing the competing demands of exploration and exploitation. This literature review examines the concept of ambidextrous leadership and its relationship with innovation, organisational performance, and resilience. Schlosser and Volkova (2022) found that enterprise leaders should be able to balance pursuing social impact with the need for financial results, which requires possessing ambidextrous skills. The study emphasises the significance of creating shared value while simultaneously addressing social and environmental challenges. Alamayreh, Sweis, and Obeidat (2019) investigate the connection between organisational ambidexterity, innovation, and organisational performance. Their findings reveal a positive correlation between ambidexterity and both innovation and organisational performance. The authors propose that ambidextrous strategic leadership is crucial in enabling organisations to balance exploratory and exploitative activities effectively. Similarly, Ceptureanu, Ceptureanu, and Cerqueti (2021) examined the relationship between innovation ambidexterity and performance in IT companies, focusing on the moderating role of business experience. The study found that ambidextrous firms outperformed non-ambidextrous firms and that business experience moderated the relationship between ambidexterity and performance. Mavroudi, Kesidou, and Pandza (2020) investigated the relationship between the temporal cycling of exploratory and exploitative research and development (R&D) and firm performance.

The results suggested that a higher level of cycling between exploratory and exploitative R&D was positively associated with performance, highlighting the importance of ambidextrous leadership in achieving this balance. Guerrero (2021) conducted a literature review of studies on ambidexterity and entrepreneurship and found a positive impact of ambidexterity on entrepreneurial performance. However, the author also suggested further research to understand this relationship more comprehensively. Finally, Brown, Jie, Le, Sharafizad, Sharafizad, and Parida (2022) examined the factors influencing small and medium-sized enterprises (SME) business resilience in the post-COVID-19 era. The results revealed that ambidextrous leadership was a significant predictor of SME resilience during the pandemic, emphasising the critical role of ambidexterity in building organisational resilience. Overall, the literature suggests that ambidextrous leadership is crucial for organisations to balance exploratory and exploitative activities and achieve higher levels of innovation, organisational performance, and resilience. Further research is needed to better understand the relationship between ambidextrous leadership and entrepreneurship. Studies have suggested that ambidextrous leadership is positively associated with various organisational outcomes, such as innovation (Li, Wang, & Liao, 2015), firm performance (Liu, Li, Chen, & Chen, 2019), and strategic change (Moldogaziev & Gillespie, 2018). Additionally, research has identified several antecedents of ambidextrous leadership, such as transformational leadership (De Jong & Den Hartog, 2010). Ambidexterity in this regard is identified under contextual ambidexterity, where strategic leaders on one side exploit resources of the enterprise and thereby decrease variance while creating results. On the other hand, the ambidextrous strategic leader is focused on exploring trends within their sector and beyond. Sustainability and digital technology are two key trends strategic leaders are exploring (Schoemaker & Krupp 2015). With exploration, strategic leaders increase variance to sense and seize new opportunities. Despite the potential benefits of ambidextrous strategic leadership, there are also challenges associated with this approach. For example, balancing exploration and exploitation may lead to organisational tensions and conflicts (Gupta, Smith, & Shalley, 2006). Furthermore, there may be limitations to the generalizability of ambidextrous leadership theory across different cultural contexts (Xu & Wu, 2019). Based on the literature review, the theoretical model has been developed. The independent variable is the strategic leadership characteristic, ambidexterity. The two characteristics of ambidexterity are exploiting the firms' current resources and exploring future trends and opportunities. The dependent variable is creating shared value and the characteristics hereof, creating social and business results.

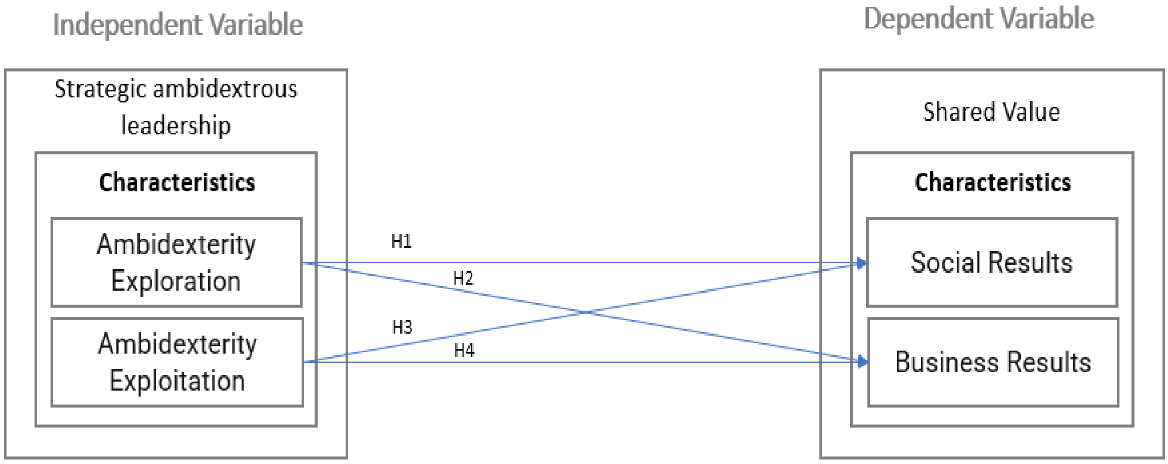

Figure 1: Theoretical research model

Based on the theoretical model, four hypothesises are created:
H1. The intensity of exploitation of resources positively influences social results.
H2. The intensity of the exploitation of resources positively influences business results.
H3. The level of exploration of resources positively influences social results.
H4. The level of the exploration of resources positively influences business results.

The first hypothesis is related to understanding the impact of leaders on intensifying exploitation of current resources on social results. The second hypothesis will be investigated to understand the relationship between leaders' intensifying exploitation of current resources on business results. The third relates to exploring future opportunities and trends and will measure the level of exploration and its impact on social results. The fourth will measure how the level of exploration of resources will impact business results.

3. METHODOLOGY

Partial Least Square Structural Equation Modelling (PLS-SEM) and RStudio were used to evaluate the proposed research model and to test hypotheses. PLS-SEM methodology is well accepted in management studies (Cenamor et al., 2019; Clauss, T. et al., 2020; Hair et al., 2019).

3.1. Data collection and sample

The following will focus on survey design and development, utilisation of the survey method for collecting data from the object, aiming to gain information supporting the research objectives. The research method uses questionnaires and interviews for systematic data collection. The unit of analysis will be strategic leaders in enterprises. The survey was conducted in Latvia and Denmark and was across 5 main sectors, 1) information, communication and technology (ICT), 2) Finance, 3) Energy, 4) Education and 5) Health Care. The finance sector is an important contributor to the Danish economy. According to the Danish Financial Supervisory Authority, the finance sector's total assets in Denmark amounted to 30.2 trillion Danish Kroner in 2020, which is equivalent to approximately 12 times Denmark's GDP (FSA, 2021). The finance sector is essential to Latvia's economy, contributing around 4% to the country's GDP and providing jobs for around 12,000 people. The sector is well-regulated, with a stable banking system and a growing fintech industry, making Latvia an attractive location for foreign investors looking to do business in the region (European Central Bank, 2021). The ICT sector is another significant contributor to Denmark's economy, with a focus on software development, digitalisation, and innovation. In 2020, the ICT sector contributed 3.2% to Denmark's GDP, employing around 94,000 people (The Danish ICT Industry Association, 2021). The ICT sector in Latvia has been growing rapidly in recent years, with the country becoming a hub for start-ups and innovative technology companies. The sector contributes around 4.5% to Latvia's GDP and employs around 17,000 people (Investment and Development Agency of Latvia, 2021). Latvia is known for its highly skilled workforce and innovative technology solutions, making it an attractive destination for foreign companies looking to outsource their IT services or set up new ventures. According to the World Bank's Ease of Doing Business Report 2022, Latvia ranks 19th out of 190 countries in the ease of starting a business category, indicating a favourable environment for new ventures (World Bank, 2022). Denmark has a well-developed education sector that contributes to the development of the country's workforce and innovative capacity. The education sector employs around 125,000 people and contributed 4.4% to Denmark's GDP in 2019 (Statistics Denmark, 2021). Furthermore, Denmark's education system is considered to be one of the best in the world, ranking consistently high in international education rankings such as the Programme for International Student Assessment (PISA) (OECD, 2021). Education is another vital sector in Latvia, contributing to the country's human capital development and economic growth.

The sector employs around 36,000 people and provides education services to over 200,000 students (State Education Development Agency, 2021). Denmark's energy sector is essential due to its efforts to transition to a low-carbon economy and reduce its reliance on fossil fuels. Denmark is a world leader in renewable energy, with wind power being a major contributor to the country's energy mix. The country's ambitious goal is to become fossil fuel-free by 2050, and the energy sector plays a critical role in achieving this target. In 2019, the energy sector contributed around 4.4% to Denmark's GDP and employed over 40,000 people (Danish Energy Agency, 2021). The energy sector in Latvia is important for the country's energy independence and security. Latvia has made significant progress in transitioning to renewable energy sources, with around 40% of its energy coming from renewable sources such as biomass and hydropower (International Energy Agency, 2021). Finally, health care is a crucial sector in Denmark, providing essential services to the population and contributing to the overall well-being of the country. The sector employed around 231,000 people in 2020, and in 2019, it contributed around 9.2% to Denmark's GDP (Statistics Denmark, 2021). The health care sector is essential to Latvia's population, providing vital health care services to around 2 million people. The sector employs around 42,000 people and contributes around 6% to Latvia's GDP (Central Statistical Bureau of Latvia, 2021). The sector is undergoing significant reforms to improve the quality and accessibility of health care services, including investments in digital health technologies and preventative health care. Out of the 300000 enterprises in Denmark, currently there are 6000 medium and large enterprises in Denmark, representing about 2% of all companies (Danmarks Statestik, 2021). Of which just 449 are large enterprises with more than 250 employees. About one-third of all employees are working in large enterprises (Ballisager, 2021). In Latvia there are about 2000 medium and large-sized enterprises, of which 226 are large (Lursoft, 2022). The authors conducted a survey targeting the above-mentioned sectors. The response format consists of dichotomous responses. That is, agree/disagree, yes/no. However, this will be minimal and rather, a scale of degree of agreeing/disagreeing was available. Then nominal responses will be available to determine the social enterprise industry. Type of sector, position held etc. intervals scales will be a key part of the survey design. The Likert scale (Likert, 1932) will be used to collect responses from the population. It is used to assess the level of agreement or disagreement of a symmetric agree-disagree scale. The Likert scale is similar to Thurstone scale, however, simpler to develop and analyse (Salkind, 2018, pp. 120-121). The parts outlined below, are the four parts of which the survey consist of:

- Part 1: Socio-demographic data together with data on the enterprise where the respondent work
- Part 2: Strategic leadership and the characteristics in the enterprise
- Part 3: Social impact generated by the enterprise
- Part 4: Digital technologies adoption. The current and future adoption of digital technologies by the strategic leaders with the aim to create shared value.

There are 37 main questions divided between the four main parts. Out of the 37 questions 15 of those have sub-statements which the respondent will reply to a 5-point Likert scale with a total of 111 sub-statements in the survey. The sample size is 405 collected responses from employees with a leadership, senior specialist position or business owners. All collected responses has been broken down according to position, sector, company size, location, business region, age, and gender (see Table 1) .

Table following on the next page

Variable	Respondents	
	n	%
Position		
Executive	164	40.5%
Manager	208	51.4%
Specialist	33	8.1%
Sector		
Education	58	14.3%
Energy	81	20.0%
Finance	100	24.7%
Health care	52	12.8%
ICT	73	18.0%
Other	41	10.1%
Company size		
Large	199	49.1%
Medium	206	50.9%
Location		
Denmark	249	61.5%
Latvia	156	38.5%
Business region		
Globally	147	36.3%
EU	165	40.7%
Across region	93	23.0%
Age		
25 - 34	20	4.9%
35 - 44	122	30.1%
45 - 54	127	31.4%
55 - 64	105	25.9%
65 - 74	31	7.7%
Gender		
Male	224	55.3%
Female	181	44.7%

Table 1: Respondents' breakdowns
(Source: based on authors empirical research results)

Table 1 Respondents' breakdowns, provides information about the respondents in the completed survey. The variables included are position, sector, company size, location, business region, age, and gender. Each variable is divided into categories, and the number and percentage of respondents in each category are provided. In terms of position, the majority of respondents (51.4%) were managers, followed by executives (40.5%) and specialists (8.1%). In terms of sector, the largest group of respondents worked in finance (24.7%), followed by energy (20.0%), ICT (18.0%), education (14.3%), healthcare (12.8%), and other (10.1%). Company size, almost half of the respondents (49.1%) worked in large companies, while the other half worked in medium-sized companies. Regarding location, the majority of respondents were from Denmark (61.5%), with the remaining respondents from Latvia (38.5%). In terms of which region, they conducted business, the largest group of respondents worked globally (36.3%), followed by the EU (40.7%) and across the region (23.0%). The age groups are as follows, the largest group of respondents were aged 45-54 (31.4%), followed by 35-44 (30.1%), 55-64 (25.9%), 65-74 (7.7%), and 25-34 (4.9%). Lastly, gender is split so that most respondents were male (55.3%), while 44.7% were female. Overall, this table provides a useful snapshot of the characteristics of the respondents in the survey.

This information highlights the demographic makeup of the sample and will be used for further analysis and interpretation of the survey results.

3.2. Constructs

The constructs are independent variables: 1) Construct–exploration (ambidexterity) (EPR) and Construct – exploitation (ambidexterity) (EPT). For the Dependent variables, 1) Social results (SOC) and 2) Business results (BUS). Each construct has underlying constructs.
Independent variables:
1) Construct – exploration (ambidexterity) (EPR)

- Leaders are eager exploring for new trends in your industry (ERNT)
- Leaders are making an effort to explore new opportunities (ERNO)
- My company focuses on planning for possible future agenda (ERFA)

2) Construct – exploitation (ambidexterity) (EPT)

- Leaders are using existing resources to full extent (ETRF)
- Leaders focus on value chain efficiency (ETVC)

The other construct are dependent variables:
3) Social results (SOC)

- Social issues are part of our strategic agenda (SOSA)
- Leaders in my company recognize social issues as a company responsibility (SOCR)

4) Business results (BUS)

- Market share (BUMS)
- Brand recognition (BUBR)
- Customer satisfaction (BUCS)

This study constructs, presented above, aims to investigate the relationship between ambidextrous leadership (measured by exploration and exploitation), social results (measured by social issues and company responsibility), and business results (measured by market share, brand recognition, and customer satisfaction). The table provides information on the estimated regression coefficients, bootstrapped means and standard deviations, t-statistics, confidence intervals, and the results of the hypothesis tests. The abbreviations for each construct will be used for the remaining of this study.

3.2.1. Measurement model evaluation – reliability and validity analysis

Quality of the constructs EPT, EPR, SOC and BUS is assessed based on evaluation of the measurement model. Factor loading refers to the extent to which each of the items correlates with the given principal component (construct). Factor loadings can range from -1.0 to +1.0, with higher absolute values indicating a stronger correlation of the item with the underlying factor. All the items, with only one exception (EECT), in this study had factor loading higher than recommended value of 0.708 (Hair et al., 2019) and all are statistically significant at level $\alpha < 0.001$. Factor loadings are presented in Table 2.

Table following on the next page

Items	EPT	EPR	SOC	BUS	Sign
ETRF	0.720				<0.001
ETVC	0.897				<0.001
ERNT		0.808			<0.001
ERNO		0.791			<0.001
ERFA		0.819			<0.001
SOSA			0.847		<0.001
SOCR			0.856		<0.001
BUMS				0.830	<0.001
BUBR				0.731	<0.001
BUCS				0.758	<0.001

Table 2: Factor loading
(Source: Authors compilation using RStudio)

The two most common used ratios for establishing reliability are Cronbach's alpha and composite reliability (rho_C). Cronbach's alpha is the lower bound and the composite reliability rho_C is the upper bound for internal consistency reliability. The reliability coefficient rho_A lies between these bounds and serve a good representation of a construct's internal consistency reliability.

Construct	alpha	rho_C	AVE	rho_A
EPT	0.505	0.794	0.661	0.611
EPR	0.741	0.848	0.650	0.767
SOC	0.622	0.841	0.726	0.623
BUS	0.686	0.817	0.599	0.735

Table 3: Reliability ratios
(Source: Authors compilation using RStudio)

As suggested by Henseler et al. (2015) double inequality $0.60 < rho_A < 0.8$ is valid (see Table 3), therefore one can conclude that internal consistency reliability is established. Convergent validity is the extent to which the construct converges to explain the variance of its indicators. The metric used for evaluating a construct's convergent validity is the average variance extracted (*AVE*) for all indicators on each construct. *The AVE* is defined as the grand mean value of the squared loadings of the indicators associated with the construct (i.e., the sum of the squared loadings divided by the number of indicators). Therefore, the *AVE* is equivalent to the commonality of a construct. The minimum acceptable *AVE* is 0.50 – an *AVE* indicates the indicators variance that makes up the construct (Hair et al., 2019). As one can see in Table 2, the *AVE* values are above the required minimum level of 0.50 (Hair et al., 2019). Thus, the measures of reflectively measured constructs have high levels of convergent validity. Discriminant validity is the degree to which measures of different concepts are distinct. It shows how well the test measures the concept it was designed to measure. The notion is that if two or more constructs are unique, the valid measures of each should correlate only a little.According to Fornell & Larcker criterion (*FL*), discriminant validity is established when the monotrait-heteromethod correlations for all constructs are larger than heterotrait-heteromethod correlations (i.e., square root of *AVE* for construct is greater than its correlation with all other constructs).

Table following on the next page

Construct	EPT	EPR	SOC	BUS
EPT	0.813			
EPR	0.315	0.806		
SOC	0.223	0.517	0.852	
BUS	0.137	0.328	0.276	0.774

Table 4: FL ratios.
(Source: calculated by authors using RStudio)

As one can see from Table 4, *FL*-ratios for a construct (in Bold on diagonal) are larger than its correlation with other constructs, hence, providing strong evidence for establishing of discriminant validity. Discriminant validity can be assessed based on heterotrait-monotrait (HTMT) ratio, which is an estimate of correlations between constructs.

Construct	EPT	EPR	SOC	BUS
EPT	.			
EPR	0.506	.		
SOC	0.383	0.722	.	
BUS	0.215	0.432	0.412	.

Table 5. HTMTL ratios.
(Source: calculated by authors using RStudio)

As can be seen from the above Table 5, all *HTMT* ratios are significantly lower than threshold (0.85) suggested by Henseler et al. (2015), hence, discriminant validity is established. All bootstrapped HTMT are within 95% confidence intervals.

Variable	n	Mean	SD	SE	LCL	UCL	Med	Min	Max	LCL_{med}	UCL_{med}
ERNT	405	3.91	1.08	0.054	3.81	4.02	4	1	5	4	4
ERNO	405	3.82	1.05	0.052	3.72	3.93	4	1	5	4	4
ERFA	405	3.80	1.07	0.053	3.69	3.90	4	1	5	4	4
ETRF	405	3.11	1.19	0.059	2.99	3.22	3	1	5	3	4
ETVC	405	3.52	1.16	0.58	3.41	3.63	4	1	5	4	4

Table 6: Descriptive statistics of independent variables
(Source: Authors compilation using RStudio)

Table 6, Descriptive statistics of independent variables by respondent groups, presents summary statistics for five variables (ERNT, ERNO, ERFA, ETRF, and ETVC) in a total group of 405 observations. The mean, standard deviation (SD), standard error (SE), lower confidence limit (LCL), and upper confidence limit (UCL) are provided for each variable. The mean represents the average value of each variable across the entire group of 405 observations. The standard deviation (SD) is a measure of the variability or spread of the values in each variable. The standard error (SE) represents the standard deviation of the sample mean and indicates how much the sample mean may differ from the true population mean. The lower confidence limit (LCL) and upper confidence limit (UCL) represent the range within which the true population mean is likely to lie, with a certain confidence level of 95%.

Variable	n	Mean	SD	SE	LCL	UCL	Med	Min	Max	LCL_{med}	UCL_{med}
SOSA	405	3.41	1.17	0.058	3.30	3.53	4	1	5	4	4
SOCR	405	3.71	1.16	0.058	3.59	3.82	4	1	5	4	4
BUMS	405	3.05	0.75	0.038	2.98	3.13	3	1	4	3	3
BUBR	405	3.04	0.81	0.040	2.96	3.12	3	1	4	3	3
BUCS	405	3.15	0.79	0.039	3.08	3.23	3	1	4	4	4

Table 7: Descriptive statistics of dependent variables
(Source: Authors compilation using RStudio)

Table 7, Descriptive statistics of dependent variables, similar to Table 2, and include the five dependent variables: SOSA, SOCR, BUMS, BUBR, and BUCS. SOSA has a mean of 3.41 with a standard deviation of 1.17. The standard error is 0.058, which indicates the precision of the mean estimate. The lower and upper confidence limits are 3.30 and 3.53, respectively, which provide a range of values within which we can be confident that the true population mean lies with a specified level of confidence. SOCR has a higher mean of 3.71 and a similar standard deviation of 1.16, indicating that this SOCR has higher values on average than SOSA. The standard error and confidence limits are also similar to SOSA. BUMS has a lower mean of 3.05 and a lower standard deviation of 0.75, suggesting that this variable has lower values on average and is less variable than the other variables in the table. The standard error is smaller than the other variables, which indicates a more precise estimate of the mean. The confidence limits are also narrower, indicating a higher level of confidence in the estimate. BUBR has a similar mean and standard deviation to BUMS, but with slightly wider confidence limits. The wider confidence limits for BUBR suggest that there may be more uncertainty around the true value of this measure, and this could be a concern leaders. BUBR represents a measure of brand recognition, and the wider confidence limits suggest that there may be more variability in brand recognition ratings for the business. BUCS has a higher mean than BUMS and BUBR, but a similar standard deviation. The standard error and confidence limits are similar to the other variables in the table.

4. EVALUATION OF RESEARCH MODEL AND HYPOTHESIS TESTING

Partial Least Square Structural Equation Modelling (PLS-SEM) and RStudio were used to evaluate the proposed research model and to test hypotheses. PLS-SEM methodology is well accepted in management studies [1, 2, 5]. To examine the impact of the constructs on creating shared value we use bootstrapped (nboot = 10000) paths statistics, see following Table 8.

Paths	Orig.Est.	Boot.Mean	Boot.SD	t-stat	2.5% CI	97.5% CI	H tests
EPT -> SOC	-0.018	-0.018	0.042	-0.416	-0.103	0.064	H1 No
EPT -> BUS	-0.003	-0.000	0.045	-0.072	-0.088	0.089	H2 No
EPR -> SOC	0.193	0.192	0.063	3.040	0.065	0.314	H3 Yes
EPR -> BUS	0.172	0.173	0.070	2.457	0.039	0.314	H4 Yes

Table 8. Partial Least Square Structural Equation Modelling
(Source: Authors compilation using RStudio)

The original estimate of the effect of exploiting resources on creating social results is -0.018. This suggests that simply focusing on exploiting resources may not necessarily lead to positive social outcomes for a company. The bootstrap mean, which is the average estimate obtained from resampling the data, is also -0.018. This indicates that the original estimate is a reliable estimate of the true effect. The bootstrap standard deviation is 0.042, which provides an estimate of the variability in the estimates obtained from resampling. The *t*-statistic for the effect of EPT on SOC is -0.416, this indicates that the estimate is not significantly different from zero at the 5% level of significance. The 95% confidence interval for the effect of EPT on SOC is -0.103 to 0.064, which includes zero. That is, -0.416 suggests that the estimated effect of exploiting resources on creating social results is not statistically significant. This means that leaders should not rely solely on exploiting resources to create social results and should consider other factors or strategies that may have a stronger impact. Therefore, this further supports the conclusion that there is no significant effect of EPT on SOC. The hypothesis test for the effect of EPT on SOC (H1) was not significant. When exploiting resources on creating business results, once again, it is indicated that the estimate is not significantly different from zero at the 5% level of significance.

The 95% confidence interval is -0.088 to 0.089, which also includes zero. This further supports the conclusion that there is no significant effect of EPT on BUS. Looking at exploration on social, the original estimate of the effect of EPR on SOC is 0.193. The bootstrap mean, which is the average estimate obtained from resampling the data, is very close to the original estimate at 0.192, which indicates that the original estimate is a reliable estimate of the true effect. Furthermore, the bootstrap standard deviation is 0.063, which provides an estimate of the variability in the estimates obtained from resampling. The *t*-statistic for the effect of EPR on SOC is 3.040, this indicates that the estimate is significantly different from zero at the 5% level of significance, suggesting that there is a significant effect of EPR on SOC. This becomes more evident as the 95% confidence interval for the effect of EPR on SOC is 0.065 to 0.314. This further supports the conclusion that there is a significant effect of EPR on SOC. Lastly, the hypothesis test for the effect of EPR on SOC (H3) was significant. Exploration on business also has a significant effect. This can be seen from the effect of EPR on BUS is 2.457 and implies that the estimate is significantly different from zero at the 5% level of significance, suggesting that there is a significant effect of EPR on BUS. This further supports the conclusion that there is a significant effect of EPR on BUS.

5. DISCUSSION

The ambidexterity of a leader, or the ability to balance exploration and exploitation activities, has been shown to be positively associated with organisational performance and innovation (Alamayreh, Sweis, & Obeidat, 2019; Ceptureanu, Ceptureanu, & Cerqueti, 2021). The results of the path analysis in the study cited above also indicate that exploring for new trends in the industry, exploring new opportunities, and focusing on planning for possible future agendas are all positively related to social results and business results. From a business perspective, ambidexterity can help organisations remain competitive in a rapidly changing marketplace by allowing them to adapt to new trends and opportunities while also maintaining their existing competitive advantage (Mavroudi, Kesidou, & Pandza, 2020). This can lead to increased market share, brand recognition, and customer satisfaction, all of which are important for the long-term success and sustainability of a business (Brown et al., 2022). From a societal perspective, businesses have a responsibility to address social issues and contribute to the well-being of the communities in which they operate (Guerrero, 2021). By recognising social issues as a company responsibility and incorporating them into their strategic agenda, organisations can contribute to the creation of a more sustainable and equitable society. This can also positively impact the organisation’s reputation of the organisation, which in turn can enhance brand recognition and customer loyalty (Alamayreh et al., 2019). The H1 statement suggests that exploiting resources has an effect on creating social results, but this effect is not statistically significant. While exploiting resources can potentially contribute to creating social outcomes, other factors may play a more substantial role in determining social results. Therefore, leaders should be aware of the effect but also look to other strategies for creating social results. There may be several reasons why exploiting resources could not have a significant effect on creating social results. For instance, the resources being exploited may not be directly related to achieving social outcomes, or they may need to be more effectively utilised for social purposes as the existing business model still needs to be adapted to creating social results using existing resources. It is also important to note that the lack of statistical significance does not necessarily mean that exploiting resources does not affect creating social results. The effect may be small or difficult to measure using the available data or statistical methods. Furthermore, statistical significance is not the only criterion for assessing an effect's practical significance or importance. The H2 indicates that exploiting enterprise resources influences creation of business results, but this effect is not statistically significant. This is a common area of research in business management, and several studies have explored the relationship between resource exploitation and business outcomes. For example, a study by Li and Liu (2014) found that resource exploitation positively affects firm performance, but the effect is weakened by environmental dynamism and uncertainty. On the other hand, a study by Gupta, Bhattacharya, and Sethi (2019) found that excessive resource exploitation can negatively affect firm performance, particularly when it leads to reduced environmental and social performance. This is interesting to see as H1 suggest an impact, but exploitation of resources must be balanced to create both social and business results. The H3 implies that leaders exploring new trends and future opportunities have a significant effect on generating social results. These are interesting and highlight the importance of forward-thinking leadership in achieving positive social outcomes. Yet to this date, limited studies have explored the relationship between ambidextrous leadership in the context of exploring future opportunities and trends. Moreover, a study by Berman and Wicks (2014) found that proactive leadership focused on creating social value can lead to positive outcomes such as increased customer loyalty, enhanced employee engagement, and improved stakeholder relations. These findings suggest that leaders willing to explore new trends and future opportunities can create significant social results, impacting their organisations and communities. Finally, H4 suggests that leaders exploring new trends and future opportunities can significantly affect creating business results. Once again, this evidence emphasizes the importance of forward-thinking leadership in driving organisational growth and success. Additionally, these findings implies that ambidextrous leadership, which involves exploring new opportunities and anticipating future trends, can enhance organisational performance and competitive advantage. To summarise the findings, leaders willing to explore new trends and future opportunities can create significant results for their organisations.

6. CONCLUSION

Ambidextrous leadership, which refers to the ability of leaders to focus on both exploration and exploitation of opportunities simultaneously, has been found to affect creating shared value positively. Shared value refers to creating economic value while addressing social and environmental challenges (Porter & Kramer, 2011). In conclusion, the study suggests that ambidextrous leadership, particularly exploration, is essential for achieving both social and business outcomes. The findings highlight the importance of balancing exploration and exploitation and suggest that social and business outcomes may require different strategies and actions. The study provides valuable insights for leaders and organisations seeking to achieve better social and business outcomes. While exploiting resources may have an effect on creating social results, the lack of statistical significance suggests that it may not be a robust or reliable predictor of social outcomes. Other factors, such as driving transformation, stakeholder engagement, and developing internal knowledge, may be more important for achieving social results. The relationship between resource exploitation and business outcomes is complex and contingent on various factors. While exploiting enterprise resources may affect creating business results, the lack of statistical significance implies that the effect may not be strong or consistent across different contexts. This research suggests that strategic leaders exploring new trends and future opportunities can significantly affect creating social results. However, this requires a combination of transformation, stakeholder engagement, and collaborative action to achieve meaningful and sustainable outcomes. This study found that ambidextrous strategic leadership positively affects the creation of shared value by encouraging organisations to adopt a long-term view that considers both financial and non-financial goals. Therefore, ambidextrous strategic leadership can contribute to creating shared value by balancing the pursuit of business and social objectives. As such, businesses that adopt ambidextrous strategic leadership practices are likely to be more resilient, competitive, and sustainable, creating value for both shareholders and society.

7. FUTURE RESEARCH AGENDA

The ambiguity and lack of management models for strategic leadership who wish to create both social results and business results are scarce. Therefore, future research is needed to analyse additional dimensions of strategic leadership and its impact on creating shared value. Additionally, the future research agenda should focus on adding the most critical characteristics of strategic leaders, which will aid them, their human resources and societies in creating value, and extend the analysis to include these. The future research agenda should also include how digital technology and its adoption moderate the constructs and their impact on creating shared value. Lastly, it would be interesting to examine the potential trade-offs between creating social and business results, and it is possible that pursuing one goal could come at the expense of the other.

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STRUCTURAL CHARACTERISTICS OF HIGH VALUE ADDED SERVICE SECTOR OF THE REPUBLIC OF CROATIA

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ABSTRACT

The subject of analysis in this paper are the structural characteristic of the high value added service sector in the Republic of Croatia and comparison with other European Union member states, in the time period from 2010 to 2020. High value added services (information and communication; professional, scientific and technical activities; administrative and support service activities) are very important for the entire economy, since they directly contribute to increasing efficiency and competitiveness, as well as the implementation of innovations in business. The aim of these paper is to analyze shares of high value added service sector in number of totally employed, wage adjusted labour productivity and gross operating rate. The results of research indicate that the movements of structural characteristics of Croatian high value added service sector are complied with structural characteristics of high value added service sector of other European Union member states. If the Republic of Croatia will continue to develop, and it can be assumed that the development process will harmonize the economic structures with the typical structure of the European Union member states, it is likely that the largest number of new jobs will be created in the high value added service sector. The expected contribution of this paper is unique research of structural characteristics of high value added service sector since there are no existing comparative research that analyze high value added service sector in Croatia and other European Union member states in longer term. The conclusion of this research has practical value for economic policy decision makers, who should focus on competitiveness strengthening through decrease of regulatory and administrative burden and stimulation of European Union funds usage. These policies should finally be useful for achievement of higher level of services export, competitiveness and growth of other economic sectors.

Keywords: *structural characteristics, value added, services sector, Republic of Croatia*

1. INTRODUCTION

This paper analyzes the high value added service sector, which includes information and communication activities, professional, scientific and technical activities, and administrative and support service activities (according to NKD 2007 and NKD 2002 classification). The aforementioned service sector has not been researched so far in the context of its contribution to the development of the economy, and it is a sector of high technological development, which has a multiplier effect on other sectors of the economy. The aim of this paper is to analyze the high value added services from the aspect of structural business statistics in the Republic of Croatia and to compare them with the indicators of other European Union member states in a multi-year period. In accordance with the general aim of the study, a research question is: are the structural characteristics of the high value added service sector in the Republic of Croatia harmonized with other European Union member states? In order to answer the question, the following indicators that measure structural changes in the high value added service sector were used: shares in number of totally employed, wage adjusted labour productivity and gross operating rate. The time period of the analysis is from 2010 to 2020. This paper is organized as follow: The first section will examine the objective of the study.

The second section will give the theoretical background of the research, definition of the high value added service sector and will highlight the importance of high value added service sector in the country's economy. The third section will outline the methodology used in this study, including the scope, source and data collection for the analysis. The next section will present the results and findings of the analysis that will cover the shares in number of totally employed, wage adjusted labour productivity and gross operating rate. Lastly, this study will present the discussion on the findings and conclude the paper with a summary of significant findings and recommendation for future research.

2. THEORETICAL BACKGROUND

High value added service sector achieves revenue growth and employee growth in times of financial crises as well, which is way it is to be expected that there will be even faster growth and development under more favorable conditions. However, the mentioned sector is not treated as a driver of economic growth and development *(*Lacković Vincek et al., 2019). In the Republic of Croatia, 18.1% of totally employed were in the high value added service sector in 2020, while the EU27 average is 23.87% of totally employed (Eurostat, 2023). Scope of activities of the high value added service sector, most often used in international practice, according to the statistical classification of economic activities in the European Community NACE Rev. 2. and the Republic of Croatia NKD 2007, includes the following activities (see Table 1): information and communication (section J), professional, scientific and technical activities (section M) and administrative and support service activities (section N) and it is considered as high value added sector because, according to the mentioned scope, in 2020 it accounts for about one tenth of the gross added value in the Republic of Croatia (Croatian Bureau of Statistics, 2022). Mentioned high value added services show horizontal importance in impact on productivity growth within traditional business sectors, such as agriculture, manufacture, transport and construction, which enables them to move on higher levels in value added chain (Lacković Vincek et al., 2019).

Information and communication (J)	**Professional, scientific and technical activities (M)**	**Administrative and support service activities (N)**
Publishing activities	Legal and accounting activities	Rental and leasing activities
Motion picture, video and television programme production, sound recording and music publishing activities	Activities of head offices; management consultancy activities	Employment activities
Programming and broadcasting activities	Architectural and engineering activities; technical testing and analysis	Travel agency, tour operator and other reservation service and related activities
Telecommunications	Scientific research and development	Security and investigation activities
Computer programming, consultancy and related activities	Advertising and market research	Services to buildings and landscape activities
Information service activities	Other professional, scientific and technical activities	Office administrative, office support and other business support activities
	Veterinary activities	

Table 7: Divisions of the high value added service sector
(Source: Eurostat, 2008)

According to Eurostat (2022) within the high value added service sector, the division of computer programming, consulting and related activities in the EU27 participates with the largest share in real gross value added (45%) and employs 55% of totally employed in the section J (in 2020). Furthermore, legal and accounting activities in the EU27 participate with the largest share in real gross value added (28.72% of the total section M), and they employ 28% of totally employed in the section M (in 2020). The division of employment activities participates with the largest share in the real gross value added (27.23% of the total section N) and employs 32.41% of totally employed in the section N (in 2020). In their research, Čardić and Šelebaj (2021) pointed out that previous domestic research of Croatian national bank show increase of exports and high value added products in the export structure after Croatian accession to the European Union in 2013. Furthermore, revealed comparative advantage indicators in higher value added products improved, export sophistication and complementarity of exports with the European demand increased and intra-industry trade strengthened. Peruško et al. (2018) in their paper suggest that Croatian growth is mainly driven by domestic value added, which accounts for as much as 80% of total Croatian exports, while the remaining part of value added is imported from a small number of countries, mainly from Germany and Italy. Kersan-Škabić (2017) points out that the Republic of Croatia achieves different results than other European Union member states with a high share of domestic value added in gross exports. Tica et al. (2023) state that the causes could be found in low foreign direct investments in the processing industry sector, which due to its technological complexity requires specialization, innovation and specific knowledge. Lacković Vincek et al. (2019) analyzed the changes in the relative position of exports of the high value added service sector of the Republic of Croatia on the European Union market, using the constant market shares method. However, neither domestic nor foreign research on high value added services from the aspect of structural characteristics has been published so far.

3. METHODOLOGY

In order to analyze the trend of the structural characteristics of the high value added service sector in the Republic of Croatia and compare them with other European Union member states, the criterion of structural business statistics is applied to all sections (one-letter code), divisions (two-digit number) and groups (three-digit number) of high value added service activities, for which there are available data. According to the methodology of the European System of National and Regional Accounts (ESA 2010) gross value added is defined as output (at basic prices) minus intermediate consumption (at purchaser prices); it is the balancing item of the national accounts' production account (European Union, 2013). Gross value added at basic prices (formerly GDP at factor cost) is derived as the sum of the value added in the agriculture, industry and services sectors. If the value added of these sectors is calculated at purchaser values, gross value added at basic prices is derived by subtracting net product taxes from GDP. In the long term, it depends on the inclusion of knowledge (through the growing engagement of people and human capital, through technology or through greater efficiency in combining capital and labour) in production processes, and it is precisely the high value added sector that generates a high content of knowledge, creativity and potential for increasing process efficiency, which can potentially have an exceptional impact on strengthening competitiveness and economic development of the country. In addition, they contribute to the development of innovation and export orientation. Structural business statistics use the classification of activities up to the third digit of NKD 2007 and NACE Rev. 2 classification, which provides a basis for conducting a more detailed analysis compared to other available statistical sources. As part of structural business statistics, and based on the available data for the Republic of Croatia and other EU member states, this study further analyses the shares in number of totally employed, wage adjusted labour productivity (in order to eliminate differences in the average level of economic development) and gross operating rate, calculated as the ratio of gross operating profit and income at the levels of sections, divisions and groups of activities of the high value added service sector. In this way are identified the sections, divisions and groups of activities of the high value added service sector, which realize the greatest potential for employment growth (measured by the difference in the share of employment in sections, divisions and groups of service activities of the high value added sector in the Republic of Croatia and other EU member states), the highest wage adjusted labour productivity and the highest level of gross operating rate. Data from the Croatian Bureau of Statistics and Eurostat are used to determine trends in the high value added service sector in the Republic of Croatia and other EU member states, for the period from 2010 to 2020.

4. RESULTS AND FINDINGS

4.1. Shares in number of totally employed

In order to calculate the shares in number of totally employed, data on the total number of employees from the labour force survey are used, which is why the shares of employment are underestimated, because structural business statistics only count the employment of entrepreneurs in the corresponding sector. Since the underestimation is systematic, it occurs in all the countries that are compared, and it is considered that it does not affect the relevance of the presented conclusions. The higher share of individual sectors of activity in number of totally employed in the European Union compared to the Republic of Croatia indicates the potential for above-average growth in the number of employees in the Republic of Croatia in the future. Table 2 shows the shares in number of totally employed of the high value added service sector in the Republic of Croatia and other EU member states in the period from 2010 to 2020. In the information and communication section (section J), in the ten-year observed period, a continuous increase in the share in number of totally employed in the Republic of Croatia was recorded, from 3.7% in 2010 to the level of 4.9% in 2020, while in other EU27 member states the share increased more slowly, from 4.4% in 2010 to 5.0% in 2020. From what is shown, it is evident that the share in number of totally employed in 2020 in the information and communication section in the Republic of Croatia (4.9%) is approximately equal to the share of other EU27 member states (5.0%). In the section of professional, scientific and technical activities (section M) in the Republic of Croatia, an increase in the share was recorded until 2013, after which it began to decrease until 2016 and stagnate until 2019, when it began to grow again, and in 2020 achieved a share of 7.9%. On the other hand, in the other EU27 member states, the share of the section M increases until 2017, after which it decreases slightly, reaching a level of 8.8% in 2020. In 2020, the Republic of Croatia has a smaller share in number of totally employed in the section of professional, scientific and technical activities (7.9%) than other EU27 member states (8.8%). In the section of administrative and auxiliary service activities (section N), the share in number of totally employed in the Republic of Croatia grows until 2019, when it starts to fall by 0.2% per year and in 2020 it reaches a level of 5.2%. Also, in the other EU27 member states, an increase in the share of administrative and auxiliary service activities was recorded until 2017, after which it began to fall and in 2020 the share remained at a high level of 10.0%. Since in the period from 2010 to 2020 was recorded an increase in the share in number of totally employed in the J, M and N section of the high value added service sector in the Republic of Croatia and in the other EU member states, it can be concluded that the movements of the share in number of totally employed in the J, M and N section of high value added service sector of the Republic of Croatia are aligned with the movements of the share in number of totally employed in the J, M and N section of high value added service sector in other EU member states.

Year	Croatia			EU27		
	J (%)	M (%)	N (%)	J (%)	M (%)	N (%)
2010	3.7	7.7	4.2	4.4	8.3	9.7
2011	3.7	7.8	4.4	4.4	8.4	9.9
2012	3.7	7.8	4.7	4.5	8.6	10.0
2013	3.8	8.0	4.6	4.6	8.8	10.2
2014	3.8	7.5	4.7	4.7	9.0	10.5
2015	4.0	7.2	5.0	4.8	9.2	10.7
2016	4.0	7.4	5.1	4.8	9.5	11.0
2017	4.2	7.4	5.5	4.6	8.8	10.9
2018	4.3	7.4	5.5	4.8	8.6	10.8
2019	4.6	7.6	5.4	4.8	8.7	10.6
2020	4.9	7.9	5.2	5.0	8.8	10.0

Table 8: Shares in number of totally employed at high value added service sector in the Republic of Croatia and other European Union member state, in the time period from 2010 to 2020, in percentage
(Source: Eurostat, author's elaboration)

4.2. Wage adjusted labour productivity

Table 3 shows wage adjusted labour productivity in the high value added service sector of the Republic of Croatia and other EU member states. In the information and communication section (section J) in the observed period, a decrease in wage adjusted labour productivity was recorded in the Republic of Croatia, as well as in the other EU27 member states. However, the decrease in wage adjusted labour productivity level in 2020 compared to 2010 in the Republic of Croatia was higher (51.6%) than in other EU27 member states (11%). Despite this, the wage adjusted labour productivity level in 2020 in the Republic of Croatia (183.8%) is higher than in the other EU27 member states (156.0%). In the section of professional, scientific and technical activities (section M) in 2020 compared to 2010 wage adjusted labour productivity decreased in the Republic of Croatia, as well as in the other EU27 member states, but a smaller decrease was recorded in the other EU27 member states. However, wage adjusted labour productivity level in 2020 in the Republic of Croatia is higher (133.4%) than in the other EU27 member states (108.1%). Finally, in the section of administrative and auxiliary service activities (service N), wage adjusted labour productivity decreased in 2020 compared to 2010 in the Republic of Croatia by 8.0% and is at the level of 114.4%, while in other EU27 member states was recorded an increase of 4.11%. Wage adjusted labour productivity level in the period from 2014 to 2019 was higher in the Republic of Croatia than in other EU27 member states, however a sharp decline was recorded in 2020 and is now at a significantly lower level (114.4%) than in other EU27 member states (133.1%). According to the above mentioned, it can be concluded that in the period from 2010 to 2020, the movement of wage adjusted labour productivity in the J, M and N sections of the high value added service sector of the Republic of Croatia is harmonized with the movement of wage adjusted labour productivity of the same sections of the high value added service sector in other EU27 member states (with the exception of 2020 in section N).

Table following on the next page

Year	Croatia			EU27		
	J (%)	M (%)	N (%)	J (%)	M (%)	N (%)
2010	235.4	142.4	122.4	167	111	129
2011	221.4	142.4	131.8	167	110	130
2012	216.4	136.2	121.6	163	108	129
2013	214.0	142.7	135.8	159	109	131
2014	200	134.6	134	156	109	132
2015	203.4	143.2	138	153	109	133
2016	200.4	132.1	148.7	152	108	131
2017	203	132.7	145.6	153	110	133
2018	199.9	131	145.5	152	111	136
2019	192.1	136.9	138.3	153.6	108.9	135.6
2020	183.8	133.4	114.4	156	108.1	133.1

Table 9: Wage adjusted labour productivity at high value added service sector in the Republic of Croatia and other European Union member state, in the time period from 2010 to 2020, in percentage
(Source: Eurostat, author's elaboration)

4.3. Gross operating rate

Table 4 shows the trend of the gross operating rate of the high value added service sector in the Republic of Croatia and the other EU member states. The gross operating rate of the information and communication section (section J) in the Republic of Croatia increased by 0.6% in 2020 compared to 2010, however it fluctuated a lot from year to year. In other EU27 member states there is a noticeable decrease in the gross operating rate in 2020 compared to 2010 (by 1.7%), and in the entire observed period it decreased until 2020, when it increased by 1.0% (from 18.2% to 19.2%). In the section of professional, scientific and technical activities (section M) in 2020 compared to 2010 in the Republic of Croatia was recorded an increase in gross operating rate by 1.7% (from 19.4% to 21.1%), while in other EU27 member states was recorded a decrease of 1.0%. In the Republic of Croatia, as well as in other EU27 member states, the gross operating rate fluctuated a lot. Finally, in the section of administrative and auxiliary service activities (section N), the gross operating rate in the Republic of Croatia in 2020 was significantly decreased compared to 2010 (from 10.0% to 1.7%), while in other EU27 member states was recorded an increase of 1.8% (from 15.5% to 17.3%). Until 2020, the gross operating rate of section N in the Republic of Croatia grew, as in other EU27 member states, but in 2020 was recorded a significant decrease. In addition, in section N are noticeable the largest difference in the levels of the observed structural characteristic. According to the above mentioned, it can be concluded that in the period from 2010 to 2020, the movement of gross operating rate in the J, M and N sections of the high value added service sector of the Republic of Croatia is harmonized with the movement of gross operating rate of the same sections of the high value added service sector in other EU27 member states (with the exception in section N in 2018 and 2020).

Table following on the next page

Year	Croatia			EU27		
	J (%)	M (%)	N (%)	J (%)	M (%)	N (%)
2010	26.6	19.4	10.0	20.9	18.7	15.5
2011	26.9	17.8	11.8	20.1	17.6	14.1
2012	25.8	17.4	8.4	19.4	16.5	13.7
2013	25.4	19.3	11.8	19.0	17.3	14.6
2014	24.3	16.8	11.9	18.6	17.5	15.4
2015	24.5	18.6	12.6	17.8	16.9	15.4
2016	24.1	14.0	14.7	17.7	16.5	14.9
2017	24.2	15.7	14.2	17.6	17.2	15.3
2018	24.8	16.8	13.8	17.9	17.9	16.6
2019	26.3	21.3	13.4	18.2	17.0	16.3
2020	27.2	21.1	1.7	19.2	17.7	17.3

Table 10: Gross operating rate at high value added service sector in the Republic of Croatia and other European Union member state, in the time period from 2010 to 2020, in percentage (Source: Eurostat, author's elaboration)

5. DISCUSSION AND CONCLUSION

Based on the analysis of the structural characteristics of the J, M and N sections of high value added service sector of the Republic of Croatia and a comparison with other EU member states, more precisely data on the shares in number of totally employed, wage adjusted labour productivity and gross operating rate, it can be concluded that the trends in the share in the total number of employees in the J, M and N service sector of the Republic of Croatia with high added value in the period from 2010 to 2020 are aligned with the trends in the share in number of totally employed in the same sections of the high value added service sector of other EU member states. Furthermore, the movement of wage adjusted labour productivity of the J, M and N section of the high value added service sector of the Republic of Croatia in the period from 2010 to 2020 is harmonized with the movement of wage adjusted labour productivity of the same sections of the high value added service sector of other EU member states. Finally, the movement of the gross operating rate of the J, M and N sections of the high value added service sector of the Republic of Croatia in the period from 2010 to 2020 is harmonized with the movement of the gross operating rate of the same sections of the high value added service sector of other EU member states. Since the observed research examined the structural characteristics of the high value added service sector in the Republic of Croatia, future research should focus on examining other activities that make up the service sector, in order to gain a better insight into the structural characteristics of the entire service sector. Looking comprehensively, in the high value added service sector are activities that are very important for the entire economy, since they directly contribute to increasing efficiency and competitiveness, as well as the implementation of innovations in business. Also, these activities are extremely important because they employ a relatively large number of people, they have accumulated a large capital of knowledge and reputation, so they can be the basis for the growth and development of other industries. Overall, in the high value added service sector of the Republic of Croatia there are still activities that have the potential for above-average growth in the future. In case that the Republic of Croatia continues its development it can be considered that the development process will influence compliance of economic structure with the usual structure of EU member states and that highest percentage of new vacancies will be in the domain of high value added service sector.

It is therefore necessary to invest significant effort in attraction of foreign direct investment in order to achieve higher level of economic development and quicker convergence to other EU member states. Public policies for Croatian high value added service sector should focus on competitiveness strengthening through decrease of regulatory and administrative burden and stimulation of European Union funds usage. These policies should finally be useful for achievement of higher level of services export, competitiveness and growth of other economic sectors.

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CRISES AND ECONOMIC IMBALANCES: FROM INFLATION TO EMPLOYMENT

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ABSTRACT

The relationships between inflation, unemployment and economic growth have long been examined by notorious economists. The nature of these phenomena is obviously critical, as inflation and unemployed connect directly to ordinary people lives. Overall, inflation is historically a reason of main concern, due to its impact on society, particularly on low income population. Moreover, there is always the risk of prices going out of control, entering even on an uncontrolled growth spiral, possibly triggering massive social unrest. Cases of severe crises are very well documented, not to mention historical revolutions. The French Revolution, the Russian Revolution, the National Nationalism Revolution, the Great Chinese Inflation, are some of the most iconic examples of severe disruptions were inflation played a critical role. Unsurprisingly and understandably, public and economic powers do tend to closely monitorize prices growth, acting accordingly, basically in order to keep some price stability. Likewise inflation, unemployment is another critical phenomenon for governments and society, being another major trigger of crises and revolutions, being the Great Depression one of the best examples of such. One can argue that inflation and unemployment develop in tandem, while having devastating effects on the economy and society. Nevertheless, despite the aforementioned risks associated to inflation, it has been observed that some moderate level of inflation can be acceptable, or desirable even. Even though, the discovery of the Phillips Curve, which depicted an inverse relationship between money wage changes and unemployment in the British economy, came with much surprise, as wage changes could be regarded as a proxy of inflation and, therefore, the inverse relationship between inflation and unemployment could be formalised. Indeed, later economists observed this pattern in other datasets, allowing to theorize such relationship. Despite the merits of such novel theory, the Phillips Curve was never fully consensual, even if embraced by many top economic theorists, moderately at least. Samuelson and Solow writings, or Friedman's developments, are some good examples. Furthermore, not so long after this new theory come to light, stagflation come to add to the controversy. More recently, some economists started questioning again Phillips Curve effectiveness. The low inflation environment that followed the 2008's Great Recession is to blame. However, the extremely loose monetary policies that followed the 2008's financial crisis, its reinforcement with the occurrence of the Covid-19 pandemics, starting in 2020, and the energy and geopolitical challenges from 2022 Ukraine's invasion, totally reversed the inflation scenario and the monetary policies, which became tightening at a dramatic pace. The

urge for such pace is a recognition of the current inflation perils. In this paper, the relationship between inflation and employment is examined, using datasets covering recent decades of different evolutions for the European Union (EU) countries.
Keywords: *Inflation, Employment, European Union, Economic crises, Interest Rates, Monetary Policy*

1. INTRODUCTION

The relationships between inflation, unemployment and economic growth have long been examined by notorious economists, from Classical, to Keynesians, or Neo-Classical ones. The nature of these phenomena is obviously critical, as inflation and unemployed connect directly to ordinary people lives. Overall, inflation is historically a reason of main concern, due to its impact on society, particularly on low income population. Moreover, there is always the risk of prices going out of control, entering even on an uncontrolled growth spiral, possibly triggering massive social unrest. Cases of severe crises are very well documented, not to mention historical revolutions. The French Revolution, the Russian Revolution, the National Nationalism Revolution, the Great Chinese Inflation, are some of the most iconic examples of severe disruptions were inflation played a critical role. Unsurprisingly and understandably, public and economic powers do tend to closely monitorize prices growth, acting accordingly, basically in order to keep some price stability. Likewise inflation, unemployment is another critical phenomenon for governments and society, being another major trigger of crises and revolutions, being the Great Depression one of the best examples of such. One can argue that inflation and unemployment develop in tandem, while having devastating effects on the economy and society. Nevertheless, despite the aforementioned risks associated to inflation, it has been observed that some moderate level of inflation can be acceptable, or desirable even. Even though, the discovery of the Phillips Curve, William Phillips (1958), who depicted an inverse relationship between money wage changes and unemployment in the British economy, came with much surprise, as wage changes could be regarded as a proxy of inflation and, therefore, the inverse relationship between inflation and unemployment could be formalised. Indeed, later economists observed this pattern in other datasets, allowing to theorize such relationship. Despite the merits of such novel theory, the Phillips Curve was never fully consensual, even if embraced by many top economic theorists, moderately at least. Samuelson and Solow (1960) writings, or Friedman's (1968) further developments, are some good examples. Furthermore, not so long after this new theory come to light, stagflation come to add to the controversy. Indeed, the 1970's were particularly marked by crises, being the oil a notorious one. As a result, many countries experienced high levels of both inflation and unemployment, contradicting the Phillips Curve. Such poor economic condition provided a fertile ground for social discontent, favouring many revolutions across the globe, including countries such as Portugal, Chile, Ethiopia, or Iran. Nevertheless, following a latter stabilisation in the 1980's and the strong global economic growth from the 1990's globalisation, the Phillips Curve seemed back to normal. However, more recently, some economists started questioning again its effectiveness. For example, Blanchard (2016:31), while examining the United States of America (USA), stated that "The U.S. Phillips curve is alive and well", but recognised that "The slope of the curve has substantially declined". This outcome was widely expected due to the deflation and low inflation environment that followed the 2008's Great Recession. Such environment does not favour the Phillips curve occurrence, as low inflation bends the Phillips Curve not only in the USA, but around the world as well (Forbes et al. 2022). However, the extremely loose monetary policies that followed the 2008's financial crisis, its reinforcement with the occurrence of the Covid-19 pandemics, starting in 2020, and the energy and geopolitical challenges from 2022 Ukraine's invasion, totally reversed the inflation scenario and the monetary policies, which became tightening ones, and at a dramatic pace.

The urge for such pace is a recognition of the current inflation perils. As Forbes et al. (2022:52) found from their research results, there is "evidence of channels which could boost inflation in the future, even if they were dormant before the Covid pandemic". In this paper, the relationship between inflation and employment is examined, using datasets covering recent decades of different evolutions for the European Union (EU) countries. This research follows a path of previous research, within this framework, which examined the relationship public and private debt, monetary policy, unemployment and economic growth for the EU countries and for some other economies worldwide (Ribeiro et al., 2012; Ribeiro and Pereira, 2021a, 2021b, 2022a, 2022b).

2. CRISES AND THE ABSENCE OF HIGH INFLATION DESPITE THE EXTREME REDUCTION OF INTEREST RATES PHENOMENON

In previous research conducted by the authors, as referred at the end of the last section of this paper, several macroeconomic relationships were examined. Existing literature examining possible positive and long-term relationship between economic growth and debt is extensive (vid. e.g. Cafiso, 2019; Levine, 2005; Bernanke and Gertler, 1995; Pegkas et al., 2020; Reinhart and Rogoff, 2010; Ribeiro et al., 2012; Mhlab and Phiri, 2019; Snieska and Burksaitiene, 2018; Burhanudin et al., 2017; De Vita et al., 2018; Liagat, 2019; Esteve and Tamarit, 2018, Amann and Middledtich, 2017; Intartaglia et al., 2018; Chiu and Lee, 2017, Brida et al., 2017). Among existing literature used, some was used to try to capture such relationships among EU countries. It was the case of the study from economists Carmen M. Reinhart and Kenneth S. Rogoff (2010), in which they intended to observe if there was any relationship between public debt and economic growth and inflation. In this study, the authors tried to understand the differences between emerging economies and already consolidated economies. They argued that in both emerging economies and developed economies there is a very close relationship between public debt and economic growth. However, while in the face of public debt and inflation, in consolidated economies there is no relationship. Conversely, in emerging economies it is assumed to have a strong relationship. It is also suggested that, as public debt levels get bigger and higher, economic growth slows. However, for developed economies, inflation does not necessarily increase, when related to growth. The reverse is presented when these authors focus on analysing emerging economies, where inflation actually increases, with higher debt levels and consequently country growth is affected and there may be economic slowdowns. Their main conclusions suggest that high debt levels tend to result in very low economic growth, and that exceptionally significant debt levels for emerging economies may have many adverse effects on the economic growth. As mentioned in the introduction of this paper, the occurrence of severe crises, which led inclusively to a long deflationary environment, justified the use of ultra-expansionary monetary policies. This included sharp quantitative easing measures, resulting in massive financial assets purchases and negative interest rates. Accordingly, the potential effect on inflation rise was mitigated by the economic issues, which were mostly deflationary. In order to develop a research about inflation on EU countries, it has been used the metric of the EU's Harmonised Index of Consumer Prices, which offers comparable measures of inflation (Eurostat, 2022). This indicator considers the over-time variation in the prices of consumer goods and services purchased by households, i.e. the set of consumer price indices. Figure 1, shown below, offers information about Price Indexes for the Eurozone Countries, centered in the period around June 2008 as base 100, in order to highlight the financial crisis epicenter period.

Figure following on the next page

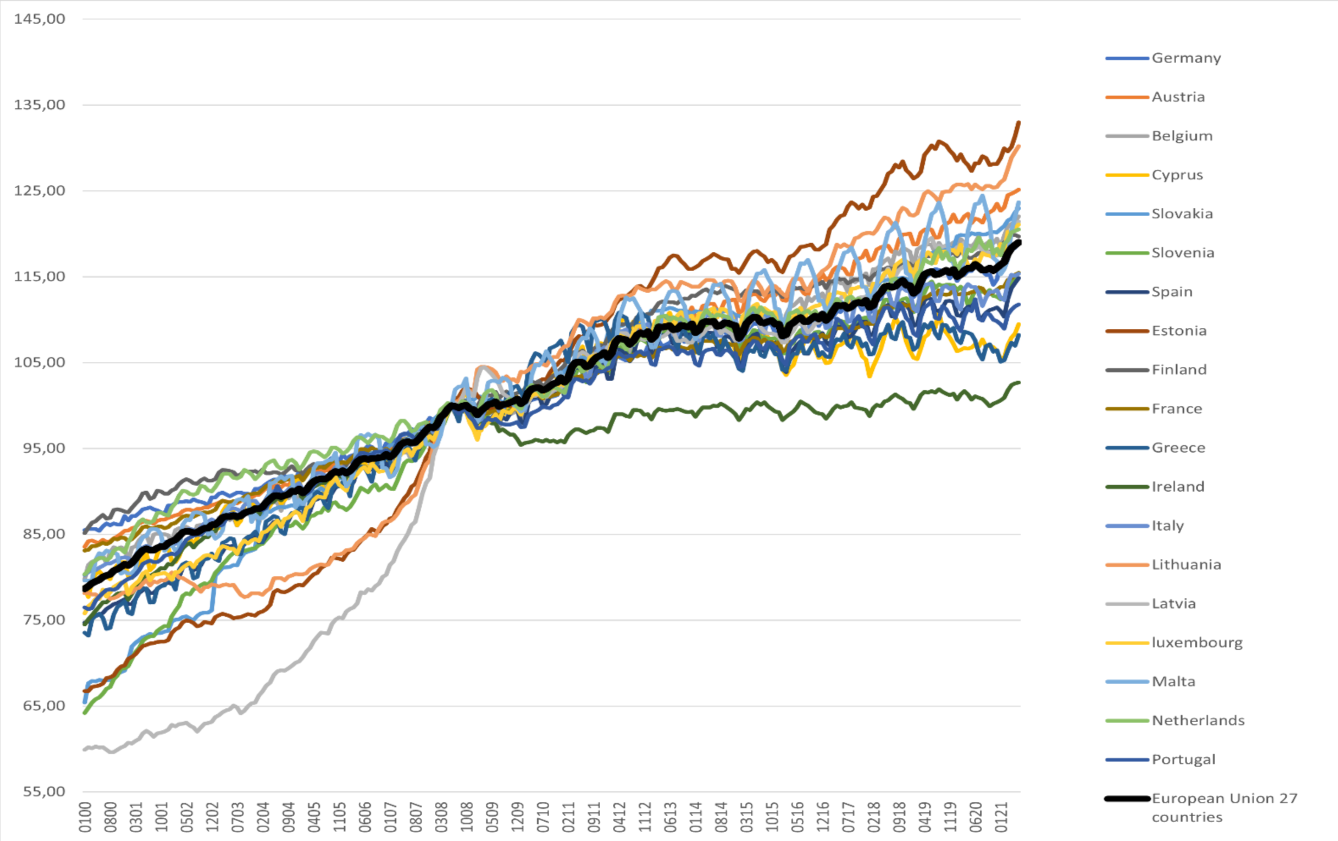

Figure 1: Price Indexes for the Eurozone Countries, base month 06/2008 (base 100) (Data source: Eurostat, 2022)

Some interesting conclusions on these price indices can be taken at first glance. Overall, one can observe that prices were raising faster before 2008 than after the financial crisis. However, as austerity measures were becoming loose and as monetary policy was easing, the pace of prices growth increased, roughly from mid-2010's until Covid-19 occurrence. Similarly, that occurred as well as Covid-19 lockdowns started easing, i.e. roughly from 2021. As this Figure does not include the period from 2022 Ukraine's invasion, one can conclude that the inflationary pressures come much earlier than the current geopolitical challenges. Looking to some individual cases, one can observe that Latvia, Estonia, Slovenia, Slovakia and Lithuania, from 2000 to 2005, have indexes from 55 to 70. After 2008, these values change significantly, rising every month onwards, only with Covid-19 period, in 2021, as an exception. Most of the remaining countries assume values in the year 2000 between the range of 65 to 80, gradually increasing their prices indexes. It should be noted that Ireland until 2008 is close to the other countries, but suffers a drastic decline, that culminates in the index close to 95, in 2011, which subsequently becomes more or less constant until 2021.The price indexes of Malta are very much spiked, i.e. there are large fluctuations in their values. Portugal, a country subject to financial rescue, has, curiously, moving its values closely to the remaining countries of the European Union until 2008, but not any longer after 2008. Similarly, it should also be noted that Greece and Cyprus stand out until 2008, but are clearly affected by the financial crisis aftermath as well, as they display the lowest index prices values among the 27 countries of the European Union and also quite below the other countries of the Eurozone.

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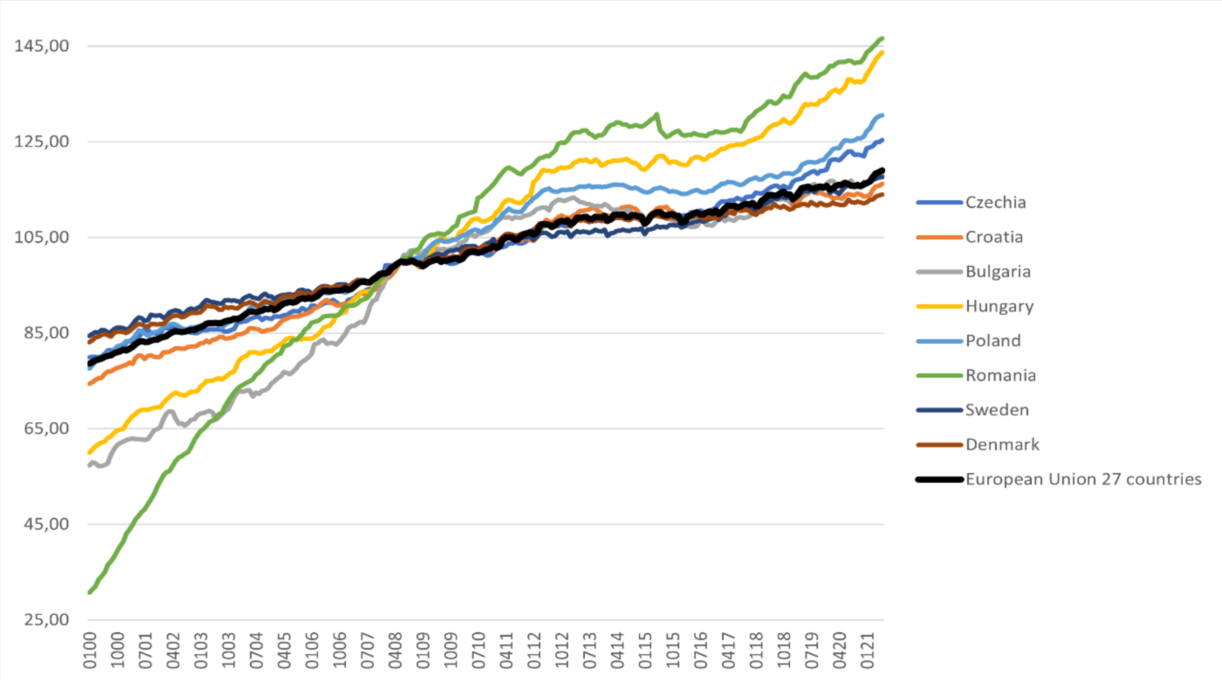

Figure 2: Price Indexes for non-Eurozone Countries, base month 06/2008 (base 100) (Data source: Eurostat, 2022)

In Figure 2, shown above, allows to observe the evolution of Price Indexes for non-Eurozone Countries, with June 2008 as base 100, in order to highlight the financial crisis epicenter period. The overall conclusion is similar at the one taken from Eurozone countries: prices indexes were raising faster before 2008 than after the financial crisis; however, easing of austerity measures and monetary policy allowed to increase the pace of prices growth, with the exception of the Covid-19's lockdowns periods. Romania clearly stands out in the Figure. 2 At the beginning of the new millennium has very low prices indexes compared to Sweden, Denmark, Croatia, or Poland. Nevertheless, the pace of prices increases is ruthless, throughout the entire period of analysis, ending as the EU country with the highest price increases, by far. Bulgaria and Hungary have also lower values in 2000 than the above-mentioned countries, but much higher compared to Romania. Sweden, Denmark, Croatia and Poland have ever-higher index values for the previous year, until 2008, where a time-space is recorded where the index curve remains mostly constant, until the end of 2012, just before steep increases again, until Covid-19 lockdowns. Denmark and Croatia recorded below par increases in inflation after the 2016/2017 period and arrived to the Covid-19 period as the two countries with the lowest values, clearly below the average of the 27 countries of the European Union, as in 2021.

3. FROM INFLATION TO EMPLOYMENT

As discussed before, inflation and employment tend to evolve in tandem, while, despite the risks associated to inflation, it has been observed that some moderate level of inflation can be acceptable, or desirable even. The Phillips Curve allowed to assume an inverse relationship between inflation and unemployment. Nevertheless, such relationship may not be verified in some cases of extreme values for inflation, being deflation one of such. The stagflation of the 1970's, with many countries experiencing simultaneously high levels of both inflation and unemployment, contradicted the Phillips Curve as well. More recently, economists questioned again the inverse relationship between inflation and unemployment, as the deflation and low inflation environment that followed the 2008's Great Recession did not favour the Phillips curve occurrence. Indeed, low inflation bends the Phillips Curve not only in the USA, but around the world as well (Forbes et al. 2022) and, therefore, the question is that whether such framework there are still some effects from low inflation on employment. Figure 3, below, exhibits employment data, using the metric of yearly growth of persons employed on Eurozone countries, by the means of percentage change, and based on unadjusted data

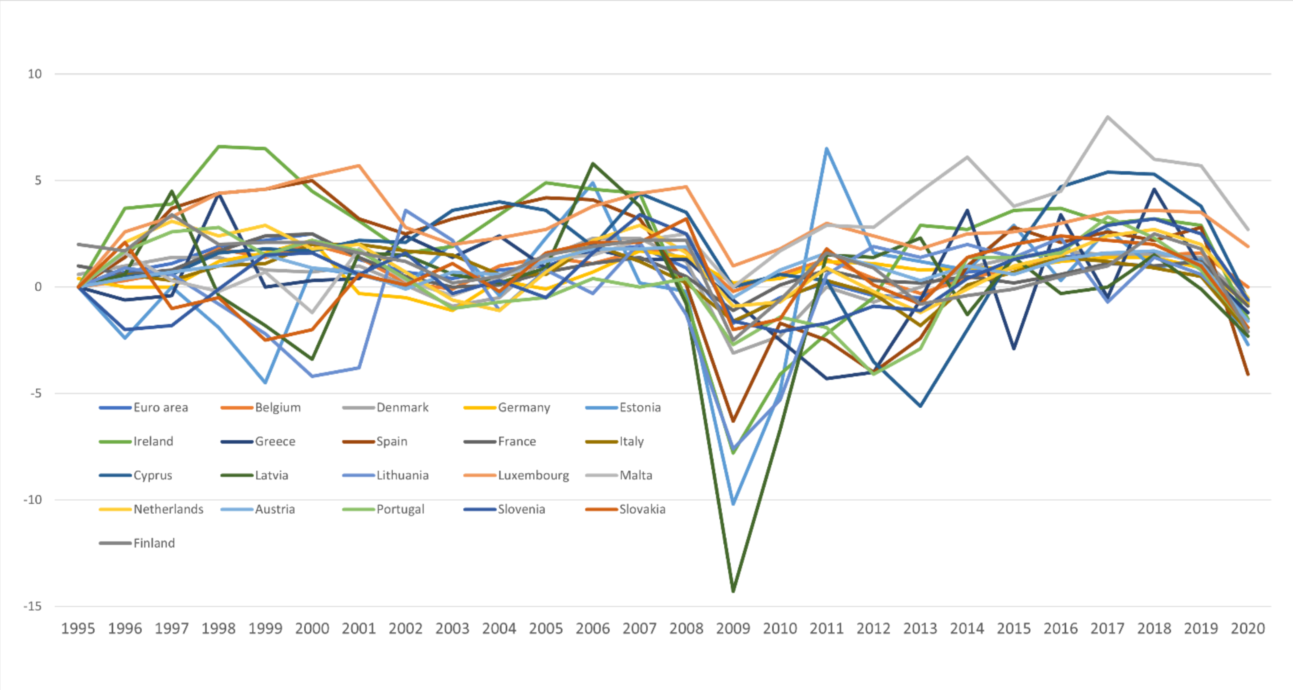

Figure 3: Employment data: yearly growth of persons employed on Eurozone countries. Percentage change, based on unadjusted data.
(Data source: Eurostat, 2022)

Figure 3 shows the impact of several crises on employment, among the countries of the Euro Zone, since 1995. In particular, at the beginning of the 20th century, particularly in 2008 and 2009, sharp falls can be observed for many countries, particularly in Eastern European countries, such as Lithuania, Estonia and Latvia. From 2000 to 2005, when many countries joined the Euro, there was a controlled and stationary cycle, which quickly suffered a negative impact in 2008 with the financial crisis. In 2009, many of the countries that had joined recently the EU, suffered greatly from its consequences, namely Estonia, Latvia and Lithuania. In 2020, with the covid-19 crisis, Eurozone countries felt deeply the effects and employment was the sector where it was possible to verify more easily the consequences of the crisis, because it was a pandemic crisis and there where many limitations to normal work, i.e. lockdowns and similar measures. On the positive side, Malta presents curious values and, even with the pandemic effects, it manages to be an example of resilience for the remaining countries. Central European countries also stand out with an interesting level of resilience, as even with the occurrence of two major crises, the effects were similar in numerical terms, although with scales and other differentiating factors distinguishing from the remaining countries.

Figure following on the next page

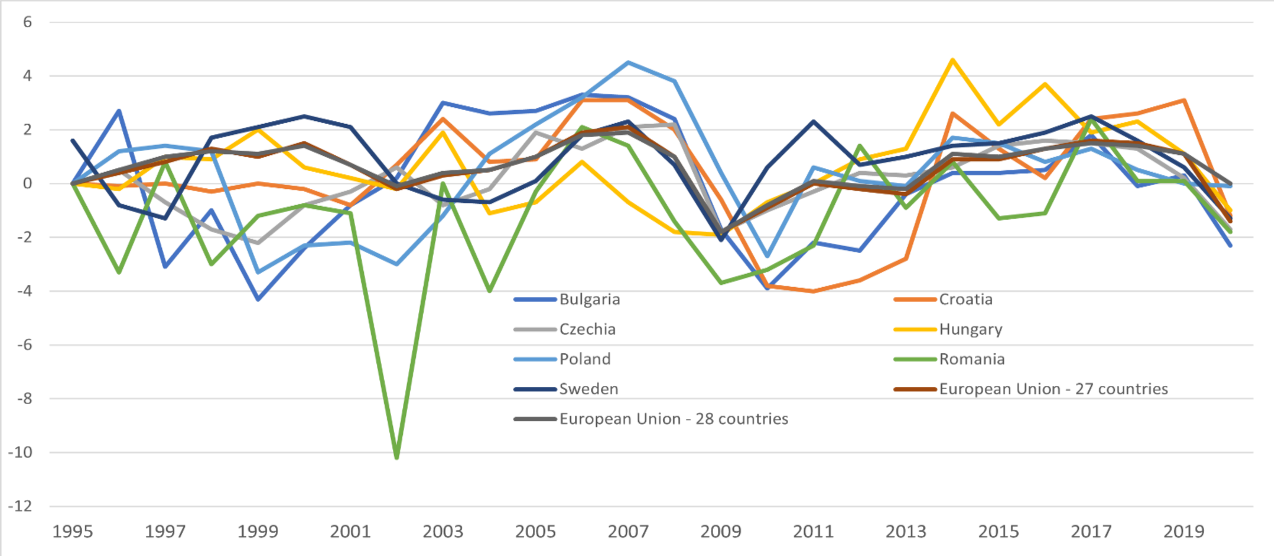

Figure 4: Employment data: yearly growth of persons employed on non-Eurozone countries. Percentage change, based on unadjusted data. EU data for 28 countries until 2020, and for 27 countries from 2020
(Data source: Eurostat, 2022)

From Figure 4, shown above, one can examine employment data, using the metric of yearly growth of persons employed on non-Eurozone countries, by the means of percentage change, and based on unadjusted data. The graph offers evidence for the countries outside the Eurozone, while contrasting to the average of the 27 countries of the current European Union, and the 28 countries, including United Kingdom, which was considered, until Brexit process was concluded. Likewise, as in previous analyses made in this paper, the crises were once again evident in the employment sector for most countries, with Romania in focus, by recording a sharp fall in 2002, that would only be recovered in 2006. Curiously these countries felt the effects of the 2008 crisis longer than Eurozone ones, where most would only see positive signs almost 10 years later, around the year 2017 only. For the same reasons already discussed here, non-Eurozone countries would again suffer major impacts with the covid-19 crisis. It should be noted that the growth of these countries throughout the years was relatively unstable, which can be explained by their low economic capacity, especially in terms of competitiveness against other countries, as their level of evolution as country, and economy, is overall lower.

4. CONCLUSION

Recent decades have been affected by major crises that led to extreme monetary policies, in order to try mitigating the negative effects on the economy. These crises and corresponding mitigating policies have acted differently among the many different economies from EU countries. For example, Romania has been experiencing high levels of economic growth. Unsurprisingly, prices suffered a very rapid and considerable rise in the early years until 2021, always with values much higher than all other countries outside the Eurozone. Than can be regarded as normal, after all the economy has been expanding fast. Nevertheless, one could expect better results in terms of employment, which is clearly lagging, when compared with both economic growth and inflation levels. In terms of inflation, overall there is an upward trend until Covid-19, mostly in 2021. Nevertheless, the panorama is not even, as some countries suffered prices stagnation over a period of a few years, following the financial crisis, with inflation picking up recently only, before the pandemics forced another prices stagnation.

In 2000, some of today's Eurozone countries could be distinguished for having low prices indexes values: Estonia, Latvia, Lithuania, Slovakia, and Slovenia. As referred before, among countries outside the Eurozone, Romania is very relevant, for presenting a very low value of inflation in 2000. Even when compared to other countries, as Bulgaria and Hungary, which also have lower values, nevertheless far higher than Romania. It should also be highlighted that Denmark and Croatia, achieved inflation values below the average of the 27 countries of the European Union, from 2017 onwards. The data analysed allowed to draw some interesting conclusions, regarding the crises and their effects on inflation and employment. As a result of the monetary policies adopted, major inflation could have been caused. However, budgetary targets, austerity measures, and general restrictions, imposed by European governments and agencies, forced lower price indices, without major fluctuations, proving that the existing control policies did work. Of course, there were exceptions. The biggest swings were recorded for Estonia, wich also recorded maximum values. On the other hand, Ireland recorded minimum values, within the Eurozone countries; while Hungary, Bulgaria and Romania, recorded maximum values among countries outside the Eurozone. In summary, one can conclude that even with historically low interest rates, it has not been possible to achieve desirable inflation rates for a long time, given the deep negative effects of the 2008 financial crisis, which lasted for many years in most countries of the European Union; as well as now due to the severe negative effects resulting from the covid-19 pandemic. In the meantime, the scenario has changed radically. The extremely loose monetary policies that followed the 2008's financial crisis, its reinforcement with the occurrence of the Covid-19 pandemics, starting in 2020, and the energy and geopolitical challenges from 2022 Ukraine's invasion, totally reversed the inflation scenario and the monetary policies, which became tightening ones, and at a dramatic pace. From deflation, and low inflation, to a current scenario of very worrisome high inflation. What about the Phillips Curve, did it work well during the last decades on EU countries, namely regarding employment? Although our study lacks statistical confirmation, the examination of raw data allows, nevertheless, to have the perception that, either with low or high inflation, the price evolution effect on employment seems somewhat negligible, being this flattening of the Phillips Curve corroborated by other studies (vid. e.g. Blanchard, 2016; Forbes et al. 2022). If so, then the current levels of inflation are entirely undesirable and actions will continue to be taken in order to tackle prices rises.

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ECONOMICS CAREER OF AN INDIVIDUAL - ANALYSIS OF PERSONALITY CHARACTERISTICS IN CHOOSING A CAREER

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ABSTRACT

A comprehensive understanding of personality requires an understanding of a whole range of factors. This paper aims to define certain personality concepts that are recognized as potential predictors for a successful economic career. We consider personality traits to be an important factor in selection procedures and work performance, and in addition to academic and professional competencies, employees are also expected to have personal competencies. The definition of personality (Larsen and Buss, 2008) states that personality is a set of organized, relatively permanent psychological traits and mechanisms within an individual that influence his interactions with the environment and adaptation to the environment. This paper will present two recent personality concepts: the dark triad construct derived from the work of Paulhus and Williams (2002) and the five-factor personality model of Costa and McCrea (1992). The paper will deal with each of their components individually and with recent research and scientific works published on these topics. At the same time, it will outline connections between personality traits and economic career choices of the individual.

Keywords: *Economic career, personality concept, five-factor model*

1. INTRODUCTION

The dark triad of personality is a concept derived from professional literature that deals with aversive forms of human personality that are still in the normal range of functioning. It involves three conceptually separate but empirically overlapping personality variables: Machiavellianism, narcissism, and psychopathy (Furnham, Richards, & Paulhus, 2013). Research has shown that all three components are characterized by a socially malicious character and behavioral tendencies towards self-promotion, emotional coldness, duplicity, and aggressiveness (Paulhus and Williams, 2002). All three components of the dark triad are oriented towards social dominance and ruthless self-advancement, and Campbell et al. (2009) believe that they also have a moral deficit. They are negatively associated with empathy and positively with aggressiveness (Friedenfelt and Klinteberg, 2007). The dark triad is characterized by antagonism and impulsivity (Douglas, Bore, & Munro, 2011). Such individuals prefer short-term versus long-term relationships. People who score high on the dark triad are unable to understand other people (Ali, Amorim and Chamorro, Premuzic, 2009) and therefore they use approaches that allow them to have a secure social influence regardless of the consequences.

2. CONSTRUCT OF THE DARK TRIAD

In translation, the term refers to a manipulative personality and was named after the Italian writer and politician Niccolò Machiavelli. At the beginning of the 16th century, Niccolo Machiavelli served as the chief political advisor to the Medici family, then ruling in Florence (Italy). Machiavelli argued that a ruler with a clear goal must be open to all tactical moves that will effectively lead him to achieve that goal, including manipulative interpersonal strategies such as flattery or agreement. He summarized the experiences of the gray advisory hill in the work Ruler from 1513. The core of this work can best be expressed in a single sentence, which is still often used as a saying today, and reads: "The end justifies the means". Machiavelli's ideas interested the American personality psychologist Richard Christie, and in the 60s, he and his colleague Florence Geis conducted a series of studies to determine the relationship between Machiavelli's advice and everyday human behavior in social situations (1970, according to Leary and Hoyle, 2009). Christie and Geis (1970) constructed a questionnaire based on Machiavelli's original texts and, with the help of numerous experimental and correlational methods, determined that participants who agree with most of the statements in the questionnaire behave in the same or similar way in their everyday life. More precisely, such people are characterized by a cynical and unprincipled belief in interpersonal manipulation as the key to success in life and behavior in accordance with it. The questionnaire itself has undergone several revisions over time, and today the MACH-IV variant is most often used. A few decades later, Paulhus and Williams (2002) incorporated this version into the dark triad questionnaire. Also, Dahling, Whitaker and Levy (2008) constructed the MPS (Machiavellian Personality Scale) questionnaire. This instrument does not contain emotionally evocative particles such as appeared in the MACH-IV questionnaire, so there is a possibility that this questionnaire will replace the MACH-IV. People with identified Machiavellianism are characterized by cold, pragmatic, and immoral thinking, strategic and long-term planning, motivation directed towards power and money, and deception and exploitativeness (Christie and Geis, 1970). Such people are most often described as intelligent, with upheld impression management, low prosocial orientation, less intrinsically motivated in the workplace and oriented towards power. On the other hand, they are sometimes favored as leaders. Unlike people with pronounced narcissism and psychopathy, they are the most morally suspicious. They have the "darkest" personalities (Rauthmann and Kolar, 2012). Today, Machiavellians are considered to have a cynical worldview, pragmatic ethics, and to be prone to deception in social situations (Jones and Paulhus, 2009, according to Leary and Hoyle, 2009). The connection of Machiavellianism with career choice, satisfaction, and success in it is also a subject of various research. Thus, Fehr et al. (1992, according to Leary and Hoyle, 2009) started from the assumption that Machiavellians will be more interested in those jobs that are associated with greater material gain and gain in terms of social status, such as the work of a lawyer, stockbroker, narrowly specialized doctors, etc. This point of view is also confirmed by the research conducted by Diehl et al. (2006) on medical students. Namely, it was determined that those students with a more pronounced Machiavellianism show a much greater interest in specializing in areas such as surgery, and little or no interest in becoming general practitioners. This shows that even when it comes to helping professions, Machiavellians are unmistakably oriented towards those professions that ensure greater financial gain and gain in reputation. When it comes to career success, O'Connor, and Morrison (2001) state that Machiavellians are more successful in less structured jobs that provide them with greater autonomy and less supervision and rules when performing these jobs, while they do extremely poorly in highly structured jobs. and they often give up on them. Thus, Aziz (2005) found in a series of studies that Machiavellians are particularly successful in jobs such as stockbroker, car dealer and real estate dealer. Likewise, Machiavellians have been found to be generally more dissatisfied with their business achievements due to a constant feeling that they deserve more than they get and feel undervalued by superiors and colleagues. In the next paragraph, the basis of the facet of narcissism will be presented. The term subclinical or so-called of "normal" narcissism stems from the literature that sought to describe a subclinical version of the eponymous similarity disorder. The term was first used in a psychological context by Havelock Ellis and was later adopted by Sigmund Freud. Freud used narcissism to describe clinical phenomena such as a set of attitudes directed toward self-love, admiration, and self-aggrandizement. In the following text, the basis of each of the components will be presented individually, their connection and the basis of the construct itself. Also, the connection of the construct with career choice and satisfaction and success in it will be shown linked with loss of self-respect and love; defensive orientation based on megalomania, idealization, denial, etc. Narcissistic personality disorder was first described by Kohut (1968, according to Ha, Petersen and Sharp, 2008), and in 1980 it was included in the DSM-III manual. Raskin and Hall, (1979). That same year was issued a questionnaire called the Narcissistic Personality Inventory, which influenced the popularization of the construct itself. People with pronounced narcissism tend to exaggerate their own importance by devaluing others. They are often characterized by extreme vanity, preoccupation with themselves, arrogance, and the fact that they think they are entitled to certain things. Their behavior sometimes achieves positive outcomes, such as achieving high status and short-term popularity (Back, Schmukle and Egloff, 2010). On the other hand, there are also some negative aspects of their personality, such as vulnerability (Campbell, 2011) and frequent interruption of long-term relationships. They have limited affective empathy and have difficulty identifying feelings (Jonason and Krause, 2013). In contrast to people with pronounced Machiavellianism and psychopathy, narcissistic persons were perceived as much more pleasant (Rauthmann and Kolar, 2013). Narcissistic individuals have an exceptional ability to manage their self-image. Thus, they can leave a very good first impression on their future employers and get the desired job. Unlike Machiavellians, their behavior is not related to the potential material profit they want to get from work, but to the acquisition of higher social status and power, both of which act as significant ego-enhancers (Hirschi and Jaensch, 2015). The same researchers (Hirschi and Jaensch, 2015) conducted research on the relationship between career success and narcissism. They took satisfaction with the salary and satisfaction with the job position as performance indicators. A positive correlation was found between narcissism and satisfaction with career (job position), as well as a positive correlation between narcissism and satisfaction with salary. In contrast, O'Boyle et al. (2012, according to Hirschi and Jaensch, 2015) found that there is no connection between narcissism and a better assessment of performance at work. Taken together, these findings indicate that narcissistic persons due to their extremely positive self-evaluation and the behaviors associated with it, such as positive self-presentation in front of the environment, careful assessment, and control of their own and other people's behaviors, and striving for leadership positions, illusory increase both career satisfaction and salary satisfaction. This is the result of initially seeing themselves as more valuable individuals who deserve the admiration of others and leadership positions in all walks of life. People with pronounced narcissism are good leaders (Zuroff, Fournier, Patall and Leybman, 2010) and highly emotionally intelligent people (Petrides, Vernon, Schermer and Veselka, 2011). They have a strongly expressed component of self-deception in their personality (Raskin, Novacek, & Hogan, 1991). Central character elements in psychopathy include high impulsivity and thrill seeking and low levels of empathy and anxiety. Lykken (1957, according to Patrick, 2006) claimed that psychopathic behavior is characterized by a lack of fear, that is, that psychopaths achieve below-average results on tests that measure anxiety, such as the one found in the MMPI (Minnesota Multiphasic Personality Inventory). In other words, Lykken operationalized psychopathy as a personality trait that leads to a significantly reduced level of anxiety compared to the standard population and found that psychopaths experience significantly less fear in dangerous situations or when receiving electrodermal stimuli in laboratory conditions.

Gray completed Lykken's hypothesis of reduced fear by adding BIS (Behavioral Inhibition System) and BAS (Behavioral Activation System) constructs taken from biology. It has been shown that psychopaths are people in whom the activity of the BIS system, which is responsible for the regulation of avoidant behavior in situations of increased stress and anxiety, is decreased. Research has shown that people who score high on the psychopathy scale more often get tattoos to intimidate others, leave negative impressions during short interpersonal encounters (Rauthmann, 2012), confront the legal system, react aggressively to physical threats (Jones and Paulhus, 2011) and they act out their deviant fantasies. People with pronounced psychopathy show irresponsibility and interpersonal manipulativeness (Hare, 2003). Such persons, in contrast to persons with pronounced Machiavellianism and narcissism, are most involved in delinquent behaviors and show a tendency towards aggressive films, violent sports and video games, internet pornography and hacking (Williams et al., 2001). Psychopathy is the most insidious of all three components of the dark triad, which is supported by a wide range of self-reports and behavioral measures of antisocial behavior (Paulhus and Williams, 2002). Although very little is known about career affinities and career satisfaction in people with pronounced psychopathic tendencies, a certain number of studies have been conducted on their behavior at work and on the way their colleagues perceive them and their behavior. Thus, research by Scherer et al. (2013) showed that pronounced psychopathy is a good predictor of counterproductive behavior at work, which they define as voluntary behavior aimed at harming the organization and its members, and includes behaviors such as theft of the organization's material assets, sabotage, physical conflicts with its members etc. These authors explain their findings about the connection between psychopathy and the more frequent manifestation of such behavior through the subdimensions of psychopathy, such as impulsivity, arrogance, manipulativeness and a lack of ability to sympathize and experience guilt. Furthermore, research by Caponecchio, Sun, and Wyatt (2011) suggests that individuals with pronounced psychopathy are more prone to abuse (both verbal and physical) work colleagues to the extent that in the last ten years the term "work psychopath" has also appeared in the context of organizational and personality psychology. They also showed that a large number of people who have not experienced abuse at work can easily identify those traits that are attributed to psychopaths in scientific circles, i.e., "psychopaths at work". However, despite greater public awareness of abuse at work and the characteristics of the perpetrators of such acts, unfair labeling and stigmatization of persons who do not actually possess pronounced psychopathy continue to occur, and they conclude that more attention should be paid to this problem. When it comes to psychopaths as bosses, Mathieu et al. (2013) state that such supervisors have an extremely toxic effect on their employees, whereby the psychopathic tendencies of bosses are statistically significantly, negatively related to the employee's job satisfaction, and positively to his psychological distress and the frequency of conflicts within his family. At the same time, the latter has a negative impact on job satisfaction and causes greater psychological distress. Although the facets of the dark triad and their relationship with behaviors at the workplace and career choice are most often examined individually, several studies were also conducted on the connection between the entire construct and these two variables. Thus, Jonason, Slomski and Partyka (2012) determined the connection between the dark triad and a tendency towards assertive behavior and manipulation. It has been shown that people with a pronounced dark triad will be ready for integrative, business solutions or accepting reasonable advice. Also, these authors determined that the dark triad is a mediator between the gender variable and the previously described behaviors. Namely, it has been proven that men are much more prone to aggressive and violent styles of interpersonal influence in the workplace. Cohen (2015) claims that there is a connection between the construct of the dark triad of personality and counterproductive work behavior when organizational politics and the perceived importance of the position a person occupies within the organization are taken as mediators.

Namely, the less respect a person with a pronounced dark triad has for the way the organization is managed, the greater the chance of manifesting counterproductive work behavior, and the same applies to dissatisfaction with one's own position in the organization.

3. FIVE-FACTOR MODEL OF PERSONALITY

The currently dominant model of the taxonomy of personality traits suggests that individual differences in personality are best described through again broad factors. This approach is known as the Big Five Model. The five factors consistently appear in research conducted within the framework of different theories, on different samples, with different measuring instruments, with respondents of different age, gender, race and language group (Costa and McCrae, 1998, McCrae et al. 2004). The development of the five-factor model is closely related to the research of the lexical hypothesis. The initial hypothesis was proposed by Francis Galton in 1884, and Goldberg gave its most famous definition: "Those individual differences that are most salient and socially relevant in people's lives will become encoded in their language. The more important a difference is, the more likely it will be expressed by a separate word" (according to John et al., 1988). The starting point of research into the lexical hypothesis is therefore the extraction and analysis of all terms relevant to personality, which are found in the dictionary. For a taxonomy to be useful, it must provide a systematic framework for distinguishing, classifying, and naming individual differences in human behavior and experience (according to John, 1990). The factors found by Tupes and Christal (1961) were later called the "Big Five" to emphasize that each of them represents a broad dimension and encompasses many specific and separate personality characteristics. The most accepted names of the factors are extraversion, agreeableness, conscientiousness, neuroticism and openness (the factors are ordered by size). Each factor of the five-factor model is considered a multifaceted construct, that is, it includes two or more lower-order facets (according to Digman, 1990). Extraversion refers to the approach to the social world. Extroverts are people who score high on this factor and are described by adjectives such as social, assertive, talkative, energetic, optimistic and have a high need for stimulation. People low on this factor are described as introverts – withdrawn, calm, independent and they love loneliness. Thus, extroverts often take on the roles of leaders who push groups and teams forward with their personality and visions. Agreeableness also refers to interpersonal orientation. Characteristic adjectives are kind, trustworthy, friendly, mild and similar. The opposite pole of this dimension is antagonism, which includes characteristics such as untrustworthiness, stubbornness, rudeness, and uncooperativeness. Pleasantness is usually considered desirable and adaptive, but antagonism is also necessary to some extent for everyday functioning. Extremely high or low pleasantness can also indicate maladaptive behavior and pathology (McCrae and Costa, 1987). Convenience is a dimension possessed by extremely modest people whose life drives and main motivation is unselfishness and orientation towards other people.

3.1. Conscientiousness

This factor describes particles related to task-oriented behaviors, following rules and norms, planning, organizing, and recognizing priorities. Conscientious people are task-oriented, well-organized, self-disciplined, punctual, reliable, and purposeful. Their opposite is people who score low on this factor, and are described as irresponsible, superficial, unreliable, disorganized, and lazy. Conscientiousness is a dimension characteristic of people who respect their obligations, set deadlines and rules. Such people are very well organized and goal oriented. In the NEO-PI-R questionnaire, Costa, and McCrae (1992) propose the following six facets that make up the Conscientiousness factor:

1) Competence - refers to a person's feeling that they are capable, reasonable, thoughtful, and efficient.

2) Organization - describes a preference for order, cleanliness, details, and good organization.
3) Responsibility - describes conscientious behavior and tendency to perform duties. It refers to the tendency to respect social rules and moral obligations.
4) Striving for achievement - describes people who are diligent, determined and work hard to achieve their goals.
5) Self-discipline - refers to the ability to complete a task, despite boredom and other distractions.
6) Thoughtfulness - describes impulse control and a tendency to think carefully before acting.

Neuroticism refers to the tendency to experience psychological stress and the cognitive and behavioral styles that result from this tendency. Neurotic people experience chronic negative emotions, such as anger, sadness, guilt, and fear, have poor impulse control and are prone to developing various psychiatric disorders. People who score high on the neuroticism scale are tense, insecure, anxious, and impatient, in contrast to emotionally stable, calm, relaxed and patient people whose score is low on this scale. Neurotic people experience chronically negative emotions, such as anger, sadness, guilt, and fear, have poor impulse control and are prone to the development of various psychiatric disorders. Unlike emotionally stable individuals, neurotic people have a harder time returning to their original emotional state, react uncontrollably, quickly, and recklessly to unfavorable outcomes and internal psychological states, which causes frequent and rapid mood changes and personality destabilization. Openness is the factor on which the authors least agree. Supporters of the lexical approach call it Intellect (according to John, 1990), while Costa and McCrae use the name Openness to Experience, considering it to be a broader dimension than assumed by supporters of the lexical approach. Sometimes the names Intelligence and Culture appear. This factor includes creativity, intellectual and artistic interest, the need for change and unconventional values (according to McCrae and John, 1992). A high score on this scale indicates curious, imaginative, unconventional people, open to new social, ethical, and political ideas. On the contrary, a low score refers to people prone to conventional behavior, narrow interests, conservative views of the world and the like. An overview of research findings that dealt with the relationship between personality traits of the five-factor model and work behavior undoubtedly shows that personality traits are useful for predicting different criteria of work performance (Krapić, 2005). Conscientiousness proved to be the dimension that has the most significant implications on the behavior of individuals in the work environment. It predicts well a wide range of work performance criteria, and as well as the dimensions of the five-factor model, only its predictive validity is generalized across different jobs and conditions. More conscientious individuals will probably be more assertive when looking for a job and more efficient in building a career, they will have greater motivation in the workplace, they will adhere to work instructions more than others and they are less likely to show some forms of counterproductive work behavior. This dimension, except for tasks that require creativity, is also more suitable for group work, because groups with a higher average on this dimension will have better group performance and group sustainability. More conscientious individuals are also more suitable for education due to greater motivation to learn, and as shown by numerous findings, it can be expected that they will achieve better results in such programs (Penezić et al., 2013; Sorić et al., 2013). Neuroticism, or emotional stability, is also a very significant variable for predicting work-related behavior (Salgadova, 2000). Individuals with pronounced neuroticism are most often indecisive about their career and more often try to get a job in less complex jobs, and when they get a job, they show less work motivation. Neuroticism interferes with both learning and success in training programs, and therefore neurotic individuals are less suitable for them. Neuroticism proved to be particularly harmful for group performance, so in groups with a higher average on this dimension, weaker team performance can be expected.

On the other hand, emotional stability is associated with better individual work performance, fewer counterproductive work behaviors and better success in training programs, and groups with a higher average on this dimension are more likely to have better group performance and greater group sustainability (Peterson et al. 2000). In addition to conscientiousness and emotional stability, extraversion is the third dimension of the five-factor model, which has significant implications for the prediction of organizational behavior (Moynihan and Peterson, 2004). Individuals with a more pronounced trait of extraversion will be more assertive in looking for a job and building a career, are more likely to get hired faster, and will be somewhat more successful at the workplace, especially if they work in jobs that require social interaction. Some studies show that extroverts can expect a better result in various educational and training programs, and in addition, this trait is also suitable for group performance and group sustainability (except for cases of excessive concentration of such individuals in the team). The trait of agreeableness is useful for predicting counterproductive work behaviors (Salgado 2000), because more pleasant individuals will manifest such behaviors to a lesser extent. They are more likely to have fewer accidents at work and greater success in training programs, and in groups with a higher average on the dimension of pleasantness, better group sustainability and better work performance can be expected (except for additive-type tasks). The openness dimension is only related to success during the training process and counterproductive work behaviors. Individuals with a higher score on this line can be expected to perform better during training, while their workplace behaviors will be less likely to conflict with organizational interests and goals. (Penezić et al., 2013). With minor deviations, research on the association of the dark triad personality with the "Big Five" mostly agrees with the original findings of Paulhus and Williams (2002; Jakobwitz and Egan, 2006, according to Vernon et al., 2008). Vernon et al. (2008) determined that there is a significant hereditary basis of psychopathy and narcissism and that it is responsible for the appearance of these constructs in couples and their interaction, as well as relationships with other personality traits. On the contrary, the development of Machiavellianism is more influenced by environmental than hereditary factors. Another measure of behavior by which individuals high in the dark triad differ from others is self-monitoring. Snyder (1974; 1987, according to Rauthmann, 2011) defines self-monitoring as the ability to observe, regulate and control self-presentation in social situations, i.e., managing self-image. This concept was divided by Arkin (1981, according to Rauthmann, 2011) into two components – greedy self-monitoring that enables us to obtain more social rewards and greater success in social situations and relationships, and protective self-monitoring that directs behavior towards as little rejection as possible in social situations and relationships. Thus, Rauthmann (2011) showed that narcissistic persons are very prone to greedy self-observation, Machiavellian to protective, and psychopaths to both, depending on the situation. That is, that people with a pronounced dark triad evaluate their self-image, the impression they leave on others and their own behavior in social situations in a very complex way to maximize their own profit from them through as successful manipulation and deception as possible. Research by Jonason and Webster (2012) shows that individuals with a pronounced dark triad are highly inclined to a protean approach to interpersonal influence. In other words, they very easily adapt to the attitudes and behaviors of their social environment to conceal their true intentions and thereby gain the trust of the environment and extract the maximum benefits for themselves from it, which coincides with the Rauthmann's (2011) research. Given the short-term and exploitative social strategies found in each of the components of the dark triad separately. The findings of Webster et al. (2013) indicate a positive association of the dark triad of personality with measures of impulsivity, thrill seeking, and risk-taking behaviors. The only deviation was observed in the connection of narcissism with risky behaviors and only in situations where the same was moderated by a threat to the ego, because narcissistic people love themselves and their security more than interesting and risky behaviors.

As a supplement to this research, we can cite that of Jones (2014), which showed that individuals with pronounced psychopathy are the most persistent when it comes to risky behaviors. They will not give up e.g., financially risky behavior that satisfies their selfish goals even when it is certain that such behavior will lead them to trouble or to a significant loss of property.

4. CONCLUSION

We live in a time of forceful changes in the labor market, frequent changes in working conditions and intensive development of technology and strong competition, and today's economic profession of an individual is never more complex and must combine the characteristics of the modern business world. Interest in the characteristics of individuals is also on the rise, and the dark triad construct has been rapidly increasing in popularity since its appearance until today, and the validity and reliability of tests measuring its components are constantly being examined. At the same time, there has never been a greater emphasis on the importance of the role of the organization and the manager on career development, and the recognition of certain personality traits is considered the basis for successful career management of everyone. Although many questions are still open, it can be said that the influence of the dark personality triad on all other domains of life is being examined very thoroughly and that this construct will be studied for a long time. Understanding this construct and its facets is important for work behavior, primarily in areas of economic profession primarily to exclude the influences that such individuals can have on the work they perform. A review of research findings that dealt with the relationship between personality traits of the five-factor model and work behavior undoubtedly shows that personality traits are useful for predicting various criteria of work performance. The five-factor model provides adequate foundations for both the theoretical and research work of experts dealing with the relationship between personality and work performance. Achieving agreement on the personality structure is, however, only the beginning of a more efficient consideration of this relationship, because a more adequate taxonomy of criterion variables is also needed for a better examination of this issue. In addition to the development of a taxonomy of criterion variables, researchers of the relationship between personality and work performance should in the future focus more on the empirical verification of models that explain interindividual differences in work performance, with an emphasis on determining different moderators (e.g., situational, occupational, etc.) and the way in which they can influence the degree to which personality predicts work behavior. Following on from that, in some of the future research it would be interesting to conduct research to look at the economic career of an individual.

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THE ROLE OF PHILOSOPHY IN BOOSTING IMAGINATION AND CREATIVITY IN STE(A)M CURRICULUM

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ABSTRACT
The main goal of the STEM (Science, technology, engineering, and mathematics) project was to emphasize the importance of these distinct disciplines while educating more competent workers for competition on the global market. By adding arts and humanities, STE(A)M (Science, technology, engineering, arts, and mathematics) additionally tried to enrich integrated curricula with the same goal in terms of easier connection of content and developing creativity in students. Countries around the world differ regarding the extent to which they develop specific STEAM study programs based on more or less comprehensive national educational policies. The greatest challenge is the creation of specific curricula that achieve the targeted educational outcomes. Philosophy as a scientific discipline has developed tools that can facilitate the integration of subjects within specific STEAM curricula and improve the development of creative thinking among students.
Keywords: *STEM, STEAM, Creativity, Philosophy*

1. INTRODUCTION

"For a physicist an important question… to ask is - do natural phenomena or systems possess intrinsic properties independent of their observers. Or, more simply stated, do objective systems - objects - exist? We assume here that they do and examine the consequences and possible tests of this assumption. We expect that the objects present in a given spatial region must determine at least the probability for a given experimental result in that region."

John F. Clauser

The above excerpt resembles a fragment which seems to have been written by Leucippus and his pupil Democritus more than 25 centuries ago. Is there a world? Do objects exist independently of our observation? Can affirmative answers to these questions be confirmed experimentally? These were the questions asked by metaphysicians in the centuries that followed, and such questions are still asked by philosophers today. However, the author of that fragment is John F. Clauser, a contemporary physicist, winner of the Nobel Prize in Physics in 2022. The experiments he designed to answer the above questions brought him world-wide recognition. With his experiments, he confirmed the validity of quantum mechanics, and thus, as explained by the award committee, opened the way for the development of new technologies, quantum computers, quantum networks and quantum encryption of communication. Designing and implementing experiments certainly required strong imagination and creativity, which are two important, if not the most important, cognitive abilities, the development of which was advocated by educational theorists during the transformation of STEM (Science, technology, engineering, and mathematics) educational policies into STE(A)M (Science, technology, engineering, Arts, and mathematics), by emphasizing the importance of humanities and social sciences and arts. Moreover, research conducted by Root-Bernstein et al. (2008) showed that, comparing scientists of the Royal Society (1,634 individuals), National Academy of Sciences (1,266 individuals), Sigma Xi members (4,406 individuals), and USA-based scientists in general (4,250 individuals) and Nobel Prize winners (510 individuals), that Nobel laureates, in addition to being experts in their narrow fields, are also strongly engaged in literature, visual arts and philosophy. Research has shown that Nobel laureates are three times more likely to engage in artistic activities and creative hobbies than members of Sigma Xi and scientists in general, and are approximately 50% more likely to engage in creative activities than members of the Royal Society and National Academy of Sciences. It is important to emphasize, among others, three important contributions of philosophy to all human knowledge and scientific disciplines in the STEM field. In the first place is the consideration of the contents, discoveries and conclusions of almost all (if not all) scientific areas and fields that appear in the STEM scientific fields. In general, philosophy of knowledge and philosophy of science as umbrella philosophical disciplines that raise questions about the possibilities and limits of human knowledge, the nature of scientific truth and the methods of its achievement, and logic as a universal tool. Furthermore, every scientific area and every scientific field has its philosophical counterpart, which, with its unique approach, places the assumptions, discoveries and conclusions of a certain area and field in a wider social, inter/intra/transdisciplinary and thought context, with answers to the ultimate question of what it means to be human. Thus we have philosophy of physics, philosophy of mathematics, philosophy of biology, philosophy of technology, philosophy of medicine, philosophy of biotechnology and many other philosophies of scientific fields within the STEM group of scientific fields. Secondly, considering the unique approach to philosophical scientific work, it is important to emphasize the contribution of philosophy to the development of cognitive abilities which lead to imagination and creativity. I would call the fundamental methodological philosophical approach to reality "out-of-the-box" thinking based on two attitudes, skepticism towards existing scientific "truths" and readiness to revise them, as well as the independent and free thinking that goes beyond the conventional boundaries of scientific disciplines and opens up new scientific problems, questions and propose their solutions. And thirdly, precisely on the basis of the previously mentioned two features of philosophy as a scientific discipline, philosophy can serve as an integrative "glue" in specific efforts to create STEAM study programs. It can serve as a transdisciplinary mechanism that integrates other scientific disciplines within the STEAM field into a meaningful unit which generates added value in outcomes with regard to increased creativity.

2. FROM STEM TO STEAM

"STEM" began as "SMET," standing for science, mathematics, engineering, and technology. In the 1990s the National Science Foundation (NSF) coined the term in order to emphasize the importance of these four distinct disciplines (Sanders, 2009). That and all subsequent American education policies that promoted STEM had a common basis (Wolfmeyer & Chesky, 2015). Science, mathematics, engineering and technology are the scientific fields within which the USA needed to educate more competent workers in order to compete in the global market. As the mentioned areas are inherently connected, it would be useful for students to use this connection in the implementation of projects in real life. At the same time, students' understanding of these disciplines would enable them to develop into full-fledged democratic citizens. According to the authors, everyday life is no longer possible without the knowledge of the disciplines that STEM brings together. This includes the improvement of the STEM project as well: STEM must be accessible for everyone, not just aimed at the gifted few. STEAM was developed in 2006 by Georgette Yakman, who was then a student in the Polytechnic Institute and State University's Integrated Science-Technology-Engineering-Mathematics Educational program. She defined STEAM as "Science and Technology, interpreted through Engineering and the Arts, all based in elements of Mathematics." By adding 'A' to STEM, it is important to note that 'A' should not only refer to arts as a subject, but to 'Art', which includes language, art and humanities, including philosophy. With this definition, STEAM is more than the sum of its five basic scientific fields, and thus an integrated educational approach.

STEM-based STEAM was supposed to provide students with a broader understanding of the primary scientific discipline they are studying, asking questions, finding answers using creativity, and ultimately, coming up with innovations. While STEM represented a set of scientific areas (science, technology, engineering and mathematics), where each scientific area and field includes theoretical and methodological elements of other scientific areas and fields, STEAM represents a set of scientific areas that are purposefully integrated with the help of arts (language, arts, humanities) (Yakman, 2008, Sanders, 2006). The ultimate goal of each model is the creation of an integrated curriculum in which one scientific field is primary, and others are integrated to a greater extent (Wells, 2006, according to Yakman, 2008). Many countries in the world have embraced the idea of the importance of STEM/STEAM for education. For example, in the Republic of Croatia, scholarships are awarded for students in STEM areas of science. Countries differ in the degree of application of STEM projects, from mere political recognition of the importance of STEM scientific disciplines without any idea about the meaning and goal of integration, to serious attempts to create STEAM curriculum in order to encourage creative thinking and achieve the final increased positive effects of education. One of the few countries that has approached the development of STEAM extremely seriously, ranging from national policy to specific STEAM study programs, is South Korea. The purpose of Integrated STEAM education in South Korea is to educate the workforce and citizens to live in a high-tech society (Kang, 2019). Through numerous educations, teachers have been prepared for the implementation of STEAM programs, curricula have been developed and many teachers apply STEAM principles in the teaching of subjects from the STEAM field. Nevertheless, it seems that in the Republic of Croatia it is possible to identify study programs that use a number of tools in the development of the curriculum that derive from the STEAM approach, but which do not formally set STEAM as the starting point for the development of the study program. For example, this year the University of Zagreb launched a graduate program in Applied Cognitive Sciences for the purpose of educating experts in the fields of artificial intelligence and robotics, which brings together teachers from the fields of electrical engineering, medicine, linguistics, anthropology, psychology, philosophy and others.

3. STEAM AND CREATIVITY

There are many definitions of creativity, depending on the perspective from which it is investigated, the scientific discipline that is applied, and the goals that are sought to be achieved. For the purposes of this paper, we can take one of the most common definitions encountered today (Franken, 1994). "Creativity is defined as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others" (pg. 396). It is evident from the definition that creativity implies the ability to observe things in new ways or from a different perspective, the ability to create new solutions to problems. Although psychologists who research creativity connect the ability to think creatively with other thinking abilities in their research, here we will focus only on the functional outcome of creativity, the ability to set a new viewing perspective, new problem solving alternatives and, finally, innovative solutions. For instance, Geld et al. (2022) devised two constructs that lead to the stimulation of creativity based on education within the framework of the hexagon of cognitive science, where philosophy is equally represented with linguistics, psychology, artificial intelligence, anthropology and neuroscience.The first construct is conceptual integration that leads to emergent meaning and creative thinking, and the second, emergent innovation, which has the potential for innovation transfer in all spheres of life, from science and education to industry and economy. One of the primary goals of STEAM education is to equip students with the ability to be creative and solve problems. Creativity is believed to be closely related to the ability to make distant associations and combine unrelated concepts.

The incentives for developing creative thinking when shifting educational policies from STEM to STEAM comes from industry. Conversations with employers revealed that they want the education system to produce certain characteristics in students; to think "out-of-the-box", to work in teams with people who have different professional knowledge, and to approach problems creatively. USA policy also gives official support to this tendency. For example, the Congressional STEAM Caucus was founded in 2013. The Caucus aims "to change the vocabulary of education to recognize the benefits of both the arts and sciences—and their intersections—to our country's future generations. Caucus members will work to increase awareness of the importance of STEAM education and explore new strategies to advocate for STEAM programs." Traditionally, scientific disciplines, before the emergence of STEM/STEAM projects, strictly prescribed education based on facts, methods and techniques that students passively adopt. With the emergence of STEM/STEAM, it has become important to provide education that encourages students to actively participate in the acquisition of knowledge by encouraging creativity and interdisciplinary thinking in order to solve real life problems. One of the most important goals of STEM/STEAM is to encourage students' creativity. Even outside of the aforementioned educational policies, research shows that encouraging creativity among students is important. For example, a meta-analysis published in 2006 (Ma) showed the positive effects of encouraging creativity in students, and it is interesting that after the creativity development procedures, students became more open to new experiences and ideas and more inclined to discover creative thinking. Another study found that stimulating creativity leads to interesting effects; students' social skills, communication skills, self-confidence and tendency to work in a team increased (Crow, 2008). Many studies advocate the ways in which STEAM programs can encourage creative thinking in students. However, as shown by Perignat & Katz-Buonincontro (2019) based on a review of 44 scientific papers on the topic of STEAM in the period from 2007 to 2018, there are no studies that show in what ways creativity is encouraged and developed in STEAM education. One of the rare studies was conducted by Root-Bernstein et al. (2019), who investigated the relationship between the degree of creative thinking in STEMM disciplines (science, technology, engineering, mathematics, and medicine) and work achievements (number of patent applications, number of licensed patents, number of companies founded, number of papers published, number of books published, and number of copyrights filed) and practicing arts, crafts, and design on a sample of 225 experts. Research has shown that professionals use a wide range of cognitive skills, and that a range of skills correlates with various achievements in STEMM professions. On the other hand, cognitive skills are significantly correlated with engaging in a number of arts, crafts, and design, which in turn are correlated with cognitive tools. Henriksen (2014) using the example of an analysis of an American teacher, the 2008 National Teacher of the Year award winner, showed that the innovation approach of STEAM rests on the abolition of the differences between the so-called "creative" sciences, such as arts and humanities on the one hand, and the so-called "strict, logical and mathematical" sciences on the other hand.

4. STEAM AND INTER/TRANSDISCIPLINARITY

Classifications of scientific areas and fields were created at the beginning of the 19th century in Europe to categorize different areas of seemingly discrete knowledge. Those areas and fields had special methods, epistemic practices and ways of producing knowledge within the strict framework of their theoretical boundaries. STEM and STEAM appeared as interdisciplinary interactions between two or more disciplines in order to reach new, connected forms of knowledge that would not be possible without overcoming the limited epistemic potential of isolated scientific areas and fields (Mejias, et al., 2021). Teaching a scientific discipline in an isolated manner limits students' creativity by discouraging them from thinking about topics and issues outside the scope of that scientific discipline.

How to instill creativity in students in a correct and effective way? Craft (2003) claims that choosing an appropriate didactic strategy will be a decisive factor in the development of students' creative skills. Regardless of the intuitive connection between art and creativity, all subjects in the study program should have the opportunity to participate in the development of students' creativity.

5. STEAM TODAY

Where are STEM/STEAM today and what is their performance? Although both approaches are expanding today, Aguilera and Ortiz-Revilla (2021) concluded that there is a lack of a clear conceptual framework around which there is a consensus within the scientific-teaching community, and therefore the possibility of implementing the approaches in practice, as well as evaluating their educational potential, is reduced. They analyzed approximately 300 scientific papers published between 2010 and 2020, identified by the keywords "STEM", "STEAM" and "creativity" referenced in the databases Web of Science from Clarivate Analytics and Scopus from Elsevier. They wanted to answer three questions.

- 1st question: Within which STEM/STEAM conceptual approach were the didactic interventions used to develop students' creativity prepared?
  Finding: With regard to didactic and pedagogical principles, neither STEM nor STEAM educational approaches possess conceptual clarity that teachers could apply to design, implement and evaluate didactic interventions based on these educational approaches with a certain degree of similarity.
- 2nd question: From what perspective is creativity explored and what instruments were used for it?
  Finding: Both STEM and STEAM educational interventions focus on creativity of students, always using a Likert-type questionnaire. STEAM education pays more attention to the context in which the process is developed, while STEM education focuses on analyzing the products created by students.
- 3. Are there different effects of the STEM vs. STEAM approaches on development of creativity?
  Finding: Both STEM and STEAM based education generated positive effects on student creativity, and it is difficult to determine which approach has more success.

6. PHILOSOPHY AND ENCOURAGEMENT OF CREATIVE THINKING

Creativity involves the act of making (Baehr, 2018). It can be a scientific theory, a technological solution, a philosophical argument or a work of art. The outcome of creativity is a work that is new and unexpected. Creativity is related to originality. If we copy all or most of the elements of someone else's work, our work will not be creative. Creative products must be significant and valuable in any sphere, scientific, artistic or technological. Creativity implies a different form of perception of the environment. Creative people see things, connections between things, and possibilities for new connections that non-creative people don't see. Every new advancement in science, technology and the transfer of their results into practice in the form of innovation rests on the cognitive ability to see things in a new and different way. The source of this fact is the basis of creative thinking (Hołub & Duchliński, 2016). Developing the ability to think abstractly through the adoption of philosophical concepts helps in the formulation of new ideas and projects in cases of solving new and demanding problems. In this way, the abstract thinking that results from philosophical education can become a driver of creativity. Imagination is the main ingredient of creativity (Audi, 2018). Imagination is the production of new things in the mental realm. The limit of the use of imagination in finding new things is defined by the compromise between novelty and familiarity.

Newness is greater when there is less familiarity, and vice versa. Creativity is the ability to achieve an appropriate balance between the new and the familiar. As a philosophical method, in the context of creativity, thought experiments play an important role (Beaney, 2018). They are inseparable from the concept of imagination, and serve to develop and test ideas and theories. In thought experiments, philosophers apply the principles they have devised in various imagined situations and try to determine to what extent the principles are applicable.

7. CONCLUSION

Creating a specific STEAM curriculum represents the biggest challenge for educators at all levels of education, primary, secondary and higher education. Whether it is about countries that only at the political level emphasize the importance of scientific disciplines in the STEM field, primarily for the creation of new values in the economy, to countries that, in addition to policies and strategies, have specific programs for the education of experts and official guidelines for the creation of specific STEAM study programs, work it remains very serious and demanding in the making. The integration of knowledge into a separate meaningful whole within the STEAM field seems to be one of the most demanding problems. The integration of scientific disciplines within the STEM field with each other and with scientific disciplines within the field of humanities should, on the basis of existing knowledge, lead to a stronger effect of the application of all knowledge in a wider social, technological and economic context with an emphasis on the development of students' creative thinking. For the purpose of integration, it is necessary to emphasize three moments within philosophy that can be used operationally: content, freedom of thought, creative thinking. Philosophy can be used as a tool for integrating seemingly unrelated contents of different scientific disciplines. In the first place is the content; philosophy of science considers the foundations, methods and achievements of science, the purpose and goals of science. Furthermore, for the most part, there are already special philosophies that consider the contents and knowledge of scientific disciplines in the STEM field, transcend the boundaries of the disciplines, and place them in a broader context of considering the world and man's role in it. In second place is freedom of thought. Of course, although philosophy takes into account the knowledge and discoveries of the scientific disciplines it considers, in the creation of a philosophical system it must necessarily follow only logic, moreover, only perhaps two principles, that the conclusions follow from the premises and that they are not mutually contradictory. Methodological boundaries and theoretical approaches of scientific disciplines do not represent an obstacle. Philosophy starts from skepticism towards generally accepted truths, and does not take existing knowledge that we believe to be scientific "truths" for granted. And thirdly, freedom of thought leads to "out-of-the-box" thinking. Philosophy uses and develops the imagination to develop new creative conceptual systems for the purpose of solving an existing, seemingly intractable problem. If we go back to the beginning of the paper, the physicist John F. Clauser started from the philosophical assumption that objects exist or do not exist independently of man. He used his imagination and over the years came up with creative experiments to prove that objects in the Universe exist. This is why he was awarded the Nobel Prize last year. The biggest obstacle to the meaningful integration of STEAM science areas in curriculum development is self-imposed disciplinary limitations. Philosophy has tools with which these limitations can be alleviated in order to obtain new values, through imagination, creative thinking and reaching innovative solutions.

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DISABLED PERSONS INCLUSION PATTERNS IN THE CROATIAN EMPLOYMENT SECTOR

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ABSTRACT

This paper analyses the quantitative research on disabled persons' social inclusion patterns in the Croatian employment sector. Croatian Employment Service and Croatian National Institute for Expertise, Professional Rehabilitation and Employment of Persons with Disabilities aggregated open source data have been used to calculate the national structure and movement of employed and unemployed persons with disabilities in the Croatian employment sector from 2005-2022. The paper used a statistical analysis of the dynamic change of employed and unemployed persons with disabilities in the period from 2005 to 2022 in monitoring changes in the number of employed and unemployed persons with disabilities. The shares of the number of employed persons in the total number of persons with disabilities and the shares of the number of unemployed persons in the total number of persons with disabilities were calculated. Statistical coefficients were also presented, showing the ratio of the number of unemployed persons with disabilities to employed persons with disabilities. The analysis results show a positive trend in the employment of persons with disabilities in the Croatian employment sector from 2005 to 2022. Observing the direct relationship between employment and unemployment of persons with disabilities, there is an encouraging trend. Since 2005, the number of unemployed per employed person with disabilities has been decreasing year by year. There is a noticeable reverse trend of decrease in the period of the great economic crisis 2008-2011 and a discrepancy in 2020 at the time of the COVID-19 pandemic, indicating the employment sector reaction to pressures of significant socio-economic changes on the employment rates of people with disabilities, which are consequently negatively reflected and primarily affecting employment status of vulnerable social groups. Finally, research and practical implications, limitations and further research recommendations are discussed.

Keywords: *Disabled persons, Employment sector, Social inclusion*

1. INTRODUCTION

Starting from the etymological and socio-cultural frame, the root of the term disabled, as found in the earliest meaning from the 16th century, was used in presenting a legally disqualified person, continuing further with the synonym in the meaning of incapacitated person during the 17th century. The overall societal perception of persons with disabilities continues in our broad contemporary cultural comprehension till nowadays in the same, almost unchanged mindset and notion.

People with disabilities are a vulnerable group in every society, often exposed to stereotypes, discrimination and prejudices that hinder their integration into active social life, especially into the world of work and employment. However, disability in itself is not a characteristic of a person but a set of factors created by the broader social atmosphere (labelling), a complex social network made up of negative social attitudes (stigmatization), spatial and cultural barriers, including norms, availability of services and programs (Hughes, 2019). Permanent social exclusion of disabled persons from the primary inclusive practices and flows results in deep socio-economic degradation and rejection from all spheres of social life, consequently employment and work. On the UN human rights list, as noted in Article 23, the right to work, or active employment sector engagement, is guaranteed equally to all (UN, 1948). Additionally, social inclusion for persons with disabilities in the workplace labour market is further claimed by the UN Convention on the Rights of Persons with Disabilities in Article 27 (UNCRPD, 2006), while EU Commission and Croatian national legislation through its formal – legal and policy framework protect and promote further disabled persons social inclusion practices and employment sector participation. The Act on the Croatian Register of Persons with Disabilities (Official Gazette 64/01) prescribes the method of collecting, processing and protecting the confidentiality of data on persons with disabilities. The Croatian Institute of Public Health maintained the register and started operating in 2002. According to the document, as mentioned earlier, "disability is a permanent limitation, reduction or loss of ability (resulting from health impairment) of some physical activity or mental function appropriate for a person's age and refers to abilities, in the form of complex activities and behaviours, which are generally accepted as essential components of everyday life" (HZJZ, 2022). Although a minority, according to the estimates of the United Nations, the problem of disability is much more widespread than is usually thought: at least one out of ten inhabitants of every country is, to some extent, a person with a disability. This share is even higher in the Republic of Croatia, as people with disabilities make up about 15% of the total population (HZJZ, 2022).

2. DISCREPANCIES BETWEEN DISABILITY AND EMPLOYMENT

The topic of disabled persons' inclusive practices in the employment sector has been gaining more focus in the last few decades, especially in light of the contemporary challenges the employment sector faces nowadays with fast-changing environments, technology upgrades and working force migration and motivation. Current International Labour Organization data show that persons with disabilities are roughly 60% less likely to be employed than those without disabilities (ILO, 2023).

2.1. Overview and Intersections: Theory vs Practice

In explaining the obstacles in the labour market for people with disabilities, Russell (2002), Bruyère & Saleh (2018) identify causes of unemployment opportunities for people with disabilities, which are manifested in discriminatory attitudes and practices of employers and obstacles present in the workplace, while Stapleton (20023) is pointing towards discrepancy between policy, legislative and institutional norms and social values presented through employment practice. His work often examines the effectiveness of policy interventions and the impact of disability-related programs on employment. He has made significant contributions to understanding the factors influencing employment outcomes for disabled persons, while Schur et al. (2013) focus on disability discrimination, debate challenges faced by disabled persons in the employment context and shed light on ways to promote their inclusion in an overall societal context. Jakulić (1983) believes that unemployment of persons with disabilities primarily reflects society's negative attitude towards the specific minority group, unlike their inability to work and contribute to the employment market. Crnković-Pozaić (2002) emphasizes that in the open labour market, companies reaching for profit compete and oppose competition with employees' abilities, skills and knowledge, not attracting and employing members of a specific social group. Therefore, the current global employment market produces Agencies specialized in disabled people's employment, discovering talents and offering their services to employers, removing obstacles to their employment (Cloerkes, 1997; Conlin, 2000). Babić & Leutar (2010) noted that integrating people with disabilities in the Croatian labour market still falls significantly behind the progress made in the legislative and institutional infrastructure. Kiš-Glavaš (2009) research showed that employers do not sufficiently support the employment and work of people with disabilities in the Croatian employment sector. Only 9% of employers see the possibility of employing them on the open labour market, and only 30% have thought or are considering employing people with disabilities. Leutar & Milić Babić (2008) finally emphasize the importance of disabled persons' employment and active participation in the labour force and employment sector due to increment in their independence, self-sufficiency and overall life quality.

2.2. People with disabilities in the labour market in the Republic of Croatia

According to the data of the Croatian Employment Service, CES (2023), in 2022, a total of 131,938 people were employed in Croatia, of which 3,065 were disabled (about 1.6%). The percentage of employment of men (51.8% of the total number of employed persons with disabilities) is higher than that of women with disabilities (48.2%).

Year	The overall number of persons with disability	Dana on date	M		F	
			Number	%	Number	%
2007.	475391	1.5.2007.	282948	59,52	192443	40,48
2008.	488312	27.11.2008.	290342	59,46	197970	40,54
2009.	511080	14.12.2009.	305418	59,76	205662	40,24
2010.	529103	13.12.2010.	316557	59,83	212546	40,17
2012.	518081	12.1.2012.	311995	60,22	206086	39,78
2013.	520437	17.1.2013.	313217	60,18	207220	39,82
2014.	510274	30.1.2014	308060	60,37	202214	39,63
2015.	508350	12.3.2015	306614	60,32	201736	39,68
2016.	511094	14.03.2016.	307505	60,17	203589	39,83
2017.	511850	14.3.2017	307934	60,16	203916	39,84
2019.	511281	3.5.2019.	307647	60,17	203634	39,83
2020.	582428	23.9.2020	334816	57,49	247612	42,51
2021.	586153	9.9.2021.	335050	57,16	251103	42,84
2022.	624019	1.9.2022.	335550	56,66	270469	43,34

Table 1: The number of persons with disabilities in the period from 2007 to 2022 in Croatia (Source: Authors according to CIPH data, Report on persons with disabilities in the Republic of Croatia 2017-2023)

The share of employed persons with disabilities in the total number of all employed persons from the records of the Croatian Employment Service is 2.3% (the share of employed male persons with disabilities is 2.9%, and females 1.9%), which is an increase compared to the last year (by 0.5%). Of the total number of employed persons with disabilities, 96.7% are employed based on establishing an employment relationship and 3.3% based on other business activities (registration of a trading company, trade, employment contract, etc.). In 2022, 117,816 unemployed persons were registered in Croatia, and 7,196 were persons with disabilities (6.1%). According to the published data of the Croatian Institute of Public Health, HZJZ (2018), in the reports on persons with disabilities in the Republic of Croatia, there were 475,391 persons with disabilities in Croatia in 2007. The number of persons with disabilities from 2007 to 2022 increased by 31.3% (table 1), reaching 624,019 in 2022.

3. DATA AND METHOD

Data on the number of employed and unemployed persons with disabilities were collected from the Croatian Employment Service, CES. Data are available from 2005 to 2022. Data on the number of people with disabilities were collected from the Croatian Institute of Public Health, CIPH, which has been available since 2007. Data for 2011 and 2018 have not been published. The paper used a statistical analysis of dynamic change (Radman-Funarić, 2018). of employed and unemployed persons with disabilities in the period from 2005 to 2022 to monitor changes in the number of employed and unemployed persons. The shares of the number of employed persons in the total number of persons with disabilities and the shares of the number of unemployed persons in the total number of persons with disabilities in percentage were calculated. Also, statistical coefficients were calculated that show the ratio of the number of unemployed persons with disabilities to one employed person with disabilities.

4. RESULTS AND DISCUSSION

The number of employed and unemployed persons with disabilities in Croatia in the period from 2005 to 2022 is shown in Table 2 (CES, 2015; 2023).

Year	Employed until31.12.	Index of change compared to last year	Share of employed persons with disabilities per 100 persons with disabilities	Unemployed at 31.12.	Index of change compared to last year	Share of unemployed persons with disabilities per 100 persons with disabilities	The number of unemployed per employed person with disabilities
1	2	3	4	5	6	7	8
2005.	1034	…	…	5892	…	…	5,7
2006.	1211	117,12	…	5790	98,27	…	4,8
2007.	1423	117,51	0,30	5703	98,50	1,20	4,0
2008.	1267	89,04	0,26	5579	97,83	1,14	4,4
2009.	1028	81,14	0,20	6215	111,40	1,22	6,0
2010.	1080	105,06	0,20	6255	100,64	1,18	5,8
2012.	1421	97,00	0,27	6607	110,26	1,28	4,6
2013.	1744	122,73	0,34	6789	102,75	1,30	3,9
2014.	1877	107,63	0,37	6783	99,91	1,33	3,6
2015.	2613	139,21	0,51	7303	107,67	1,44	2,8
2016.	2853	109,18	0,56	7204	98,64	1,41	2,5
2017.	3366	117,98	0,66	6497	90,19	1,27	1,9
2019.	2820	87,28	0,55	5948	101,80	1,16	2,1
2020.	2475	87,77	0,42	6231	104,76	1,07	2,5
2021.	2740	110,71	0,47	6179	99,17	1,05	2,3
2022.	3065	111,86	0,49	7196	116,46	1,15	2,3

Table 2: Employed and unemployed persons with disabilities from 2005 to 2022
(Source: Authors according to CES data, 2015; 2023)

Data presented in Table 2 show that the employment and unemployment of persons with disabilities generally increased from 2005 to 2022, oscillating during the mentioned period (Graph 1). The increase in employment is not accompanied by the decrease in unemployment of persons with disabilities every year. In the years of the global financial crisis, in 2008, compared to the previous year, the number of employees (Table 2, column 3) fell by 11%, and in 2009 by an additional 9%. During the crisis, the unemployment of people with disabilities increased. Since 2013, the employment of persons with disabilities has recorded positive developments. However, with the onset of the COVID-19 pandemic, people with disabilities are again under the attack of unemployment, while the year 2021 shows the recovery of the labour market for people with disabilities.

Data obtained here (for both global economic and COVID crises confirmed the findings of Babić & Leutar (2010) as well as Wong et al. (2022), stating how great socio-economic crises hit first and hard on the most vulnerable, marginalized and excluded social groups as people with disabilities are in today's contemporary society. The share of employed persons with disabilities in the total number of persons with disabilities shows almost the same trend. In 2007, this share was 0.3%; it decreased during the financial crisis, and since 2013 it has been recovering again, so in 2022, 0.49% of the employment of persons with disabilities was recorded (table 2, column 4). On the other hand, the share of unemployed persons with disabilities in the total number of persons with disabilities (table 2, column 7) decreased from 1.2% in 2007 to 1.05% in 2021. However, in 2022 there will be an increase in the number of unemployed persons with disabilities. The increase in the share of unemployed persons with disabilities during the financial crisis continued several years later. In addition to the unfavourable position in the employment system concerning the pressure caused by the economic crisis, the data also show that the active reintegration into the labour market for persons with disabilities and special needs is not flexible, adaptation is slow, and the needs and expectations of employers and employees in the reactivation of persons with disabilities are mismatched resulting in a slow pace of employment market openness and sensitivity to the disabled persons needs Babić & Leutar (2010, Wong, et al. (2022).

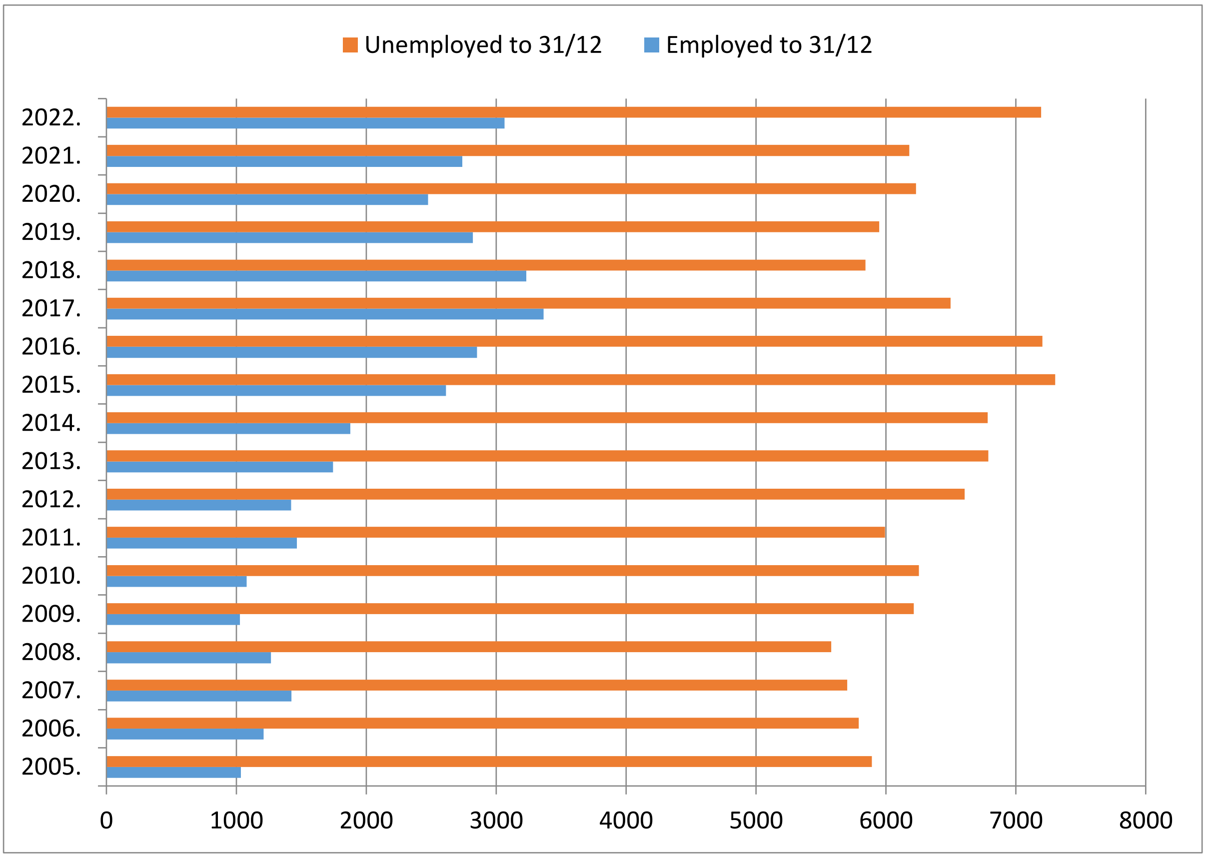

Chart 1: Trends in persons with disabilities employment and unemployment from 2005 to 2022
(Source: Authors according to CES data, 2015; 2023)

Observing the direct relationship between employment and unemployment of persons with disabilities, there is an encouraging trend. Since 2005, the number of unemployed per employed person with disabilities has been decreasing year by year. Thus, in 2005, that number was 5.7 unemployed per employed person, and in 2022 it was 2.3, as shown in Table 2.

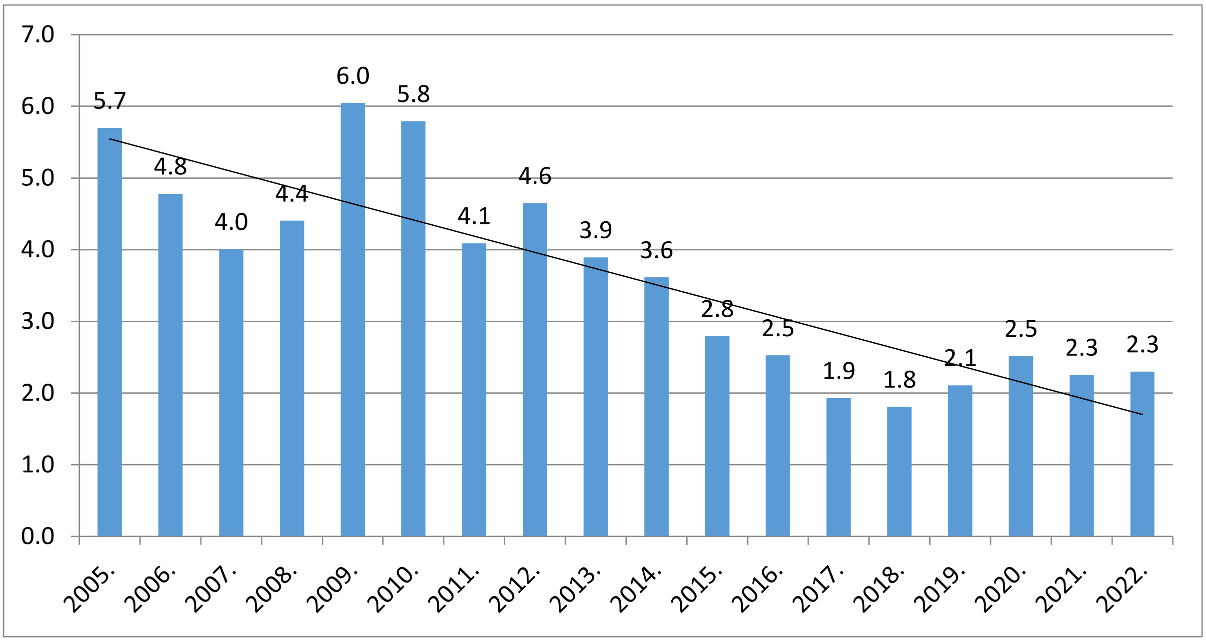

Chart 2: Number of unemployed persons with disabilities per one employed person with disabilities
(Source: Authors according to CES data, 2015; 2023)

The results of the analysis shown in Chart 2 follow positive trends in the period from 2005 to 2022, showing that the number of unemployed persons with disabilities per one employed person with disabilities is progressively decreasing. There is a noticeable trend of slowing down in the period of the great economic crisis of 2008-2011 and a discrepancy in 2020 at the time of the COVID-19 pandemic, indicating the pressures that significant socio-economic changes have on the employment of people with disabilities, which are consequently reflected into the labour market and primarily affecting vulnerable social groups.

5. CONCLUSION

People with disabilities form a significant group in Croatian society that is often invisible in various aspects of social life. Social exclusion and stigmatization deprive persons with disabilities of participation in several social spheres: adequate level of education, competitive position in the labour market, and consequently, difficulties in employability and denial of the right to work. Such an undesirable position of persons with disabilities in the labour market leads to further and more profound structural socio-economic consequences that spill over into the framework of the social welfare system (insecurity, threatened existence, poverty). The analysis results in the paper show a positive trend in the employment of persons with disabilities in the Croatian labour market from 2005 to 2022. Employers increasingly decide to hire people with disabilities and give them the opportunity for self-realization in the labour market through employment and career as an essential component of the dignity of each individual. Being employed, working and contributing to the community (and not depending on someone's charity) is essential to every individual's life. Work and employment represent a source of existence, self-confidence, professional development, social contacts and, in general, a source of better quality and a better life perspective in every aspect we all want; regardless of differences among social groups, society is composed. The quantitative approach used in the data analysis is of limited scope and cannot fully describe the obstacles and challenges faced by persons with disabilities in the Croatian labour market, which the authors consider the limitations of this work.

Future research in the subject area, therefore, aims at qualitative research methods aimed at the key stakeholders in the process of removing obstacles to the full integration of persons with disabilities into the labour market, which, in addition to persons with disabilities, include employers and creators and decision-makers in this area aiming towards inclusive employment practice for all.

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THE IMPORTANCE OF ORIGINALITY AND AUTOCHTONITY IN THE EXPERIENCE ECONOMY

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ABSTRACT
One of the most common words in everyday use is globalization, which began to be talked about at the end of the 20th century. Public opinion is focused on globalization processes. On the one hand, it becomes impossible for all countries to "hide" behind their borders, while on the other hand, the economic policy of individual countries cannot passively observe contemporary processes of globalization that have affected world flows of production, capital, export, import, labor mobility, and the like. There is a need for countries to fit into these processes because the demands of international markets are becoming more and more strict. Globalization has influenced the increase in the importance of original (traditional) products and services as key elements of tourist content that enable the differentiation and competitiveness of a tourist destination on the global tourist market. The aim of the work is to prove the role and significance of culture, history, traditional crafts and lifestyle of the local population through the consumption of original (traditional) products and services by tourists and their representation in the tourist offer. Furthermore, the aim of the research is to gain an insight through an in-depth interview with the local population of Varaždin County that traditional crafts and intangible heritage necessarily require a special way of preservation.
Keywords: *traditional crafts, originality, autochthonousness, experience economy, Varaždin County*

1. INTRODUCTION

Tourism refers to the activities of people who travel to or stay in places outside their usual place of residence for no longer than a year due to vacation, business obligations or other reasons. The development of technology and the progress of science made it possible to transport a large number of people to tourist destinations and thus contributed to mass tourism, i.e. tourism in which a large number of people participate. Later, due to various social and spatial difficulties caused by mass tourism, a new approach was formed aimed at more humane tourism and more complete satisfaction of the wishes and needs of modern tourists. New selective forms of tourism have developed that emphasize differentiation and quality. One of such forms is cultural tourism, especially highlighted in the work. Cultural tourism creates and preserves the cultural identity of the destination, and visitors are tried to provide an experience through which they can get to know the national culture. Cultural heritage implies an overall good or heritage that provides uniqueness to a place. "Living heritage" refers to intangible cultural heritage that manifests itself in people's everyday life, songs, customs, dance, languages, and crafts. Since Croatia is an area of cultural diversity, with a rich history that developed under the influence of different cultures, its resource base is colorful.

Croatia has a valuable intangible cultural heritage that needs to be managed and developed in terms of marketing if it wants to have a successful integrated tourism product. In traditional culture, intangible heritage has a special value, and since some traditions have been forgotten over time, it is important to continuously value and nurture them.

2. CULTURAL TOURISM

Tourism and culture are connected in many aspects and they build cultural tourism through mutual synergy. Cultural tourism promotes the development of local values. It becomes a very important form of tourism with multiple positive effects on the socio-economic plan, it contributes to the financial and organizational independence of cultural institutions and organizations, including the process of cultural decentralization. It follows from the above that the development of cultural tourism brings not only material benefits, but also non-material benefits, i.e. it contributes to the development of the preservation of cultural heritage and its values (according to Ristić, 2018:64-66). Jelinčić (2014:28) states that culture is viewed as the way of life of a certain nation or social group and has systems of meaning and distinctive properties, and includes all forms of social, artistic and intellectual activity. Although the interest in cultural tourism is increasing, it is not always completely clear what it refers to, therefore there are numerous differences in its understanding. Often, the term cultural tourism refers to museums, concerts and exhibitions. On the other hand, cultural tourism is seen as a type of tourism related to material, "built" heritage. For many traditional societies, the monument site is less important. This is visible among gathering and hunting peoples where oral tradition is the most important. Thus, cultural heritage is not made up of built churches and places, but rather stories, songs and dances that are passed down through the generations (according to https://www.culturenet.hr/default.aspx?id=23209&, access date: 05/20/2023). The World Tourism Organization (UNWTO) defined cultural tourism as a type of tourist activity where the main motivation of visitors is the discovery and acquisition of knowledge about culture, consumption of products in the tourist destination, specifically tangible material and immaterial cultural attractions. Cultural attractions include architecture and art, historical and cultural heritage, culinary heritage, music, literature, various beliefs and traditions. In order to enable the survival and development of traditional cultural products, the Global Code of Ethics for Tourism (Article 4) prescribes the protection of artistic, natural, archaeological and cultural heritage (according to http://ethics.unwto.org/content/tourism-and- culture, date of access: 05/20/2023). Tourism and culture are connected in many aspects and they build cultural tourism through mutual synergy. Cultural tourism promotes the development of local values. It becomes a very important form of tourism with multiple positive effects on the socio-economic plan, it contributes to the financial and organizational independence of cultural institutions and organizations, including the process of cultural decentralization. It follows from the above that the development of cultural tourism brings not only material benefits, but also non-material benefits, i.e. it contributes to the development of the preservation of cultural heritage and its values (according to Ristić, 2018:64-66). Jelinčić (2014:28) states that culture is viewed as the way of life of a certain nation or social group and has systems of meaning and distinctive properties, and includes all forms of social, artistic and intellectual activity. Although the interest in cultural tourism is increasing, it is not always completely clear what it refers to, therefore there are numerous differences in its understanding. Often, the term cultural tourism refers to museums, concerts and exhibitions. On the other hand, cultural tourism is seen as a type of tourism related to material, "built" heritage. For many traditional societies, the monument site is less important. This is visible among gathering and hunting peoples where oral tradition is the most important. Thus, cultural heritage is not made up of built churches and places, but rather stories, songs and dances that are passed down through the generations (according to https://www.culturenet.hr/default.aspx?id=23209&, access date: 05/20/2023).

The World Tourism Organization (UNWTO) defined cultural tourism as a type of tourist activity where the main motivation of visitors is the discovery and acquisition of knowledge about culture, consumption of products in the tourist destination, specifically tangible material and immaterial cultural attractions. Cultural attractions include architecture and art, historical and cultural heritage, culinary heritage, music, literature, various beliefs and traditions. This is achieved through designed development strategies based on local cultural and touristic potential. The most important thing for culture is to revive its potential, because it is not enough that these potentials exist, they must be attractive and accessible to potential tourists. Culture generates an additional source of income from tourism, markets expand, marketing and management of cultural assets is encouraged, better control over cultural potentials is enabled, and the image of culture grows among the local population (according to Demonja, 2011:182-183). Cultural aspects that mark the past are transformed into heritage by creating products to meet the needs of tourists and trade in the market. Through the process of interpretation (selection and shaping), cultural resources become a cultural product. By transforming them into a product, cultural landmarks become tourist attractions and basic motives for travel. Historical buildings and cities do not interest tourists until they become a "brand". The products offered are often of a local character, and their personality comes from the use of the land where the resources are located and the simultaneous use of the resources (according to Pančić Kombol, 2000:178-179). Each product is offered at a certain price, and the process of creating an offer for the market takes place equally in all areas, in art, music and local culture. A cultural product is a cultural attraction such as architecture, monuments, various festivals and manifestations, and special cultural tourism services. Tourists are actually customers, therefore the market dictates that they should be treated as such. According to some authors, the main components of a cultural product are the quality of promotional material and information on web pages, the first visual impression, physical appearance, ambience, attractiveness of the entrance to the attraction, hospitality of employees, presentation and interpretation of cultural resources, audiovisual materials and any additional event and activity. such as expositions, presentations and interpretations of secondary attractions (according to Middleton, Clarke, 2001:356). A cultural product is not only a building or an object from the past, but it is a whole series of experiences for tourists and ultimately their interpretation of what is offered. In the concept of a cultural product, it is not enough to offer only sightseeing, museums, galleries and the like, but it is necessary to create an attraction. He must make the tourist enjoy the visit, provide an experience, and this experience is influenced by elements such as the offer, the opportunities provided, but also the behavior and attitude of the tourist himself at that time, therefore it is almost impossible to act on a number of elements (according to Fopp, 1997:4). If the connection between cultural and other attractions is established, the country can strengthen its cultural tourism. By cooperation between the tourism sector and cultural tourism management, it is possible to create a "package" of offers in an area or potential destination that they combine natural and cultural heritage with other products such as sports, recreational activities, catering, etc. In the promotion of a certain destination, the basis of marketing is still to highlight the cultural resource as the leading product of the destination. The culture provided by a certain locality in the 21st century has become a basic element used by the management of a tourist destination, therefore many world-famous cultural attractions have become a form of symbol for a certain tourist location, for example the Eiffel Tower, the pyramids in Egypt and the Great Walls in China (according to Vrtiprah , 2006:290-292).

2.1. Assessment and valuation of cultural monuments

Cultural heritage represents an economically useful and tourist attractive form of culture of a society or locality. Valorization has proven to be the most effective way of taking care of cultural heritage because it enables economic sustainability and protection. In addition, tourism valorization contributes to the tourist offer, promotes heritage as a feature of the identity of an area and turns it into a tourist product. Today, when the meaning of cultural heritage has become ambiguous, a greater number of people are involved in its valorization than it used to be. From experts from different fields such as archaeologists, art historians, to tourists, tourism workers, owners of cultural assets and local residents. The criteria for the valorization of cultural heritage are not unique, but differ depending on the authors and countries. Not all cultural assets have the same value nor are they equally accepted by the local population and tourists. Although smaller heritage objects do not have the same value as large ones, they are important for local tourism and cultural policy, and access to these assets is different. It often happens that something that a certain generation considers cultural heritage is not accepted as such by the next, and the reasons for this are different: insufficient knowledge of history, inability to identify with a heritage object, deliberate rejection of a historical period due to socio-political circumstances. Excessive commercialization poses a danger for the valorization of cultural heritage. Due to excessive "decoration" of heritage, i.e. excessive desire to please tourists, its authenticity and value can be lost (according to Slunjski, 2017:167-171). Material cultural heritage generates two types of value, cultural value and economic value, which have mutual influence. In order to explain the specifics of the valuation process, it is important to understand the difference between the mentioned values. Matečić (2016:77-78) states that several authors have deconstructed cultural value into the following characteristics:

- *Symbolic value* maintains the ethnic identity of the community, i.e. it symbolizes experiences, represents meaning and has an important educational function.
- *Aesthetic value* refers to the beauty of the cultural heritage site, the quality of the landscape and environment of the site.
- *Social value* includes shared beliefs and values that bind social groups together, contributing to social stability.
- *Spiritual/religious value* reflects the religious significance of the site derived from the teachings and beliefs of an organized religion.
- *Historical value* is intrinsic value (the core of material and immaterial value), and it is manifested by means of artefacts from the past.
- *Scientific value* arises from scientific content and research.
- *The value of authenticity* refers to the unique characteristics and integrity of the locality.

The cultural approach to valorization begins with the identification of heritage through expert assessment, then approaches conservation, develops related products and services, and finally approaches valorization (e.g. marketing, information) and heritage management. Uniqueness and authenticity are the basic values according to which cultural heritage is valued and identified. The cultural approach studies the cultural value of heritage and produces an understanding that spreads through educational institutions and creative industries (according to Mrak, 2013:11-12). The concept of economic value of "goods and services without price" comes from environmental economics. In 1996, Pagiola presented the concept of "category of economic value". According to him, environmental economists generally look at value in a comprehensive way, using the concept of total economic value consisting of extractive (consumer) use value, non-extractive use value and non-use value. Economic use value refers to individual utilities and individual preferences, eg willingness to pay, while non-economic use value of cultural heritage is not visible in market transactions. Non-restrictive use value arises from services provided within the locality. The non-use economic value is realized from the benefits that the locality can provide, and do not include its use. Also, non-use value is important for the sustainable development of tourism, and it implies the benefits that people have only from the knowledge that the cultural heritage has been preserved (according to Matečić, 2016:78-80).

The economic approach to valorization starts from valorization and management, develops products and services produced from cultural resources, carries out targeted conservation, more precisely conserves cultural property in the way and in the amount necessary for economic use, and finally carries out targeted identification of heritage. Cultural heritage for the economic approach represents capital that can produce products and services that are exchanged for money. There is no criterion of uniqueness and irreplaceability here, but each element is replaceable with some other cultural good or service. Economic value is formed on the market through the public and private sectors and the third sector (institutional framework for gifts and donations, non-governmental organizations). The difference between economic and cultural approaches is visible in the different purposes of preserving cultural heritage. In the economic approach, the preservation of cultural heritage is guided by economic goals, while in the cultural approach, research and protection of heritage are the main reasons for action, and production and management are used only as much as is necessary to achieve the cultural approach (according to Mrak, 2013:11-13).

3. TRADITIONAL HERITAGE AN IMPORTANT ELEMENT OF INTANGIBLE CULTURAL TOURISM

Traditional heritage is a component of the national cultural heritage, and it manifests itself through numerous religious and local versions. It represents the stronghold of individual and collective identities despite the fact that it is prone to change and even disappearing. Cultural heritage is usually considered to be places, movable and immovable artifacts, objects, values, traditions, etc. that society has identified as old and important and therefore worthy of preservation. The concept of cultural heritage is important primarily because of its complexity. It is the bearer of the characteristics of ancient times and one of the main elements for recognizing the identity of a community. Although present everywhere, intangible cultural heritage is not recognizable as tangible heritage. Intangible heritage is not cultural heritage that can, for example, be placed in a museum, therefore it is called "living heritage". It manifests itself in man's everyday life, songs, customs, languages, crafts. Preservation of intangible heritage develops and promotes human creativity and cultural diversity. In addition to the fact that cultural heritage manifests itself through tangible forms, it also includes values, traditions, oral history, legends, various dances and songs, traditional cuisine, religious ceremonies, etc. that belong to intangible cultural heritage. Given its important role in today's life, cultural heritage can be valued based on several different current meanings. It has a cultural meaning (according to Marasović, 2001:12):

- Cultural values expressed in the original or contemporary use of the building or historical entity.
- Cult values resulting from the cult function of buildings and objects in historical periods, including the present era.
- Economic values, which mean the possibilities of economic use (tourist resources).
- Scientific value as an object or area of scientific interest.
- Educational value arising from the diverse educational nature of the cultural property.

In addition to the mentioned values, according to its characteristics, cultural heritage can have historical, artistic, age, urban planning, ambient and original value as well as the value of rarity, the value of representativeness and the value of integrity, which is why its preservation is essential. Most of the cultural heritage does not have only one value, but is distinguished by several at the same time, if not all (according to Marasović, 2001:12). During his life, a person determines for himself which customs are important to him and which he will pass on to new generations, whether it is about diet, way of dressing, religion, etc.

Through his traditions and customs, a person shows who he is, what he wants to be and to which group he belongs (cf. Strouken 2008: 5). Strouken (2011a: 5) says that traditions and customs should be nurtured and lived. Tradition cannot exist without people who keep it alive. Once traditions and customs cease to be important to a person or community, they are considered dead.

4. ORIGIN AND AUTOCHTONY OF THE DESTINATION

For many years, the concept of authenticity has occupied a central place in the research of scientists dealing with tourism and has resulted in an extensive and diverse scientific corpus of research papers (Pearce and Moscardo, 1986; Hughes, 1995; Bessire, 1998; Wang, 1999; Taylor, 2001; Cohen , 2002; Olsen, 2002; Chhabra et al., 2003; Belhassen and Caton, 2006; Reisinger and Steiner, 2006; Belhasse, Caton and Stewart, 2008; Martin, 2010; Zhu, 2012; Rickly-Boyd, 2012; Ram et al. al., 2016). The aforementioned scientists analyzed authenticity from different aspects, products that are offered on the trip, tourist attractions, tourist experience, which makes it difficult to define the uniqueness of the concept of "authenticity in tourism". In 1999, Wang identified two types of authenticity: authenticity of the resources offered on the journey and existential authenticity. The input of the originality of the resources offered on the trip is the desire to visit and get to know the original places and objects for use, while the result is the experience, knowledge and enjoyment of the original material resources, arts and crafts. The input of existential originality is the desire to escape from everyday life and mass tourism, with a simultaneous return to "oneself" (self-actualization), and the result is a feeling of pleasure and escape, with a simultaneous experience of "oneself" in the context of the place of travel, time and culture. Originality and autochthonousness is closely related between the original/traditional material goods that are offered on the trip and the original experiences and perceptions, they cannot be mutually exclusive categories and it is impossible to analyze them individually and separately. Original (traditional) products and services have the potential to be an element of differentiation of one destination from another and are an integral part of shaping individual, collective and territorial identity (Bessiere, 1998). Creating the value of the tourist product and the way to deliver it to the end consumers - in this case tourists - is the basis of the struggle in a growing and increasingly aggressive tourist environment. In order to achieve a competitive advantage of the tourist product, it is necessary to add to the latter a value that is differentiated from the competition, that is, a value that is impossible to copy in any of its segments (Portolan, 2013). In this paper, this added value will be observed through the prism of originality (tradition) and the local population of Varaždin County will be examined for presenting their own culture, history, enogastronomy and lifestyle of the local population through the future consumption of original and traditional products and services, which they consider that they could interestingly depict the life of the city of Varaždin and Varaždin County. At the same time, an attempt will be made to prove the low level of representation of original (traditional) products and services in the tourist offer, which must be revitalized in order to achieve a greater experience economy.

5. RESULTS OF THE IN-DEPTH INTERVIEW

Qualitative research, i.e. in-depth interview, was chosen as a research method for the reason that forgotten products and values are at the center of this research. An in-depth interview, as one of the qualitative methods of market research, was used to obtain information and knowledge about cultural value, tangible and intangible heritage that can become a good tourist product and enhance the experience of the destination of Varaždin County and the city of Varaždin. Nature, cultural heritage, traditional heritage, and especially intangible cultural heritage - make up the tourist resources of Varaždin County.

Cultural heritage gives authenticity to a destination such as Varaždin County, that is, due to its specific characteristics, it makes it recognizable and enables it to diversify on the tourist market and achieve a certain competitive advantage compared to other tourist destinations. However, cultural heritage by itself is not enough for successful development, it must be managed and developed through marketing. In this sense, as a basis for strategic planning, it is first necessary to define the cultural tourism of Varaždin County and understand the nature of its demand. Based on this, the goal is to address the issue of non-cultural material heritage and its impact on the integrated tourism product of Varaždin County. The objectives of the conducted research are as follows:

- to recognize the diversity of intangible cultural heritage in order to define the cultural potential of Varaždin County and to recognize the necessity of investment and protection of intangible cultural values;
- point out the potential of intangible cultural heritage that creates an experience economy.
- In accordance with what was stated, the following research questions were asked:
- Can intangible cultural heritage play a significant role in creating an integrated tourist product of Varaždin County?
- To what extent can tourism valorization of intangible cultural heritage contribute to its preservation?
- To what extent do old customs and manifestations contribute to the attractiveness and recognition of traditional intangible cultural heritage?

The results of an in-depth interview of local residents of the city of Varaždin and Varaždin County consider that the intangible cultural heritage is part of the tourist resources of Varaždin County and represents a cultural expression important for the positioning of the destination. *"Varaždin County has a rich history and cultural diversity, and in traditional culture, intangible heritage has a special value,"* said one resident of Varaždin. *"Tradition represents the transmission of customs, beliefs, values, and knowledge to the younger generations, and without it there would be no culture in the form in which it is known today in Varaždin County,"* said another interviewee. Respondents also believe that tradition adapts to social, political and economic situations and changes with lifestyle changes. Over time, some traditions are forgotten, so it is important to continuously value and cherish them. In Varaždin County, they point out that there is a valuable intangible heritage such as traditional crafts such as pottery, making licitars, traditional logožars (cekers), folk customs, the Bednja dialect, numerous legends and Lepoglav lacemaking, which is known all over the world. All of them give authenticity to the individual places from which they originate, but also to the entire Varaždin County as a destination. As the most significant intangible heritage, they single out the Bednja language spoken by the inhabitants of the municipality of Bednja, to which Bednja, Pleš, Šaša, Vrbno, Trakošćan, Benkovec, Rinkovec, Prebukovje, etc. belong. The languages as a whole form the unity of the Croatian linguistic identity and among the most famous specific and complicated languages is precisely the Bednjanski language", is the opinion of one resident of Varaždin County. As recognizable products of Varaždin County, which have been recorded as products and we are talking about cultural material heritage, are Licitarsko srce and Lepoglav lace. When it comes to traditional crafts, the interviewees warn of the need to preserve and develop traditional crafts. It is extremely important to preserve recognition, and they support the establishment of a secondary lace school. For Lepoglav lace, the interviewees emphasize the following claims:

- *"Lepoglav lace is emerging as a unique Croatian product"*
- *"Lepoglav lace used to be a common decoration on tablecloths or bedding, today it is a luxurious souvenir"*

- *"Unfortunately, there was not one Kenzo in Croatia that knew how to use all the beauty of traditional Japanese clothing. He turned the kimono into a modern, appealing and commercial outfit, he sprinkled floral motifs on dresses, coats, and pants. It became and remains the best-selling fashion brand in the world."*

In the past, peasants fed their children and themselves by doing various crafts, and one of them was the making of firewood. The making of log fires is a significant part of the cultural history of the Kamenica region, i.e. a centuries-old tradition for which the inhabitants of Kamenica, Crkovac and Kamenica Vrhovac were (were) known. The tradition of making wooden children's toys is not only an example of preserving intangible cultural heritage, but they represent an ecologically sustainable product and an alternative to today's plastic toys. When making toys, the design and decoration passed down through the generations is cherished. It is characteristic that they are made by men, master woodcarvers, and decorated by women. Once in the 19th century, production contributed to the existence of many family communities that lived hard. Each of the toys is handmade and a good souvenir that can also be an attractive decoration.

6. CONCLUSION

The results of the in-depth interview indicate that the local population, regardless of their socio-demographic characteristics and occupation, recognize the importance of original (traditional) products and services. The local population expressed a high desire to present their own culture, history, traditional products and lifestyle of the local population through the consumption of original, traditional products and services, while, on the other hand, they are aware of the low level of their representation in the tourist offer of the observed area. This in-depth interview contributes to raising awareness of the role and importance of originality (tradition) in tourism development, but it can also be characterized as an expression of nostalgia of the resident population for past times. As it is only about the opinion and attitudes of the local population, the question arises as to whether the intangible heritage has the same value for tourists. Despite the mentioned limitations, the results and conclusions of the research are of great importance for the holders of the tourist offer and the management structure of Varaždin County, which is in charge of administering tourism development, planning and policy, in proposing a different approach to the creation of a tourist product. By including tradition/originality in the tourist offer, the latter would have a high degree of uniqueness and ease of differentiation compared to the competition, an original tourist experience would be achieved, resources marginalized by mass tourism development would be revitalized, unused resources would be valorized and depopulation would be reduced, deagrarianization, tourism seasonality and spatial concentration of tourism development.

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ABOUT THE MUSEUM AS AN EDUCATIONAL INSTITUTION IN THE SERVICE OF PRESERVING CULTURAL HERITAGE: THE CASE THE OF VARAŽDIN CITY MUSEUM

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ABSTRACT

Considering the educational importance of museums for the preservation of cultural heritage, this paper focuses on the relationship between educational institutions and museums on a concrete example. The review of the Report on the work and financial operations of the Varaždin City Museum in the last five years shows the current situation and provides guidelines on how to improve the collaboration between the museum and other forms of educational institutions. The paper establishes that museum content made for elementary and high school visits almost always follows current exhibitions or permanent collection and very rarely adapts to students' needs that came from a strictly prescribed teaching curriculum. Therefore, for regular visits to the museum to become an established educational practice, the Varaždin City Museum should clearly define the target group for which it organizes the educational content and in consultation with teachers and professors adapt it to the prescribed learning plan. Finally, to better educate a wider audience with the importance of cultural heritage through the acquisition of transversal skills, the study suggests the inclusion of educative institutions such as faculties and Public Open Universities in Varaždin City Museum educational program.

Keywords: *Cultural Heritage, educational institutions, museum pedagogy, Varaždin city museum*

1. INTRODUCTION: MUSEUM AS AN EDUCATIONAL INSTITUTION

The educational role of museums has been systematically and actively discussed since 1922 when pedagogy as a science was implemented into the museum profession (Škarić, 2002). Since the middle of the 20th century, experts have continuously advocated for the recognition of the importance of museum education on a broader level. The museums today are no longer just institutions with the purpose of preserving collections for future generations. They have become an interactive place for educating the public, informing about a specific topic, and acquiring sensitivity toward cultural heritage. That is confirmed by the definition officially accepted in 2022 at the extraordinary general assembly of the International Council of Museums (further ICOM), which stands: "A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing." (ICOM, 2022). By emphasizing: "[…] varied experiences for education, enjoyment, reflection and knowledge sharing." the branch of museology that is responsible for specific museum intermediary work and focused on successfully conveying the desired message to visitors - museum pedagogy - gained significant importance. The main goal of this profession is to provide an educational process through the encounter with a museum object through adapting it for all target groups with systematic planning and implementation

(Hannelore, 2008). In this way, the basic tasks of a museum pedagogue include the design and implementation of the museum's educational program, permanent exhibitions, exhibitions, workshops, and other events, as well as cooperation with curators and other experts in the museum (Detling, 2011). Given the interpretation that museums are guardians of cultural heritage and carriers of collective cultural memory, with a goal to educate citizens, museum institutions have a large number of similarities with educational institutions such as schools, colleges, or other organizations for lifelong education. Thus, Dengel et al. (2011) emphasize the importance and need for cooperation between high schools and museums. In doing so, they state several basic common goals: to bring culture and art closer to students in museums and to ensure their integration into society, to sensitize museums to the cultural and social needs of young people and the trend of growing social mobility, to develop a discourse on socially and politically relevant topics, which is based on the interpretation of cultural heritage to young people in order to develop a relationship towards their origin, to develop creative processes of learning and education, to strengthen social competence and personality development through cultural education, and to perfect the development of innovative concepts for different and permanent frameworks of cooperation between museums and schools. Since cooperation is defined as a mutual relationship between several participants that is conditioned by common goals, in order to successfully accomplish these goals, activities must be clearly structured, mutually beneficial, and connected with precisely defined obligations and responsibilities (Kovač, Buchberger, 2013). Referring to this statement the goal of this paper is, with emphasizing the educational significance of museums for the preservation of cultural heritage, to analyze the relationship between educational institutions and museums on a concrete example, and thereby provide guidelines on how to improve cooperation between museums and other forms of educational institutions.

2. THEORETICAL FRAMEWORK

2.1. Relationship between museums and schools in the Republic of Croatia

To better determine the relationship between schools and museums, first is necessary to comparatively analyze the law on museums, recently adopted by the Croatian Parliament, and the National curriculum as one of the basic school documents issued by the Ministry of Science and Education of the Republic of Croatia. According to the part of the National curriculum, which refers to the development of cultural awareness and expression, for preschool, elementary school, and high school education, it is important to raise students' awareness for local, national and European cultural heritage in order to get an impression of their place in the world. Furthermore, the curriculum emphasizes that it is crucial to train students to understand the cultural and linguistic diversity of Europe and the world for the purposes of their protection, as well as to develop an awareness of the importance of esthetic factors in everyday life. Therefore, the goal of the education system in the Republic of Croatia is to develop student's awareness of the preservation of the cultural heritage of the Republic of Croatia and its national identity (*Nacionalni dokument društveno-humanističkog područja kurikuluma*, 2017). Here it is also necessary to highlight the newly adopted law on museums, which states that: "museum activities include the procurement of museum materials, research, professional and scientific processing, and their systematization into collections, then the permanent protection of museum materials, museum documentation and heritage sites and sites to ensure accessibility, education, interpretation and public presentation of museum materials as cultural material and immaterial goods and parts of nature." (*Zakon o muzejima*, 2023). Bearing in mind the above, it can be said that the goal of both institutions is to educate, preserve, and protect cultural and natural heritage for current and future generations in order to increase their competencies. Therefore, it is of wider interest to intensify the inter-institutional communication and collaboration.

It should also be noted that this is not a new trend. Raising the awareness of the educational role of museums exists in Croatia for a long time. Accordingly, it is necessary to mention the fact that the largest increase in the number of museum pedagogues was in the period up to 2015, when 41 museums in Croatia opened a position. It is also necessary to point out that in museums that haven't got employed museum pedagogues, one of the other employees does this duty (Dujmović, 2017). Scientists also recognize the importance of visiting a museum as a place where schools can achieve their desired educational goals and at the same time greatly facilitate the development of cultural awareness and expression, as well as awareness of the importance and need to protect cultural heritage. However, they see a problem in the fact that there is no legal regulation anywhere that teacher must take students to visit a museum, and professors sometimes do not recognize the potential of this type of education. Some believe that museums and schools will be truly connected only when the educational potential of museums is officially recognized and prescribed in National curiculum (Alavanja, 2015). Regardless of the large number of scientific works in Croatia on museum educational activities, very rarely was written about what museum education actually is or what are its goals and purpose. Also, terminology was even less often discussed. The concept of *educational action* in the museum context is clarified by Kosjenka Laszlo Klemar and Željka Miklošević. They define that *educational action* is a syntagm that denotes an action different from the usual educational practice in schools or museums and at the same time means a specific educational action or undertaking. Although society often uses this phrase in the discourse on ecology or health, the authors note that it is necessary to start using it more often when defining educational museum goals. Therefore, a museum *educational action* should be an organized action or process in the purpose of achieving a specific educational goal, which is carried out within or in the organization of the museum. In this way, museum activities must have a clearly defined target group and educational goals and be aimed at their achievement (Laszlo Klemar, Miklošević, 2020). Keeping these assumptions in mind, traditional forms of learning such as *ex chatedra* have been overcome in a large number of museum approaches on ways to educate and replaced by newer practice, based on cognitivist theoretical orientation. Thus, in museums throughout Croatia, models of educational programs are implemented at several levels, and the most represented is the implementation of museum workshops, which through a diverse range of activities contribute to the development of motor skills, spatial perception, as well as the presentation of what has been learned. The workshop should be a stimulating and a relaxing sourrounding and the participants should feel comfortable while working in it (Premuž Đipalo, 2020). However, regardless of the insight into new educational methods, research conducted in 2020, in which museum employees were surveyed, indicates that only a few outcomes of museum workshops can be linked to concrete educational goals such as developing critical thinking, creative expression, and developing one's own cultural identity. At the same time, the authors note that it is evident that most museums use such content for promoting and raising awareness of the museum, and their primary goal is not education. This should be interpreted with the arrival of the 21st century, which contributed significantly to the development of marketing thinking and actions. However, scientists believe that there is still enough space in the museum for high-quality educational activities that should be aimed at achieving more permanent and socially relevant goals such as informing ahout cultural heritage for the service of its protecting. (Laszlo Klemar, Miklošević, 2022).

2.2. Varaždin City Museum - a brief overview of inter-institutional educational cooperation

Continuous cooperation between the museum and the school in the city of Varaždin has existed since the foundation of the museum institution in 1925. The reason for this lies in the fact that the main initiators of the establishment of the museum were, Krešimir Filić, Franjo Košćes, and

Stjepan Vuković, professors at the high school in Varaždin. In their desire to transfer knowledge to students, they organized various lectures and excursions. The contents for students were expanded in the period after the World War II, in 1945 (Težak, 2017). Organized inter-institutional action between schools and museums started in the period after 1989 when a program called School Service (*Školski servis*) was created under the auspices of the city of Varaždin. Its main goal was to emphasize the educational activity of the museum and to achieve close cooperation with educational institutions. The program was primarily intended for elementary school students. Due to the suspension of financial resources from the city budget, the project was canceled in 2008. However, keeping in mind the importance of the museum as an educational institution, the Varaždin City Museum re-established a similar project in 2013 under the name *MIŠ - Muzej i škola* which translates as Museum and School. This educational program lasts the whole school year and includes several types of visits to the museum, namely: group visits and guided tours through permanent collection and exhibitions, thematic lectures, and thematic educational-creative workshops. Initially, all students of elementary schools in Varaždin (about 3,500 children) were included in this program, and later high schools joined them, so by 2017, 1,680 high school students were included in the program (Bojanić Morandini, 2017). The report on the work of the museum from 2022 points to a sudden increase in the number of students involved in project, and currently all 9 Varaždin elementary schools, 2 district elementary schools from Varaždin County (Šemovec, Beletinec), and 5 Varaždin high schools are included (*Prva gimnazija Varaždin*, *Druga gimnazija Varaždin*, *Privatna varaždinska gimnazija s pravom javnosti*, *Srednja glazbena škola Varaždin* and about 80 students who attend some kind of creative direction at *Srednja strukovna škola Varaždin*). Therefore, 6,040 students are currently involved in the project (GMV, 2022). Furthermore, it should be noted that the high quality of educational work in the Varaždin City Museum was also recognized in paper published in the journal *Informatica museologica*, whose publisher is Croatian central Museum Documentation Center (Cukrov et al., 2002). It is also necessary to highlight the work reports that testify that the museum staff is constantly improving their pedagogical activities and regularly participates in scientific conferences thematically connected to museum pedagogy (GMV, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022) and refer on the fact that the museum has employed a museum pedagogue at the end of 2018 (GMV, 2018). It can be concluded that the Varaždin City Museum is one of the rare museum institutions in the Republic of Croatia that has been perfecting its educational activities since its foundation and continuously cooperates with educational institutions, which makes it a good example whose content is worth to analyze for purpose of this research.

3. METHODOLOGY

Considering the pedagogical experience of the Varaždin City Museum and numerous inter-institutional collaborations, the work aims to examine which forms of collaboration for educational purposes are most often used and which educational institutions most often collaborate with the museum. Content is analyzed by interpretation and contextualization of data on educational activities carried out in the museum (only those that can be interpreted as a product of inter-institutional cooperation). That should provide guidelines on how to improve the educational activity of the museum to preserve cultural heritage and raise general awareness of it. Based on the previously mentioned sources, for the purpose of the research, two hypotheses were formatted:

- H1: Classical form of leadership through permanent collection is no longer the most common form of cooperation between museums and educational institutions.
- H2: Primary schools, of all the educational institutions, most frequently use museum visiting as an educational practice.

The data for the analysis were collected by observing the official website of the Varaždin City Museum. Reports on the work and financial operations of the Varaždin City Museum (*Izvješća o radu i financijskom poslovanju Gradskog muzeja Varaždin*) in the period from 2018 to 2022 (work in the last five years), were analyzed. In order to make the collected data easier to interpret, they are classified in the table shown below. The first column in the table gives information about the year of the analyzed report (from 2018 to 2022), while the other columns are organized in such a way that they describe the form of inter-institutional educational cooperation and museum activities according to the performance method and the audience for which educational action was intended. In the corresponding columns they also provide the number of times the activity was carried out. Given that the paper explores the educational role of the museum within inter-institutional cooperation, the table excludes data related to the education of the wider masses without the mediation of another educational institution, such as tourist visits or other forms of individual visits to the museum within an organized action, such as Wednesday in the museum (*Srijeda u muzeju* - lectures and promotions or presentations of scientific books for the general public that take place every Wednesday) or Summer muzealization (*Ljetna muzezancija* - workshops for all age groups of children in the open space in front of the Old Town during the *Špancirfest* tourist event). Although these events have a high quality for educating the general public about cultural heritage, due to the needs of this research, it was necessary to leave them out. Since the research is primarily of a qualitative nature, the work descriptively interprets and contextualizes the data collected in order to explain the pattern by defining it and contribute to a better understanding of the situation. The purpose of this research is to give suggestions for better future educational activities within inter-institutional cooperation.

4. ANALYSIS AND INTERPRETATION OF CONDUCTED RESEARCH

Before starting the analysis of the data presented in the table, it should be emphasized that due to the pandemic caused by the COVID-19 virus, which resulted by bringing out epidemiological measures, visits to the museum were limited, which significantly affected the number of educational activities held in physical form throughout 2020 and 2021 so the data for these two years do not provide the best overview for the representation of educational inter-institutional cooperation. For that reason, the content analysis focuses more on the comparison between the years 2018, 2019, and 2022.

Year of the Report on the work and financial operations in the Varaždin City Museum	*Educational workshops held for elementary and high school students*	*Educational programs adapted to the special requirements of elementary school teachers*	*Educational programs adapted to the special requirements of high school professors*	*Sent materials specially prepared on command for educational institutions*	*Expert guidance held for elementary and high school students*	*Collaboration with other forms of educational institutions*
2022.	130	2	5	17.000	3	1
2021.	24	1	0	8.710	6	0
2020.	16	0	2	21.400	0	0
2019.	131	0	4	18.400	0	2
2018.	82	1	1	21.600	0	0

Table 1: Number of the educational activities carried out in the Varaždin City Museum as a product of inter-institutional collaboration
(Source: own research, content collected from: https://www.gmv.hr/hr/o-muzeju/izvjesca/)

The review of the content and the comparison of the results confirmed the first hypothesis. Although in the period when there was no lockdown in the Varaždin City Museum, on average, several hundred guided tours through the permanent collection of the Cultural History Department and Entomological Department, as well through some exhibitions in the Herzer Palace and the Sermage Palace were held (in which around 50 special guided tours were specially organized for journalists, bloggers, influencers, tourism workers, delegates and special guests of the City of Varaždin and Varaždin County) professional guidance is very rarely held for purposes of educational institutions. The student visit to the museum was most often organized as a part of thematic educational workshops (80 - 130). Here it is also necessary to mention a large number of sent materials specially prepared on command for educational institutions in the Varaždin city area and in the Varaždin and Međimurje Country area (8.700 – 21.600). This shows that classical leadership through the permanent museum collection and exhibitions of the Varaždin City Museum is no longer the most common form of cooperation between museum and educational institutions. This is in correlation with Hannelor's interpretation, who in 2008 noted that although the most common form is guided tours through permanent collections or exhibitions, a contemporary museological practice increasingly focuses on content such as workshops, seminars, conferences, lectures, demonstrations, or the creation of printed materials (Hannelore, 2008). The second hypothesis was also confirmed. It was established that among the educational institutions, visiting the museum as an educational practice is most often used in primary school education. The reason for this can be found in the fact that the workshops held in the museum usually follow current museum programs (permanent collection or exhibitions) and are very rarely fully adapted to the school curriculum and student needs. The evidence can be found in the large scale of numbers between the educational workshops that were simultaneously held for primary and secondary school students (82 - 130) and the much smaller number of workshops specially adapted to the elementary (0 - 2). or high school educational program (0 - 5). Furthermore, the reason why high schools visit the museum less frequently during classes also needs to be argued with a more strictly prescribed school curriculum. While elementary schools (especially lower grades) are designed according to the principle of “school for life” and therefore more flexible, high school education is strictly defined by the annual plan and program (Beaumont, 2003). Scientists have already noticed that museum visits are underrepresented in high school education (Detling, 2011). Researchers find a solution to a problem by improving mutual communication and note that museum pedagogues should take action to inform teachers about the ways in which they can use their museum as a teaching resource (Hicks, 1986). The task of the museum should be to find overlapping points with the school through the museum exhibits and then form a concrete cooperation plan (Bežen, 1980). The analysis of the report of the program conducted in the last five years in the Varaždin City Museum showed that only a few workshops that were held followed the school curriculum and the teachers' wishes (for example, workshops held in 2018: Vinica stone house (*Vinička kamena hiža*) - for students of elementary school Vinica, Croatian national revival in Varaždin (*Hrvatski narodni preporod u Varaždinu*) - for students of high school *Druga gimnazija Varaždin*, and the workshop held in 2021: Traditional construction of the Ivanec region (*Tradicijsko graditeljstvo ivanečkog kraja*) - for the students of the district school Salinovec). In order to improve mutual cooperation and for regular visits to the museum to become an established educational practice, such examples should not be an exception but a regular occurrence, because otherwise, a visit to the museum during education is more like a day trip and largely depends on the personal motivation of the teacher. The difference between the number of workshops held (82 - 130) and the number of sent materials specially prepared on command for educational institutions (8,700 - 21,600) proves that teachers are willing to cooperate and the main reason for rare visits to the museum is indeed in the fact that when the museum is organizing educational content rarely adapts to the National curriculum and that if it were otherwise, they would come to the museum more often. Borac and Dujmović research (2015) proves that the Varaždin City Museum is not an exception. In the whole Croatia, educational visits to the museum are not a regular occurrence in the high school education, and cooperation between museums and high schools is mainly reduced to the teachers will or verbal recommendations among colleagues (Borac, Dujmović, 2015). Successful collaboration should be a result of continuous interaction between museums and schools and it should manifest in frequent visits to the museum over a certain time or in some common project. To achieve the mentioned collaboration, it is necessary to include as many experts as possible, such as teachers, school pedagogues, museum pedagogues, or curators (Somerville, 2013). Therefore, to make regular visits to the museum an established educational practice, the Varaždin City Museum should more clearly define its target group and adjust the educational content according to the National curriculum, and not only adapt workshops according to student age, which is the current practice. Also, it is necessary for the museum to systematically contact educational institutions in order to clarify all the educational opportunities that can be provided by collaborating. Furthermore, the review of the report on the work of the Varaždin City Museum indicates that in the last five years, only two workshops were held for the educational purposes of facultyes (in 2019, alongside the permanent exhibition of the entomological department, World of Insects (*Svijet kukaca*) for students of the Faculty of Agriculture, University of Zagreb, and the Čakovec department of the Faculty of teacher education of the University of Zagreb). This confirms that there is no direct cooperation between museum and facultyes as educational institutions. Considering the development of Varaždin as a town with universityes and the opening of departments such as Multimedia at the Varaždin branch of the University North, it is necessary to find common overlapping points and to encourage inter-institutional cooperation. By improving teaching methods in this way, students should adopt transversal skills and develop a sensibility towards cultural heritage. It should also be noted that the museum does not follow the growing trends for lifelong education, and not a single collaboration with the Public Open University Varaždin has been made. Considering the diversity of generations that are being educated there (from children to pensioners) and the wide range of programs, museum should also consider such institutions as potential partners. Society's tendency to expand the definition of education when talking about the lifelong process of developing knowledge and skills that takes place not only in the classroom but also in various formal and informal environments (Todorović, 1977) should be used as an advantage and should be kept in mind while creating the future plan and program. Teaching the general audience about the importance of cultural heritage should raise public awareness and significantly contribute to social development.

5. CONCLUSION

School education represents an established structure in which do not exist deviations because the learning program takes place according to a predetermined form (prescribed by the National curriculum), in a predetermined time duration. Therefore, if museum institutions want to achieve quality cooperation and for regular student visits to the museum to become an established educational practice, they should define the target group more clearly and adapt the content to the National curriculum. Furthermore, the review of the literature indicates that the collaboration between the museum and the elementary and high schools in Croatia has mainly been researched and that scientists do not consider the inclusion of older students who attend faculties and Public Open Universities. This tendency reflects in the work of the Varaždin City Museum, which runs numerous programs for adults (for example, Wednesdays in the Museum), but these programs are not the product of inter-institutional cooperation, so they encourage individual visits to the museum, not the collective visits of a specific group. To better educate and familiarize a wider audience with the importance of cultural heritage through the acquisition of transversal skills, the Varaždin City Museum should encourage cooperation with faculties and Public Open Universities. Given that their learning program is more liberally structured and therefore, with professor agreement, can be subjected to small changes there are no obstacles in accomplishing this type of inter-institutional cooperation.

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NATIONAL CULTURE AND POLITICAL DECISION: LEGITIMACY OF GOVERNMENT RESPONSES DURING THE COVID-19 CRISIS IN EUROPE

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ABSTRACT

Governments around the world have made various decisions to mitigate the spread of COVID-19. Our study provides a better understanding of the dynamism between national culture and the different policy choices made to address the pandemic in 2020. In contrast to existing studies that focus on formal institutional factors, this study applies a comparative approach involving 17 European countries to demonstrate that country-specific cultural dimensions and differences were key factors in whether Lockdown was chosen as the first policy response to the COVID-19 pandemic. The results of this study show that policy responses to the same threat depend on the cultural orientation of each country.

Keywords: *First response to COVID-19, Lockdown, National culture, Policy analysis, Qualitative comparative analysis*

1. INTRODUCTION

COVID-19 has ravaged the world, with more than 500 million confirmed cases and an estimated 15 million direct and indirect deaths as of September 26, 2022 (UN SDG Report, 2022), taking an unprecedented human, economic, and psychological toll. National governments around the world are scrambling to find solutions to contain and mitigate the spread of a virus that has taken everyone by surprise.Some countries have implemented draconian policy measures to lock down the entire country, while others have adopted relatively soft policies in response to the pandemic. Why are there substantial variations across countries in policy responses to the same COVID-19 crisis? Existing studies tend to focus on the formal institutional context, economies, and policy styles outside of crisis circumstances (Capoccia 2016; Wang et al. 2016). The role of informal institutions, such as culture, in shaping high-risk and uncertain policies remains understudied (Geva-May et al. 2018; Yan et al. 2020) (Yan, Zhang, Wu, Zhu, & Chen, 2020). Culture is generally defined as the shared meanings and values - the collective mental programming of the human mind - that distinguish one group of people from another (Hofstede 1993; Schein 1996). Policy analysis, as a human decision-making process that meditates on generic design principles and local contexts, is culturally biased (Hoppe 2002). The inclusion of cultural values in the analysis is particularly relevant to comparative policy studies. Determining the appropriate policy response to the COVID-19 pandemic has been a major challenge for governments around the world. The Information on its nature, origins and severity after its first identification in December 2019 was limited both because of the novelty of the disease and where it began. Relevant data from its origins to guide policy development were slow to reach the outside world, including the World Health Organization (WHO). To better understand the factors motivating the different policy choices of countries in response to the COVID-19 pandemic, 17 European countries were compared to demonstrate that cultural differences impacted the nature of countries' response to the virus.

The results show that the responses regarding the same threat depend on the cultural orientation of each country. The formal institutional context of a country cannot be separated from its informal shared cultural beliefs and values. ”Institutions are shaped by culture and shape culture in turn, while policies and contextual systems adapt to culture and culture to contextual systems” (Geva-mai 2002, p. 255). The Oxford COVID-19 Government Response Tracker (OxCGRT) provides a systematic approach to tracking COVID-19 government responses over time (Hale et al. 2020) which provides the basis for harvesting our starting data for our analysis.

1.1. Why was the choice of the first reaction/decision made?

In the absence, until October 2020, of effective treatments and vaccines, national governments had to respond to the spread of the virus by instituting several public health policy interventions, for example, isolation, quarantine, and social distancing (Wilder-Smith and Freedman 2020).
Yet the scope and scale of these policy responses have varied considerably across countries, and a “natural experiment” has emerged for scholars to investigate this conundrum of variable early responses (Zhou 2020).
All national government responses to COVID-19 fall into two broad categories:
1) A response with Lockdown, or
2) A response that does not include Lockdown.

Different countries have announced their first responses at different times. We define a country’s first response as the first set of pandemic prevention and control measures that it officially announced on a specific date. The first decision, for us, is the most important to study, since this choice is political in nature, it is more impacted by the culture of the country because it is supposed to be representative of the will of the citizens. So we qualify this first decision as independent for each country. The rapid development of COVID-19 over time will lead affected countries to move toward adopting identical policies as different countries learn from each other. For this reason, we have chosen Hofstede’s national culture model to compare the differences between the response policies of the 17 European countries. This choice is motivated by the very nature of the choice to include or not include population Lockdown.

1.2. A configurational perspective on the first response to COVID-19

Drawing on Geert Hofstede’s comparative model of cultural dimensions, and theoretical insights into culture (Geva-mai 2002, Gelfand et al. 2011) (Gelfand et al., 2011), we theorize that the initial responses to COVID-19 by national governments are jointly shaped by their cultural orientation, institutional context, and pandemic-specific factors. To best mitigate the impact of institutional and pandemic-specific factors during our analysis and to best highlight the impact of cultural differences in shaping early national policies. We decided to compare only similar European countries, following the premise: ‘’We cannot compare the incomparable’’.

1.3. The criteria used to select the countries in our study sample

Criteria used for the selection of countries to be studied:
1) Countries located on the European continent
2) Socio-economically similar countries
3) Culturally similar countries
4) Countries with a democratic political system
5) Politically stable countries
6) Same religious basis

17 European countries have been selected based on the criteria mentioned above:

1. France
2. Spain
3. Portugal
4. Netherlands
5. Italy
6. Sweden
7. Switzerland
8. Finland
9. Germany
10. Norway
11. Belgium
12. Austria
13. Croatia
14. Greece
15. Great Britain
16. Denmark
17. Iceland

1.4. Presentation of the chosen Model: National Culture Model, Geert Hofstede

Hofstede's (1983, 1984, 1991, 1994, 2001) model of national culture remains the most widely used and cited model in the treatment of the concept of culture in management science. Through primarily quantitative studies, Hofstede and his colleagues identified a set of characteristics common to all cultures. Despite the methodological criticisms formulated concerning this model, which concern the model's capacity for extrapolation (McSweeny, 2002), but also its systemic determinism, which is generally criticized in the culturalist approach (d'Iribarne, 2005) (d'Iribarne, 1998; McSweeny, 2002), this model has the merit of offering, first, a great deal of convenience at the level of the operationalization of the concept, as well as providing a grid for reading the dimensions common to cultures within the framework of cross-cultural studies. Hofstede bases his initial model on four dimensions. He characterizes culture in four categories, ''these four categories of problems represent dimensions of different cultures; that is, aspects of those cultures that can be compared with those of other cultures" (Hofstede, 1994), and which are: hierarchical distance, degree of individualism or collectivism, degree of masculinity or femininity, and control of uncertainty. After studies conducted in Asia, Hofstede (1991) adds a fifth dimension which, according to him, concerns Confucian dynamism, a religious philosophy that has marked certain Asian cultures, particularly the Chinese, and which distinguishes between cultures turned towards the long term and those turned towards the short term. In 2010, Hofstede adds a sixth dimension to Minkov's study based on the World Values Survey integrating 93 countries, contrasting lenient and restrictive societies. A dimension that has already been proposed by Pelto (1968) is called rigidity/permissiveness. We found it relevant to base our study on the 3 dimensions that are directly related to the nature of the decision to include Lockdown as the first governmental response to the COVID-19 pandemic.

The 3 dimensions retained from Geert Hofstede's model are the following:

- **Hierarchical Distance: (Power Distance Index):**
  The hierarchical distance was first cited in Mark Mulder's research in the field of experimental social psychology. It can measure the emotional distance between subordinates and their managers. The hierarchical distance tells us about the dependency relationship in a country. In countries with low PDI scores, subordinates' dependence on bosses is limited and there is a preference for consultation. The emotional distance between bosses and subordinates is relatively low. In countries with a high PDI score, there is considerable dependence of subordinates on bosses. The subordinate responds by preferring such dependence or rejecting it entirely (Hofstede, Hofstede, & Minkov, 2010). In sum, hierarchical distance is the extent to which the less powerful members of an institution and organization in a country can expect and accept that power is distributed unequally (Hofstede et al., 2010). Machiavelli also cites and was interested in national differences in hierarchical distance; we notice that countries with a low PDI follow the fox model better and countries with a high PDI follow the lion model.

From this definition, we can make the following assumption:
Countries with high hierarchical distance are predisposed to choose to include Lock- down as a first policy against COVID-19.

- **Uncertainty Avoidance:**
  The extent to which members of a culture feel threatened by ambiguous or unknown situations. Uncertainty avoidance should not be confused with risk avoidance. Uncertainty is to risk as anxiety is to fear. If uncertainty is expressed as risk, it ceases to be a source of anxiety. We can see that when UA is high, few citizens are willing to protest a decision made by their government, and most citizens are not interested in politics in general. In contrast, cultures with low UA are more interested in decisions made by their government and will tend to protest more in the face of injustice.

From this definition we can advance the following hypothesis:
High uncertainty avoidance countries are predisposed to choose to include Lock- down in their initial policy response against COVID-19.

- Individualism vs Collectivism: (Individualism Index):
  Extreme collectivism and extreme individualism can be seen as the opposite poles of a second global dimension of national cultures, after hierarchical distance. The new dimension is defined as follows: Individualism belongs to societies in which the ties between individuals are loosened: each person must look after himself and his immediate family. Collectivism, as its opposite, concerns societies in which people, from birth, are integrated into strong and coherent social groups, which throughout the life of the individuals continue to protect them in exchange for unconditional loyalty. This dimension concerns the links between the individual and the members of the group. When these links are strong, we speak of communitarianism. When they are weak, we speak of individualism. In the United States, where the individualism index is one of the highest in the world, each person is supposed to take care of himself (and his close family, parents, children, brothers, and sisters). Collective solidarity is not at the heart of the matter. When I look at the reform of the American healthcare system, I see the abandonment of the Obama Care program. The American executive has implemented this decision without difficulty.

For the individualist pole:
- Personal time: have a job that leaves you enough time for your personal or family life.
- Freedom: having the freedom to take your approach to work.
- Challenge: have a hard job to do a job from which you can gain a personal sense of accomplishment.

On the other hand, the collectivist pole:
- Training: having training opportunities (to improve your skills or acquire new skills)
- Physical conditions: have good physical working conditions (good ventilation and lighting, adequate workspace, etc.)
- Use of skills: make full use of your skills and abilities at work

From this definition we can advance the following hypothesis:
Countries with strong Collectivist values are predisposed to include Lockdown in their initial policy response to COVID-19.

2. HYPOTHESIS

Therefore, in our study we specify 3 cultural conditions for the countries studied to have chosen to include Lockdown in their first response against COVID-19:

1) Countries with high power distance index (High)
2) Countries with high uncertainty avoidance (Uncertainty Avoidance - High)
3) Countries with high collectivist values (Individualism Index - Low)

Cultural conditions conducive to Lockdown:
◦ Strong hierarchical distance ◦ Strong uncertainty avoidance ◦ Strong collectivist values

Table 1: Cultural conditions favoring the choice to include Lockdown.

Following the precepts of symmetric thinking that are implicit in many policy studies: if one or more factors should be positively associated with the adoption of a policy, the absence of those factors would lead to the non-adoption of this same policy.
This leads us to formulate the hypothesis of our study as follows in Table 2:

	Lockdown		No Lockdown
Cultural Conditions	- Strong hierarchical distance	≠	- Low hierarchical distance
	- Strong collectivist values	≠	- Strong individualistic values
	- Strong uncertainty avoidance	≠	- Avoidance of low uncertainty

Table 2: Hypothesis of our study.

3. DATA AND METHODOLOGY

In the context of our study, we have followed a reasoning known as hypothetical deductive.
Hypothetico-deductive reasoning:

1) Research Idea: National culture impacts policy making.
2) General problem: The enculturation of the individual influences the individual’s basic mental patterns, and thus influences his or her preferences when making decisions.
3) General question: Did national culture influence the inclusion of Lockdown as a primary policy response?
4) Specific questions: Did national culture have an impact on whether or not Lockdown was included in the European countries studied?

Logical reasoning:

- Research Issue
- Theoretical framework
- Assumptions
- Testing the hypotheses
- Results

It should be noted that our research question clearly expresses the relationship between the variables under study. Our variables are measurable so that we can empirically test the relationships expressed. The information collected and studied concerning our sample: (01-04-2020)

1) The score of the 3 cultural dimensions by country,
2) The decision to confine or not on 01-04-2020 by country,
3) Uz Loose-Tight Society Index by country,

4) Number of confirmed cases by country as of 01-04-2020,
5) Number of intensive care beds by country as of 01-04-2020,
6) The average age of the population by country,
7) Population by country,
8) Population infection rate: Number of confirmed cases / Total population.

Country Europe	Power Distance	Individualism	Uncertainty Avoidance	LOCKDOWN
Germany	35	67	65	NO
Netherlands	36	80	53	NO
Finland	33	63	59	NO
Switzerland	34	68	58	NO
Sweden	31	71	29	NO
UK	35	89	35	NO
Norway	31	69	50	NO
Iceland	30	60	50	NO
Denmark	18	74	23	NO
Italy	50	76	70	YES
Greece	60	35	100	YES
Portugal	63	27	99	YES
Austria	11	55	70	YES
Spain	57	51	86	YES
Croatia	73	33	80	YES
France	68	71	86	YES
Belgium	65	75	94	YES

$x < 50$
$50 \leq x < 70$
$x \geq 70$

LOCKDOWN	Confirmed cases	Pop. Million	(CC/pop.M)/100	ICU beds for 100K	CTL	Avg. Age Population
0	43790	66,49	7	10,5	-0,2	40,6
0	13700	17,23	8	6,7	-0,54	42,8
1	110600	60,43	18	8,6	-0,06	46,5
1	13950	11,04	13	17,4	-	41,6
0	3290	5,8	6	7,8	-	42
0	5320	10,18	5	-	0,33	41,1
1	57120	66,99	9	16,3	-	41,7
0	4863	5,3	9	8,5	-	39,5
0	17700	8,52	21	11,8	-	42,7
0	77870	82,93	9	33,9	0,12	47,8
0	1446	5,52	3	-	-0,28	42.8
0	1220	0,36	34	-	0,04	37,1
1	10710	8,8	12	28,9	0,21	44,5
1	104100	46,72	22	9,7	-0,29	43,9
1	1415	10,73	1	-	-0,27	45,3
1	963	4,09	2	-	-	43,7
1	8251	10,28	8	0	0,1	44,6

LOCKDOWN	Average RATE	No. of Average ICU beds/100 K	CTL: Uz Tightness Index	Average Pop
01 April 2020	11	13	cultural variable	43

4. RESULTS AND DISCUSSION

First, we calculated the correlation coefficients between the three cultural dimensions. This gave us the results in Table 3.

Coef de Correlation des 3D	Power Distance	Individualism	Uncertainty
Power Distance	1,00		
Individualism	-0,44	1,00	
Uncertainty Avoidance	0,77	-0,64	1

Table 3: Correlation coefficient of the 3 cultural dimensions.

We notice that the 2 Dimensions PDI and UA are strongly correlated with a coefficient of 0.77, while the remaining dimension IND is negatively correlated with the 2 dimensions PDI and UA. We also noted that if a country had at least two of the selected cultural dimensions greater than or equal to 50, and one of them is greater than or equal to 70, the country in question will have chosen to include Lockdown in its first policy response to the COVID-19 pandemic. As a result, we found that a score of 70 constituted an inflection point. That is to say if a country scores 70 points on the scale of G. Hofstede's model in one of its cultural dimensions. We can say that in this country, the values that constitute this dimension and that are attached to it, are in the majority fiercely defended within this community, so we can see that the context is stricter regarding deviant behavior. In the second step, we tried to identify the variables that most effectively predict the dependent variable"LOCKDOWN AS FIRST RESPONSE". We, therefore, tested the effect of the variable PIU defined by two modalities (1: If two variables between Power distance, Individualism, and Uncertainty Avoidance are greater than 50% and one between them is greater than 70% and 0: Otherwise), Number of confirmed cases as of April 01, 2021 (CONFIRMED CASES 01/04/2021), Population in Million (Pop Million), the rate of confirmed cases per population in million (RATE: (CC/popM)/100), Number of resuscitation beds per 100K inhabitants (ICU Beds per 100K inhabitant), (CTL) and the average age of the population (Age Avg. Population) on whether or not to adopt Lockdown as a first response. All explanatory variables evaluated are continuous, except for the PIU variable which is categorical. We chose to use a logistic regression model given the nature of our variables and the nature of the relationships we want to demonstrate. Using this model, we sought to identify the variables that most effectively predict our dependent variable"LOCKDOWN". In our case, all variables are continuous except PIU which is categorical. Considering the statistical results of the logistic regression calculated on SPSS. We can say that the final model is significant (with the formal institutional factors dis "constant" and the PIU variable). In step 2 of our calculations (Appendix 1), we were able to demonstrate that the final model significantly explains our dependent variable"LOCKDOWN" than the model including only our institutional factors. In step 3, we evaluated the statistical significance of the estimated coefficients of the retained independent variables to ensure that each contributes to explaining the probability P(LOCKDOWN) better than a model without it. To do this we used the Wald statistic, which illustrates the difference in the model before and after the addition of the last variable. We observed that at the final stage of step 1, all the coefficients are significant at the 5% level. We, therefore, reject for each variable that the coefficient is statistically (P- value of the Student test at 0.05) equal to 0. Therefore, each variable contributes to the improvement of the model.

		B	S.E.	Wald	df	Sig.	Exp(B)	95 % C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	PIU	23,282	14210,36	,000	1	,999	12923798831	,000	-
	Constant	-21,208	14210,36	,000	1	,999	,000		

a. Variable(s) entered on step 1: PIU.

Table 4: Variables in the equation

The directions of the coefficients in Table 3 above, b, and Exp (b) indicate the direction of the relationship. Thus, we see that the relationship is positive between PIU and LOCKDOWN. The following table:

Variable	Model Log Likelihood	Change in -2 Log Likelihhod	df	Sig. of the Change
Step 1 PIU	-11,754	17,229	1	,000

Table 5 – Model if Term Removed

Table 5: Model if term removed

Allows to evaluate at each step of the presence of a significant change in the -2LL probability when a variable is removed from the model (the value must be significant to be kept). In step 4 of our calculations. We know that the model is significant, and that the PIU variable contributes significantly more to explaining the probability of having a lockdown (LOCKDOWN) than a model that does not include any explanatory variables. We were also interested in how well the model fits the data. So, we went back to the model summary table to see the values of the Cox and Snell and the Nagelkerke. The higher the value, the better the model fits the data. We observe that this is the case for both (greater than 0.6), which allows us to conclude that the final model is the best fit. To conclude our statistical analysis, we also examined the probability graph below:

```
             Step number: 1

             Observed Groups and Predicted Probabilities

      16 +                                                                                                    +
         I                                                                                                    I
         I                                                                                                    I
F        I                                                                                                    I
R     12 +                                                                                                    +
E        I                                                                                                    I
Q        I                                                                                                    I
U        I                                                                                         O          I
E      8 +N                                                                                        O          +
N        IN                                                                                        O          I
C        IN                                                                                        O          I
Y        IN                                                                                        O          I
       4 +N                                                                                        O          +
         IN                                                                                        O          I
         IN                                                                                        O          I
         IN                                                                                        N          I
Predicted ---------+---------+---------+---------+---------+---------+---------+---------+---------+----------
  Prob:   0        ,1        ,2        ,3        ,4        ,5        ,6        ,7        ,8        ,9         1
  Group:  NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

          Predicted Probability is of Membership for Oui
          The Cut Value is ,50
          Symbols: N - Non
                   O - Oui
          Each Symbol Represents 1 Case.
```

Ideally, as few countries as possible should be located near the center 0.5, since if several points are near the center, the probability would be 50/50, equivalent to chance.

But in our case, we see that the majority of the 0's (no Lockdown) is on the left, but the distribution of the 1's (Lockdown) is much wider, which confirms the results already analyzed in the classification table.

5. CONCLUSION

Since the beginning of 2021, we have noticed a proliferation of studies linking culture with the cri- sis management of COVID-19. Our study is part of this trend and demonstrates the importance of taking into account different cultural aspects in political science and management science analyses. Our paper also supports studies that have been conducted to demonstrate that cultural differences between countries have influenced the choice of strategies employed to counter and contain the COVID-19 pandemic. Our comparative study has allowed us to highlight and demonstrate that there is indeed a link between national culture and the nature of the actions taken by the different governments in our study. At the same time, we cannot quantify the impact and influence of cultural dimensions on behavior because of the complex nature of culture. Because"the whole is greater than the sum of its parts" (Wissler, 1923). In conclusion, the COVID-19 pandemic has already reshaped our world and we urgently need to understand the factors related to its spread. Rarely have we been able to examine cultural variations in responses to a pandemic that simultaneously affects all nations of the world - a natural context for testing how culture influences the functioning of society in times of threat. By examining the strength of social norms across countries, we can begin to understand why some societies have been more successful in limiting cases and deaths. Social norms interventions will be critical in helping groups strengthen norms to effectively mitigate COVID-19 if necessary and to address future collective threats.

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PRIVATE ENTREPRENEURSHIP FINANCING

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ABSTRACT

This review article examines the many forms of funding accessible to entrepreneurs, with a focus on the significance of a suitable choice of financing for the success and stability of the business. It addresses the elements that influence the selection of funding sources as well as the options for combining sources to produce an optimal capital structure. Additionally mentioned are the European Union's finances and initiatives and their contribution to the funding of the private sector. It is stated that the selection of an acceptable source of finance is vital for a company's performance in a dynamic business climate, and suggestions are made for further research.

Keywords: *finance sources, selection considerations, source combination, European Union funds, capital structure*

1. INTRODUCTION

Private entrepreneurship plays a key role in the economic growth and progress of modern societies, contributing to innovation, creating new jobs and strengthening competition. Financing of private companies is crucial for their successful start-up and development, since it enables them to invest in new technologies, products and services. In this sense, understanding various sources of financing and their impact on private entrepreneurship is becoming more and more important in order to ensure stable growth of the company. The purpose of this review article is to provide a comprehensive overview of the various sources of financing for private entrepreneurship, including both traditional and alternative sources, and to analyze their advantages and disadvantages. This article also explores the role of government grants and financing programs in supporting private entrepreneurship and offers guidance for selecting appropriate sources of financing considering the company's stage of development, its size and type of business, as well as risks and potential returns. Finally, the article provides recommendations for future research and policy development in the area of financing private entrepreneurship.

2. TRADITIONAL SOURCES OF FINANCING

Traditional sources of financing play a key role in securing the necessary resources for the successful establishment, growth and development of private enterprises. As financing methods that have long been present in the business world, they still make up a significant part of the financial structure of a large number of companies today. In this chapter, the focus will be on the main traditional sources of financing, their characteristics and roles in financing private entrepreneurship will be explored, and their advantages and disadvantages will be analyzed. Traditional sources of financing include own capital, bank loans, leasing, factoring and forfaiting.

These methods are often considered commonplace due to their long-standing presence in the business environment and widespread acceptance by entrepreneurs and financial institutions. Understanding traditional sources of financing and their application in practice is extremely important for entrepreneurs who are looking for the most suitable ways of financing their companies. In addition, the application of appropriate traditional sources of financing can contribute to reducing financial risks and ensuring stable operations. In the following parts of the chapter, it will be consider in detail each of the mentioned traditional sources of financing, their specificities, examples of application in private entrepreneurship, and the advantages and disadvantages they offer.

2.1. Equity

Own capital is a fundamental source of financing for companies in all stages of their development. It includes funds that business owners themselves invest in their business, as well as retained earnings generated from previous years of business (Brigham & Ehrhardt, 2011). Own capital can be divided into personal savings and financing from friends and family.

- Personal savings
  Personal savings is the most common and simplest source of own capital. Entrepreneurs often use their savings to start a business, finance growth or overcome temporary difficulties (Hisrich, Peters & Shepherd, 2017). Although this source of financing does not require additional costs such as interest or fees, entrepreneurs must be aware of the potential risks associated with investing their own savings in the business.

- Friends and family
  Friends and family are often a source of equity capital for entrepreneurs looking for additional funds to start or grow their business (Kaplan & Strömberg, 2003). In this case, entrepreneurs borrow funds from close people, mostly without formal contracts or with minimal conditions. Although this approach can facilitate access to finance, entrepreneurs must be aware of the possible consequences for their relationships with friends and family in the event of business failure.

Equity offers a number of advantages, including greater flexibility, less formality, and lower costs compared to debt (Brigham & Ehrhardt, 2011). However, entrepreneurs must be aware of the risks associated with investing their own funds in business, as well as possible negative consequences for their personal relationships. In addition, own capital may be limited, especially for entrepreneurs in the early stages of business development, which may lead to the need for additional sources of financing.

2.2. Bank loans

Bank loans are one of the most widespread and frequently used sources of financing for companies of all sizes and stages of development (Berger & Udell, 2006). They enable entrepreneurs to access the funds needed to invest in their business, as well as to finance working capital. Bank loans can be categorized into several basic types, including investment loans, working capital loans, and guarantees and collaterals.

- Loans for investments
  Investment loans are long-term bank loans used to finance capital investments, such as the purchase of equipment, machinery, real estate, or building construction (DeYoung, Glennon, & Nigro, 2008). These loans usually have fixed interest rates and repayment terms and require entrepreneurs to provide collateral as a guarantee for repayment of the loan.

- Loans for working capital
  Working capital loans are short-term bank loans used to finance current business needs, such as purchasing raw materials, paying suppliers, or covering employee expenses (Petersen & Rajan, 1997). These loans often have variable interest rates and more flexible repayment terms compared to long-term loans.

- Guarantees and collaterals
  Bank guarantees and collaterals represent mechanisms that ensure the return of loans in case of default by entrepreneurs (Berger & Udell, 2006). Collateral can include personal guarantees from the business owner, while collateral can be assets, such as real estate, equipment, or inventory. Bank loans offer entrepreneurs access to larger amounts of financing, which can be crucial for business growth and development. However, they can also represent significant financial risk, especially if interest rates rise or if the entrepreneur is unable to repay the debt (Berger & Udell, 2006). Therefore, it is important that entrepreneurs carefully consider their needs and possibilities before deciding on this source of financing.

2.3. Leasing
Leasing is a financial instrument that enables entrepreneurs to use certain assets, such as machines, equipment or vehicles, without the need to purchase them in full (Cannillo, 2010). Leasing contracts usually involve periodic rental payments over a certain period of time, after which the entrepreneur can decide to take over the asset or return it to the owner. Leasing can be divided into two basic types: financial leasing and operational leasing.

- Financial leasing
  Financial leasing is a long-term rental contract that transfers most of the risks and benefits of property ownership to the entrepreneur (Buljević, Štoković, & Teparić, 2013). In this case, the entrepreneur usually has the right to buy back the property at the end of the contract for the remaining value. Financial leasing can be an attractive source of financing for companies that want to have control over the property and the possibility of taking it over in the future.

- Operational leasing
  Operating leasing is a short-term rental agreement that does not transfer the risk and benefits of ownership to the entrepreneur (Cannillo, 2010). At the end of the contract, the property is usually returned to the owner, and the entrepreneur has the option of renting a new property. Operating leasing can be useful for businesses that need flexibility in managing their assets or that want to avoid the long-term commitments associated with ownership.

Leasing offers entrepreneurs access to assets needed for business without large investments, which can be useful for companies with limited capital (Buljević et al., 2013). However, leasing can also result in higher overall costs compared to purchasing the property outright. Therefore, it is important that entrepreneurs carefully consider their needs and possibilities before deciding on this source of financing.

2.4. Factoring and forfaiting
Factoring and forfaiting are financial instruments that enable entrepreneurs to improve the management of their receivables and liquidity. Both instruments involve the sale of receivables to a third party, which in turn ensures faster collection of funds (Klapper, 2006). Although similar in basic concept, factoring and forfaiting have some important differences in their

application and characteristics. Factoring is a financial service that allows businesses to sell their short-term receivables (eg, bills) to factors in exchange for faster payment (Bakker, Klapper, & Udell, 2004). Factors provide an advance payment of part of the amount of the claim, while the remaining amount is paid after the final debtor makes the payment, minus the factoring fee. Factoring can be with pass-through (where the factor assumes the risk of non-payment) or without pass-through (where the company retains the risk of non-payment). Forfaiting, on the other hand, is the sale of long-term receivables, such as long-term loans or bonds, in exchange for cash (Klapper, 2006). Unlike factoring, forfaiting involves the sale of receivables without the right of recourse, which means that the seller of receivables transfers the entire risk of non-payment to the buyer. Factoring and forfaiting can provide entrepreneurs with better liquidity and receivables management, thereby reducing the risk of non-payment and improving cash flow (Klapper, 2006). These instruments can be particularly useful for small and medium-sized enterprises, which often face difficulties in collecting receivables and accessing traditional sources of financing (Bakker et al., 2004). However, it is necessary to take into account the costs of factoring and forfaiting, which can be higher than the interest on bank loans or other sources of financing.

3. ALTERNATIVE SOURCES OF FINANCING

In addition to traditional sources of financing, such as own capital, bank loans, leasing and factoring, private companies are increasingly exploring and using alternative sources of financing in order to secure funds for the start-up, growth and development of their businesses. Alternative sources of financing offer more flexible terms and access to capital in situations where traditional sources may not be available or appropriate (Bruton, Khavul, Siegel, & Wright, 2015). In this chapter, we'll look at several alternative funding sources that have become increasingly popular among entrepreneurs and investors, including business angels, crowdfunding, venture capital, and private equity. By studying their characteristics, advantages and disadvantages, this part of the article seeks to provide a comprehensive insight into the opportunities that these sources of financing offer to private companies in different stages of development and industries.

3.1. Business angels

Business angels represent individuals who invest their own capital in private companies at an early stage of development, usually in exchange for an ownership interest in the company (Mason & Harrison, 2000). In addition to providing financial resources, business angels often offer valuable advice, mentoring, and use their network of contacts to help businesses achieve growth and success (Aernoudt, 2005). Investing in startups carries high risk, but business angels seek potentially high returns to offset that risk (Wiltbank, 2009). The business angel investment process usually involves several steps, starting from the identification and evaluation of potential investment opportunities to the negotiation of investment terms and post-investment follow-up (Kelly & Hay, 2003). In order to attract business angels, entrepreneurs need to prepare convincing business plans, demonstrate market potential and demonstrate a clear vision and ability to manage the business (Mason, 2006).

3.2. Crowdfunding

Crowdfunding is a way of collecting funds for projects or companies through a multitude of small contributions from individuals, mostly through online platforms (Mollick, 2014). This alternative source of funding enables entrepreneurs to access a wide range of investors and donors who support their ideas and innovations. Crowdfunding can be categorized into four main types, which include donation, reward, equity and peer-to-peer crowdfunding (Belleflamme, Lambert, & Schwienbacher, 2014).

There are several popular crowdfunding platforms that allow entrepreneurs to present their projects and raise funds from a wide range of investors. Among the most famous platforms are Kickstarter, Indiegogo, GoFundMe and Seedrs (Mollick, 2014). Successful crowdfunding campaigns include examples such as the Pebble smartwatch, Oculus Rift, and Coolest Cooler, which have raised millions of dollars through the support of thousands of individuals (Agrawal, Catalini, & Goldfarb, 2014).

3.3. Venture capital

Venture capital (VC) represents a type of private capital that is invested in companies with high growth and potential, mostly in the early stages of development (Gompers & Lerner, 2001). Venture capital funds, as institutional investors, invest in companies in exchange for an equity stake, with the goal of achieving high returns on investment through a subsequent sale of stakes or an initial public offering (IPO) (Sahlman, 1990). In addition to financing, VC funds often provide firms with strategic guidance, mentoring, and access to a network of contacts (Bygrave & Timmons, 1992). Venture capital financing can be divided into several stages, including seed, early-stage, expansion and late-stage (Gompers & Lerner, 2001). Seed and early development usually refer to the financing of projects in the concept or prototype stage, while expansion and late stage refer to the financing of companies that are already operating and have revenues, but require additional funds for growth and expansion (Zider, 1998). Venture capital funds enter into investments with the aim of achieving significant returns through various exit strategies, such as selling shares to another investor, merger or acquisition (M&A) and initial public offering (IPO) (Black & Gilson, 1998). The choice of exit strategy depends on the market conditions, the value of the company and the strategy of the VC fund (Kaplan & Lerner, 2010).

3.4. Private equity

Private equity (PE) is a type of financing that involves investing in private companies in exchange for an equity stake, similar to venture capital (Kaplan & Stromberg, 2009). However, private equity differs from venture capital in several key aspects. While venture capital investors generally invest in companies at an early stage of development with high risk and potential, private equity investors usually invest in more mature companies that already have stable revenues and reduced risk (Metrick & Yasuda, 2010). Also, private equity investments are usually larger than venture capital investments and often involve restructuring or changes in the operations of the target company (Acharya, Gottschalg, Hahn, & Kehoe, 2013). Private equity funds raise funds from institutional investors, such as pension funds, insurance companies, and wealthy individuals, and use these funds to invest in private companies (Kaplan & Stromberg, 2009). PE investments often involve a management buyout (LBO), where investors use a large portion of debt to finance the acquisition of a company, with the goal of increasing the rate of return on investment (Kaplan & Schoar, 2005). After the investment, private equity investors usually work with the company's management to improve operational efficiency and increase the value of the company (Acharya et al., 2013). Private equity investments have played a key role in the growth and development of many well-known companies. Examples of successful private equity investments include investments in companies such as Dell, Hilton Worldwide, and Hertz (Gadiesh & MacArthur, 2008). The success of these investments is often attributed to the strategic and operational restructuring that private equity investors implement in the target companies (Acharya et al., 2013).

4. GOVERNMENT GRANTS AND FINANCING PROGRAMS

Along with traditional and alternative sources of financing, government grants and financing programs play a significant role in supporting private entrepreneurship and its growth. Governments often provide various incentives, subsidies, tax breaks and guarantee schemes to help businesses develop, expand, research and innovate. In addition, the funds and programs of the European Union provide additional financing opportunities for companies in EU member countries. In this section, readers will learn about different types of government grants and financing programs and how companies can use them for growth and development.

4.1. Incentives and subsidies

Incentives and subsidies represent one of the most common ways in which states provide support to private entrepreneurship. Incentives refer to a series of measures that enable more favorable conditions for business, while subsidies represent direct financial support that usually does not have to be returned (Storey, 2006). Incentives and subsidies are usually awarded based on certain criteria, such as company size, industry sector or geographic location. Subsidies can be directed towards different aspects of business, such as research and development, workforce training, infrastructure investments or exports (Storey, 2006). In addition, incentives may include reductions in tax rates, favorable loans or simplification of administrative procedures. The aim of these measures is to stimulate the growth and development of companies and to increase their competitiveness on the market. One of the most common challenges in using incentives and subsidies is the complexity of the application and administration process, which can be particularly demanding for small and medium-sized enterprises (Storey, 2006). Also, critics of these measures often point out that incentives and subsidies can lead to an inefficient allocation of resources, favoring certain sectors or companies to the detriment of others. Despite these challenges, incentives and subsidies represent an important source of financing for many companies and can significantly contribute to their growth and development.

4.2. Tax credits

Tax incentives represent another way in which states encourage the development of private entrepreneurship, offering a reduction in the tax burden for companies that meet certain criteria (Da Rin, Nicodano, & Sembenelli, 2006). The goal of tax relief is to provide companies with greater liquidity, which enables them to make additional investments in development and growth. Tax incentives can be directed towards different aspects of business, such as investment in research and development, employment, expansion of capacity or investment in environmentally sustainable technologies. One example of tax relief is the reduction of profit tax for companies that invest in research and development (R&D). These benefits provide companies with a strong incentive to invest in innovation and development of new products or technologies, which can significantly contribute to their competitiveness in the market (Da Rin et al., 2006). However, tax credits also come with certain challenges and limitations. For example, the effect of tax credits may be limited in the case of low-income or loss-making firms, as they may not have enough tax burden to reduce (Da Rin et al., 2006). Also, critics of tax credits often point out that these measures can favor larger companies that have a greater capacity to use tax credits and lead to inequality in the market. Despite these challenges, tax incentives represent an important instrument of support for private entrepreneurship, providing companies with an incentive to invest in development and growth.

4.3. Warranty Schemes

Guarantee schemes represent an important instrument of support for private entrepreneurship, especially for small and medium-sized enterprises (SMEs), which often encounter difficulties in accessing financing due to lack of adequate collateral or credit history (Bosio, 2016). These schemes include loan insurance or guaranteeing part of the loan by national or international institutions, which reduces the risk for financial institutions and encourages them to grant loans to entrepreneurs. Guarantee schemes can be directed towards different goals, such as encouraging investment in certain sectors, supporting the internationalization of business or promoting social entrepreneurship (Bosio, 2016). These schemes usually involve cooperation between government institutions, financial institutions and companies, which together share the risk associated with financing. Research has shown that guarantee schemes can have a positive effect on access to finance for SMEs, increasing their ability to obtain credit and supporting their growth and development (Bosio, 2016). However, these schemes need to be carefully designed and implemented to ensure their effectiveness and sustainability, and to avoid moral hazard or inefficient allocation of resources.

4.4. Funds and programs of the European Union

The European Union has developed a number of funds and programs to encourage cooperation between member states in various areas of interest for common EU policies. Through these funds and programs, the goal is to ensure support for growth, development, competitiveness and sustainability in the European Union. In this chapter, we will provide an overview of key funds and programs of the European Union and how they are applied in practice (Wishlade, 2017). Although the Union's programs are primarily intended for the member states of the European Union, some of them are also open to states that are in the process of joining the EU. In this way, candidate countries, such as Croatia, use and participate in the activities of the Union's programs during the pre-accession period. Each program has a separate legal basis and different implementation rules, which are determined by a separate legislative framework for each of the programs. The European Commission or specialized executive agencies of the EU publish tenders for the submission of project proposals (Strukturalni fondovi, n.d.). There are two main models of implementation of Union programs - centralized and decentralized model. Most programs are implemented according to a centralized model, where the bodies of the European Commission are responsible for financial management and implementation. In the case of a decentralized model, the implementation structure is transferred to a national body, such as the Agency for Mobility and EU Programs (AMPEU) in Croatia. Member States shall ensure the availability of information and assistance to potential applicants who are interested in submitting projects to program calls through national contact points or national coordinators. These coordinators provide information, promotion and visibility of specific programs and assist interested parties in the preparation and application of projects. In conclusion, the funds and programs of the European Union have a key role in encouraging cooperation between member states and providing support for growth and development in various areas of EU policies. Through understanding and active participation in these funds and programs, member states, regional and local authorities, civil society organizations and the private sector can achieve many advantages in terms of financial support, networking and knowledge exchange, which will contribute to overall progress and sustainable development within the European Union. Some of the key funds and programs of the European Union include (Strukturalni fondovi, n.d.):

a) European Structural and Investment Funds (ESIF) - these funds provide financial support for projects in areas such as regional development, employment, research and innovation, agriculture, fisheries and environmental protection and climate change. The ESIF includes the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund, the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF).
b) Horizon Europe Program - this program is the largest research and innovation program of the European Union, which aims to provide funding for scientific research, technological development and innovation in various sectors. Through this program, collaboration between scientists, research institutions, industry and other relevant stakeholders is encouraged.

c) Erasmus+ program - this program provides financial support for educational, professional, youth and sports projects and encourages mobility and intercultural understanding among students, teachers, coaches and young people.
d) Creative Europe Program - this program provides support for the cultural and creative sectors, such as the audiovisual, literary and performance sectors, in order to encourage international cooperation, the exchange of ideas and the promotion of European cultural diversity.

5. SELECTION OF FINANCING SOURCES

Choosing a source of financing is a key step in the business strategy and growth of any company. Successful financing enables companies to expand, improve their products and services, and strengthen their competitive position on the market. Since there are many different sources of financing available to businesses, choosing the right source of financing can be a challenge.

5.1. Selection Factors

When choosing a financing source, businesses must consider several key factors to ensure that the chosen financing source matches their needs and long-term goals. Below are some of the most important factors influencing the choice of financing (Cassar, 2004; Myers, 2001):

- Cost of capital: The cost of capital refers to the price a company must pay for using a source of financing. If the cost of capital is too high, it can negatively affect the profitability and sustainability of the business. Different sources of financing have different costs of capital, so it is important for a company to carefully analyze its options.
- Level of risk: Each source of financing carries a certain level of risk. Companies should choose sources of financing that are consistent with their willingness to take risks and their ability to manage those risks (Cassar, 2004).
- Flexibility: Flexibility refers to a company's ability to adapt its financing to changing conditions in the market and within the business itself. Choosing flexible sources of financing can help companies quickly adapt to changes and take advantage of new opportunities (Myers, 2001).
- Long-term business goals: Companies should choose sources of financing that are in line with their long-term business goals. For example, if the company's goal is to grow and expand internationally, it should consider sources of financing that will enable such growth, such as venture capital or private equity.
- Control and management: Some sources of financing, such as venture capital and private equity, may require the company to share control and management with investors (Cassar, 2004). If maintaining control over the business is an important factor for the company, sources of financing that do not require such a division of control, such as bank loans or crowdfunding, should be considered.
- Compliance with regulatory requirements: Companies must ensure that the chosen sources of financing comply with the regulatory requirements and regulations that apply to their industry and country of operation. Failure to comply with these requirements can lead to fines, restrictions or even closure of the business (Myers, 2001).
- Availability of sources of financing: Some sources of financing may be more difficult to obtain than others, depending on the industry, the size of the company and its creditworthiness. Companies should evaluate the availability of different sources of financing on the market and choose those that are most suitable and available for their needs (Cassar, 2004).

- Timeframe: Businesses should consider how quickly they need funding and how quickly they can gain access to their chosen sources of funding. Some sources of financing, such as bank loans, may require a longer approval process than other sources, such as crowdfunding (Myers, 2001).

Choosing a source of financing requires careful consideration of a number of factors to ensure that the company chooses the most appropriate source for its needs and goals. It is important that companies regularly monitor and assess their financial needs and adjust their financing strategies in order to remain competitive and successful in the market.

5.2. Combination of funding sources

Using different sources of financing can be beneficial for companies in order to achieve an optimal financial structure, reduce risk and ensure flexibility in business financing (Berger & Udell, 1998). Combining sources of financing can help companies achieve stability and balance between long-term and short-term obligations and achieve the necessary investments for growth and development:

- Balance between debt and equity: By combining debt and equity, companies can achieve balance in their financial structure, which can reduce risk and increase attractiveness for investors (Myers, 2001). Choosing the right ratio between debt and equity depends on the characteristics of the company, its industry and the risks it faces.
- Diversification of sources of financing: By combining different sources of financing, companies can diversify their financial obligations and reduce the risk associated with dependence on one source of financing (Berger & Udell, 1998). Diversification can also improve liquidity and access to additional funds when needed.
- Flexibility: Using different sources of financing can provide greater flexibility to the company in managing its financial needs (Myers, 2001). For example, combining long-term loans with short-term financing sources, such as revolving loans or commercial loans, allows companies to quickly adapt their financial structure to changing market conditions.
- Access to different support programs: By combining funding sources, companies can take advantage of different incentives and supports offered by state institutions and international organizations (Wishlade, 2017). Through the use of various grants, companies can reduce financing costs and achieve greater growth and development.
- Combining funding sources may be a valuable technique for businesses seeking to establish an optimal financial structure, decrease risk, and increase financing flexibility. Handling diverse sources of finance involves careful planning and monitoring to ensure that money are utilized properly and the organization accomplishes its strategic objectives. In addition, it is essential to consider legal and regulatory frameworks as well as compliance with the norms and requirements of certain financing sources.

To obtain a successful mix of finance sources, businesses must comprehend their company requirements, examine market circumstances, and evaluate available possibilities thoroughly. Cooperation with financial consultants and specialists may aid in comprehending the various sources of funding and their application to the company's unique requirements.

6. CONCLUSION

Before making a choice, small and medium-sized businesses (SMEs), who frequently have trouble obtaining funding, might benefit immensely by thoroughly analyzing their financing options. The growth and development of enterprises in today's fast-paced economic climate demand entrepreneurs to operate with agility and promptness.

When businesses have access to the capital necessary to respond to market openings and competitive threats, they are better equipped to do so. In this article, a variety of financing possibilities for startups, including government incentives, tax credits, guarantee schemes, and European Union funds and programs, are examined. We also emphasized the significance of elements that impact the selection of funding sources and the possibility of combining several sources to build the optimal capital structure. Future study might explore the link between funding sources and firm performance in order to better comprehend the significance of the optimal selection of financing sources. Also, it is possible to investigate how business owners adapt their financing strategies in response to changes in the economy and government policy. This work has the potential to contribute to the current literature and provide light on crucial concerns for company owners, regulators, and corporate finance scholars.

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DIGITAL TRANSFORMATION IN DATING INDUSTRY: ONLYFANS PLATFORM

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ABSTRACT
The aim - of this work is to analyse the changes within the dating industry that have resulted from the development of the OnlyFans platform. The platform took over the dating market with a model of digital transformation of an already existing industry. On the one hand, the habits and behaviour of the participants of the dating market have changed, and on the other hand, the Covid-19 pandemic directly benefited the development of the platform's business model. The research is based on the financial parameters of the platform's income, and on the analysis of the trend of the number of users. The research will use models of financial and statistical analysis, for financial indicators and user trends, as well as a descriptive method of proving the factors that most significantly characterized the model of digital transformation. Result of the analysis indicate an exponential growth in revenue and the number of platform users over a period of five years, which proves the effectiveness of the digital transformation model. The change in consumer habits and the digital transformation of all forms of production and consumption of digital content directly influenced the exponential growth of the platform's income. At the same time, a large number of globally known influencers have established themselves on the platform, who have millions of followers and earn higher amounts than their fellow influencers in other industries.
Keywords: *dating industry, digital transformation, disruption, OnlyFans, platform economy*

1. INTRODUCTION
The OnlyFans platform was founded in 2016, but its exponential development only began with the emergence and development of the global Covid-19 pandemic (Pollak 2022). According to the organizational form, it is structured in the platform economy model (Parker et.al. 2016; Moazed, Johnson 2016), and the beneficial effects of zero marginal cost (Rifkin 2016). By publishing content on the platform that users can view an unlimited number of times with an unchanged subscription, the effects of the long tail economy are used (Anderson 2006; Lozić et.al 2022), i.e. sexual content created by creators becomes profitable and requires less effort than repeating content in front of a web cam, and once created content generates multiple times higher income (Sanders et.al. 2020). Ordinary people may be able to reach thousands and even millions of people with content that goes viral, or rapidly spreads through a community as content consumers share it with others. The costs of sharing content are generally low and frequently free (Thusi 2021). In 2022, the platform has 187 million followers, generates revenues of 2.5 billion dollars and profits of 1.2 billion dollars. The platform became a unicorn already in its third year of existence with a capitalization of more than 2.2 billion dollars (OnlyFans Annual Report). The popularity of the platform grew rapidly during the pandemic, which was also announced by some of the most famous influencers on the platform. Jessica Stoya, an influencer from the platform, publicly announced that she started a business on the platform to compensate for the losses that occurred due to the development of the Covid 19 pandemic (Pollak 2022). The OnlyFans platform complicates the way we think about sex work. Many content creators who use the platform, including creators who provide sexually explicit content, do not necessarily think of themselves as sex workers (Thusi 2021). OnlyFans has become one of the most popular social media platforms for sex workers to post their content, providing a more accessible and physically safe environment to participate in the industry

(Marston 2020). In the adult content industry, the platform has positioned itself as what Fleming and Head (2021) call a "game changer". The paper investigates and analyses the financial result of the platform in combination with digital transformation processes.

2. LITERATURE REVIEW

The web camera, as a practice of digital communication in all areas of life and work, has rapidly increased its popularity during the last decade. With the outbreak of COVID-19 and the lock-down effect and quarantines around the world, cam websites have seen an increase in the number of performers and viewers, and the main platform OnlyFans has sharply increased its market share (Rubattu et.al. 2023). People who use a web camera in sexual contacts Sanders et.al. (2018) calls indirect sex workers, in contrast to persons who are in direct contact, which he calls direct sex workers. From belfies - bottom selfies - to photos with plunging necklines and bosoms like the Kardashians and Hadids, to Playboy's pixelated but visible nipples, clips from strip club-themed music videos and celebrity OnlyFans account promotions, (semi-)undressing in mainstream social media equals visible as well as lucrative in generating tabloid articles, clicks and commercial brand partnerships. As social media has become central to where and how attention is gathered in popular media, both established and aspiring celebrities are using the platforms – and Instagram in particular – to shape their presence in the public eye, while showing off their bodies (Are, Paasonen 2021). The service on the platform is personalized, which erases the classic boundaries in the sex industry. OnlyFans subscribers actually rent a virtual girlfriend with no strings attached (or at least the illusion of such a girlfriend). The blurred lines between fantasy and reality point to a future where many people will have more digital connections than actual human relationships. The side effects are an increase in loneliness and alienation (millennials have fewer friends and less sex than other generations now or when they were the same age), which in turn indicates reduced social stability and cohesion (Williams 2023). The live webcam streaming industry has grown to a multi-billion dollar industry (Sanders 2020). The rise of OnlyFans capitalized on the growing popularity of digital sex work as the site allows creators tight control over the production of their content, generally without the risk of the site deleting their social media page through content moderation (Marston 2020). A street sex worker is a worker who transacts with clients in the open. An online sex worker is a worker who uploads their pictures or videos to a website dedicated to this purpose, for example, OnlyFans (Bernier 2022). “Webcaming” has become one of the areas of activity in which traditional sex work has expanded digitally (Henry, Pantea 2017). In the context of digital transformation, we can conclude that this is a classic example of process change and value creation using technologies and new processes (Lozić 2019). The concept of complete digital transformation is also proven by the fact that the shutdown and the pandemic were harmful to many service industries, while the digital industry, including the sex industry, very quickly adapted their operations to new conditions (Martinez, Dilani 2020). The pandemic closed a large number of workplaces in order to stop the spread of the pandemic (Döring 2020), the effect of the closure further encouraged people to turn to digital communication as well as consumption of sexual services in the webcam model. The pandemic also had a significant impact on the exponential growth in the demand and purchase of sex toys (Southerton, Clark 2023). Persons involved in sex work, i.e. sex workers, produce content that includes elements of intimate conversation as well as other sexually explicit content. For the most part, the content is consumed in a live broadcast using a web camera at an agreed time slot (Sanders 2020). Webcam platforms provide an interface between workers and their viewers and work with different business models. Some platforms require customers to pay per minute to watch a show, others are free but rely on tipping models during their show using tokens purchased on the platform (Sanders et al. 2018). Cam websites then profit by taking a percentage of the model's earnings (Matolcsi et al. 2021).

Henry and Panteá (2017) refer to Foucault (1978), who claims that prostitution is presented as the oldest profession in the world, although the established manifestations of prostitution vary significantly depending on time and context (Henry, Panteá 2017). Women who present content on the platform are often labelled with derogatory names in other media. However, there is a very significant group of homosexuals on the platform, and heterosexual men are somewhat less represented (Sugiura 2021). The majority of social media, which are extremely critical of this type of work, discriminate against people or workers and their work. Criticism is directed at people and work, not at the content they publish (Al-Rawi, Zemenchik 2022). Research has revealed significant gender differences in receiving some form of sexual offer related to pornography. While 45% of women received some form of such an offer, only 10% of men received the same form of offer. This situation reveals the exposure and vulnerability to which women are exposed to the new employment channels used to encourage participation in the pornography industry. These new methods of recruiting women are on the rise (such as the famous OnlyFans platform) due to the easy and mass access to the Internet. This situation raises concerns about the vulnerability of many young women who could be recruited out of economic necessity to participate in so-called "sex work" (Biota 2022). Sex-positive feminists, however, critique the pornography industry, especially the monopoly of Pornhub, for inadequate labor and employment practices. For this reason, the fourth-wave feminist community supports OnlyFans, a website where individual performers charge for subscriptions to their content and can receive tips from users. In contrast to Pornhub, performers on OnlyFans have sole control over their business, deciding everything from what they post to what they charge (Comerford 2022). In addition to this misclassification, sex workers face a lack of financial and physical protections in traditional sex work. These lack of protections, paired with the economic downturn of 2008 that led to the rise of the shared and gig economy and precipitated a second digital disruption, has led to an increase of paid online platforms in which sex workers can charge users to view their content (Marston 2020). OnlyFans is not the only platform for creators of explicit sexual content, because the Snapchat platform, in the Preimum model, offers a forum where creators offer their private content for a fee. Subscribers can interact directly with content creators, publicly comment on content, and communicate with other subscribers about posted content. Like content subscribers on OnlyFans, they can request certain types of content from creators (Thusi 2021). Similar sites like PornhHub have suffered losses due to accusations that much of the material is hosted, meaning they do not have the consent of all participants in the content to make it public. OnlyFans has avoided such criticism because account holders on the platform are actually content creators who voluntarily publish in a subscription model. Content creators are the owners of the content they publish, so the possibility of fraud is very small (Sugiura 2021). As Pollak (2022) pointed out, the Internet has always been used for pornography, but financial services have not. At the same time, sex workers should not be sanctioned by the financial industry for something that is not legally prohibited. Applications and platforms such as OnlyFans, SugarDaddy or SeekingArrangement are legal and easily accessible in countries such as the USA, UK or throughout the EU, while in Dubai access to such sites is not possible (Hurley 2023). Very serious studies have already been developed that are aimed at investigating the negative consequences associated with the creators on the platforms OnlyFans and SuicideGirls, who distribute and make money from the sale of adult content. Sexual exploitation, associated with similar harmful outcomes, including depression, various types of addiction, antisocial behavior, etc. (Laird et.al. 2022). OnlyFans' Creators exemplify the most vulnerable of workers: the majority of them are sex workers, and their status as "Creators" was born from the gig and shared economy. 238 Approximately 450,000 Creators are now in an even more precarious economic position because of OnlyFans' shift from paying its Creators from weekly to monthly (Marston 2020).

3. METHODOLOGY, DESIGN AND DATA

The research and analysis of the business and digital transformation of the industry, led by the OnlyFans platform, consists of two fundamental parts. In the first part, selected financial parameters will be analysed in order to investigate the financial stability of the platform, as well as financial trends before and during the Covid-19 pandemic. The research includes the analysis of the trend of income and profits and the trend of the value of the corporation. In addition, the analysis includes an analysis of the trend in the number of users and the earnings of creators on the platform. The second part of the research includes analysis and evidence of digital transformation within the industry. The analysis of the digital transformation of the industry, that is, the impact that the OnlyFans corporation has had on the trends within the industry, is based on a descriptive analysis of the trends within the industry. The research covered a period of six years. The analysis is focused on three fundamental research questions:

1) What is the trend of revenue, net profit and value of the platform in the analysed period?
2) What is the trend of creators' earnings on the platform?
3) How can the influence of the platform on the digital transformation within the industry be determined and proven?

By reviewing the databases, not a single research was found that was aimed at analysing the efficiency and earnings trends of creators on the OnlyFans platform. Likewise, there is no research that directly links the business performance of the platform and the digital transformation process. The methodology, research and analysis of the results are presented in the Platform business analysis and Digital transformation chapters, and the answers to the research questions in the Conclusion chapter.

4. PLATFORM BUSINESS ANALYSIS

The research is divided into two fundamental parts. In the first part, selected financial parameters and the trend of the number of users will be analysed, using models of financial and statistical analysis. In the second part, trends and changes in the business paradigm as well as the behaviour of platform users will be analysed in order to determine the factors that prove the processes of digital transformation of the platform's business, as well as digital transformation within the dating industry.

4.1. Financial parameters analysis

One of the platforms that experienced a particular increase in traffic, as a result of the increase in the work of content creators, was OnlyFans - a website that also offers adult content and gained market dominance (Lykousas et al. 2020). The trend of selected financial parameters moved at incredible rates. In the selected analysed period of six years, revenues increased by 41,566.7%, net profit increased by 51,624.1%, the number of users increased by 187,800%, and the earnings of creators by 43,000.3%. The selected and analysed financial parameters had a direct impact on investor confidence, and the value of the platform increased above the increase in revenue and net profit, that is, the increase in the value of the platform amounted to 51624.1%. Selected financial and descriptive parameters are presented in Table 1.

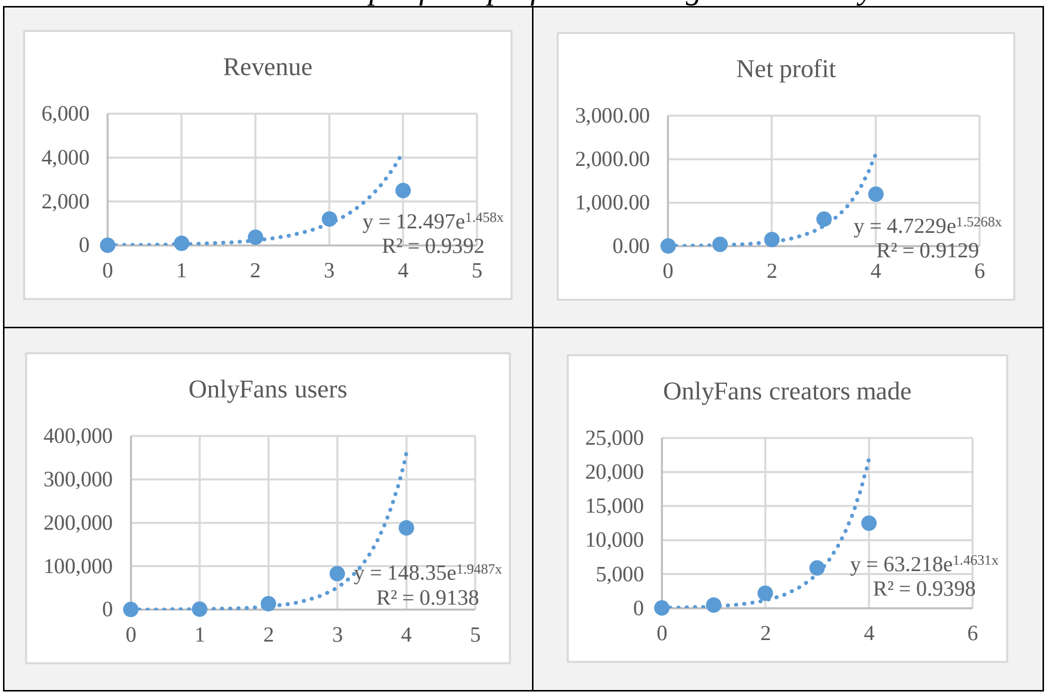
Table 1: Selected platform performance parameters

	Revenue ($;mill.)	Net profit ($;mill.)	OnlyFans Users (000)	OnlyFans creator Made ($;mill.)	Valuation ($;mill.)
2018	6	2,32	100	29	34,80
2019	97	38,80	1.000	485	582,00
2020	375	150,00	13.500	2.200	2.225,00
2021	1.200	620,00	82.300	5.900	9.300,00
2022	2.500	1.200,00	187.900	12.500	18.000,00

Source: OnlyFans Annual Report

The exponential growth of income and the number of users, on the one hand, is conditioned by the development of the Covid-19 pandemic and working from home, and on the other hand, by the platform's efforts in enabling infrastructure and helping content creators in their daily business. The platform offers a scale of assumptions about how much content creators could earn per month. The ranking does not include income that creators may earn from the sale of their content outside the platform or other income unrelated to the content published on the platform. The platform charges a commission of 20% of the creator's earnings, which is deducted from the revenue generated from the subscription (Marston 2020). The management of the platform used the chance of "world of mouth" and the news spread and was shared among future users. Several celebrities have joined the website and have been paid for sharing sexually explicit materials and online experiences with their audiences. OnlyFans allows consumers to pay for live sexual interactions and sexually explicit materials, complicating how we define pornography and prostitution (Thusi 2021).

Table 2: Selected platform performance regression analysis



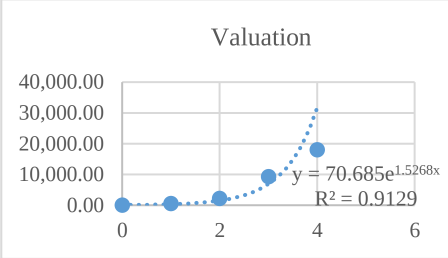
Source: Own illustration

All four parameters selected and analysed by the statistical regression model achieved exponential growth in the selected six-year period. The trend analysis of selected financial parameters was made using a statistical regression model. Revenues grew at an average rate of 329.7% per year (s=329.7356), interpreted by the exponential trend equation $y=12{,}497e^{1{,}458x}$, with a coefficient of interpretation of 96.99% ($R^2=0.9364$). Net profit grew at an average annual rate of 360.3% (s=360.3422), interpreted by the exponential trend equation $y=4{,}7229e^{1{,}5268x}$, with a coefficient of interpretation of 94.27% ($R^2=0.9427$). The number of users of the platform, that is, the number of users of the creator's services grew at an average annual rate of 602% (s=601.95562), interpreted by the exponential trend equation $y=148{,}35e^{1{,}9487x}$, with an interpretation coefficient of 96.99% ($R^2=0$,9699). Earnings of content creators followed the total revenues of the platform and grew at an average annual rate of 331.9% (s=331.93827), interpreted by the exponential trend equation $y = 63{,}218e^{1{,}4631x}$, with a coefficient of interpretation of 92.77% ($R^2=0.9277$). The results of the research are shown in table 2. In August 2021, the platform's management announced that they would ban the publication of sexually explicit content on the platform, which caused panic on both sides of the platform.

The decision was made under pressure from banking partners (Pollack 2022). Already after a week, by posting on Twitter, the decision was reversed, which caused new discussions. A similar decision, before OnlyFans, was also made by the management of the Tumblr platform, which had very negative consequences for the network effect of the platform. A similar scenario could be expected with OnlyFans. With the withdrawal of the decision, the value of the platform in 2021 increased by 318% compared to the previous period.

Table 3: Platform valuation analysis

	Valuation ($; mill)	
2018	34,80	- %
2019	582,00	1572,4%
2020	2.225,00	282,3%
2021	9.300,00	318,0%
2022	18.000,00	93,5%



Source: Own illustration

In the analyzed period, the value of the platform increased by 51,624%, i.e. from 34.8 million dollars at the beginning of the period to 18 billion dollars at the end of the period. The average annual growth of the platform's value is 360.3% (s=360.341), interpreted by the exponential trend equation $y=70{,}685e^{1{,}5268x}$, with a coefficient of interpretation of 94.3% ($R^2=0.943$). The index method shows oscillations in the growth of the platform, but also indicates an increase in value after the announcement of large financial institutions that they will end cooperation with the platform. In the last analysed period, the inflection point is below the regression trend curve, which indicates a slowdown in the growth of the platform's value. The results of the research are shown in table 3. The influence of financial institutions did not lead to the suspension of the platform's based activities. After that, there was a significant change and increase in public discourse, which was called "financial censorship" (Pollak 2022). So, we have a relationship with capitalism that is neither love nor hate, but pure cynicism. We take from that instrument what suits us, and discard what handicaps us (Bruckner 2008). The power of the platform economy is best illustrated in this detail. The financial industry is influencing public discourse, and the value of the platform is growing. Currently, global platforms MasterCard and Visa support transactions connected to the OnlyFans platform, while PayPal is not involved in transactions (Pollack 2022).

4.2. OnlyFans user's analysis

The trend of platform users is of vital importance to any form of platform economy. Without the proper development of the user community on both sides of the platform, the network effect weakens and the platform begins to collapse. Dating platforms where demand exceeds supply are especially sensitive to this. OnlyFans went through the community building period without a single breakdown, it could be said that the two-sided market rule did not affect the platform at all.

Table following on the next page

Table 4: OnlyFans user's description analysis

OnlyFans Users (000)	
Mean	56960
Standard Error	36083,76
Median	13500
Standard Deviation	80685,74
Sample Variance	6,51E+09
Kurtosis	1,384748
Skewness	1,443769
Range	187800
Minimum	100
Maximum	187900
Sum	284800
Count	5

Source: Own illustration

Descriptive trend analysis includes users who are subscribers to the platform. The Kurtosis value is 1.39, which indicates a significant or exponential growth in the number of users, and is sharper than the normal distribution. The value of Skewness is positive, i.e. asymmetric, which indicates the prevailing lower values of the distribution. The value of the Skewness parameter just proves the growth model of the number of users in the platform economy model, which is inversely proportional to the growth model of the number of users of the pipeline business model. On the other side of the platform are content creators, of whom there are about 3 million (Mann 2023). As with other platforms, there are debates in the media, but also in the courts, whether creators are employees and what their minimum income should be in addition to other obligations to the state (Marston 2020). Similar disputes are already known in the case of drivers on the Uber platform (Lozić et al. 2022b), and court practice is different according to the countries where the disputes are conducted.

5. DIGITAL TRANSFORMATION

The OnlyFan platform is designed in the platform economy model, which in itself proves the process of digital business transformation. In order to prove the truth of this claim, we will list several of the most important facts and research results related to the platform.

5.1. ANOVA analysis

The value of the platform grew continuously from period to period. All analysed parameters grew continuously, which directly affected the network effect and platform stabilization. In order to analyse the factors influencing the continuous growth of the platform, the ANOVA method was used. In the research, the value of the platform was analysed as a dependent variable, and the trend of income and the trend of the number of users as independent variables. The research starts from the assumption that the value of the platform, as a dependent variable, was significantly influenced by income and the number of users. The results of the research are presented in table 5.

Table following on the next page

Table 5: ANOVA analysis

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0,998758789							
R Square	0,997519119							
Adjusted R Square	0,995038237							
Standard Error	538,8469805							
Observations	5							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2	233494226,5	116747113,2	402,0826	0,002480881			
Residual	2	580712,1368	290356,0684					
Total	4	234074938,6						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	7,23842388	482,3457144	0,015006713	0,989389	-2068,127681	2082,6045	-2068,12768	2082,604529
OnlyFans revenue	6,289822633	3,671564342	1,71311791	0,228824	-9,507643704	22,087289	-9,5076437	22,08728897
OnlyFans Users	0,013436548	0,047447764	0,28318612	0,803655	-0,190714703	0,2175878	-0,1907147	0,2175878

Source: Own illustration

The research showed the following results. The Multiple-R value of 0.99759 proves a strong relationship between the value of the corporation, i.e. the dependent variable, and the independent variables of the revenue trend and the number of user's trend. The value is greater than 0.8 (R>0.8), from which we can conclude that there is a strong correlation between the dependent and independent variables. The coefficient of interpretation (for sequences with less than 30 frequencies) is 0.99504, which means that the significance is significant and the analysis is acceptable (Adjusted R Square = 0.99504), with a Standard Error of 538.847. The coefficient of significance (Significance F = 0.002048) is less than 0.05 at the significance level of 95%, which proves that at least one of the examined independent variables significantly affects the dependent variable. The value of the significance of the independent variables determines the value of the P-value. In the analysis of independent variables, none of the analyzed variables has a value lower than 0.05, at a significance level of 95%, which means that none of the variables significantly affects the value of the dependent variable, i.e. the trend of the platform value. Despite the significance coefficient value of less than 0.05, which means that at least one variable significantly affects the trend value of the platform, the P-value analysis does not prove it. Statistical models were developed at the time of the pipeline industrial model, and such situations may arise when the model is difficult to adapt to the production model in digitally transformed industries. In future research, the extent to which the model is adequate for this industry, and the extent to which there is covariance between variables that significantly affects the final result, remains an open question and topic for research.

5.2. Build a community, and only then business and monetization

Creators with OnlyFans took advantage of the opportunities provided by the Instagram platform to build a user community, and then developed a business on OnlyFans. The content they post on OnlyFans is not acceptable on Instagram and would be removed (Marston 2020). In part, the creators used the Piggyback strategy (Parker et. at. 2016), in order to develop a user community that will refer to OnlyFans. Subsequently, a part of the profiles of people associated with the work on the OnlyFans platform was removed from the Instagram platform, and the TikTok platform was also guided by a similar practice. At the same time, the profiles of celebrities who also had profiles on OnlyFans were not removed from Instagram and TikTok (Are, Paasonen 2021). The development of the user community before the development of the business model is a fundamental strategy for the development of digital networks (Shields 2017) and indicates a digital transformation within the industry (Lozić 2019).

The profile development model on the platform is partly also a personal entrepreneurial project, and Hilderfing already believed, before Schumpeter, that now the main driver of innovation is a large company with the help of applied sciences, and no longer an entrepreneur messing around in his workshop (Mason 2016). The platform was also used by many already established stars to compensate part of the income lost due to the pandemic in the "work from home" model. Profiles on the platform were opened by already known stars such as Cardi B and Belle Thorn, all in order to maintain the public's interest in the pandemic. At the same time, profiles were opened by girls who were not known to the general public, to the dismay of their parents. But what is most interesting and what is a kind of phenomenon connected with the platform is recognized in the equal attitude of the new stars and the public, i.e. there is no shame. OnlyFans stars use their own names and are not ashamed of their career choices; which indicates a massive shift in social values towards the normalization of sex work as another type of work. There are no taboos (when it comes to sex), but money is definitely not a topic of polite conversation now) (Williams 2023). The boundaries between different types of identity have slowly blurred similar to different types of ownership, media content, distribution models and the like in the media industry (Lozić 2020). In industrial societies, the most important product of the culture industry is the audience turned into a commodity that is sold to advertisers (Fiske 2001), in post-industrial societies users choose an individualized service without an intermediary who takes a piece of the pie. Our sexuality, ethnicity, habitat, age and income no longer shape our barriers. We are all screenagers, happy addicts in an international pursuit based on the screen (Low 2013). Exactly what the digital transformation of the social paradigm entails. Everything has changed, including the attitude towards new famous faces. Or, the old one that now shows more identity. Digital transformation is directly connected and goes hand in hand with postmodern society.

5.3. Winner-takes-all-markets

"Winner-takes-all-market" implies a situation when a platform wins the majority of the market and acquires some form of virtual monopoly. The platform conquers the majority of producers and consumers of content, develops a strong network effect that enables what is called "the winner dictates the rhythm" (Choudary 2015). Or, as already pointed out by Bard and Soderquist (2003), the most significant characteristic of a society on the verge of transition from capitalism to "informationalism" is general medialization. OnlyFans also took over a part of the users of the globally popular Tinder platform (Lozić 2021). OnlyFans fans are happy to pay for premium porn, even though they can get similar content for free on PornHub, because of the personal service they get. OnlyFans stars personally deliver content to their fans and often tailor their creative content to fan requests and preferences. This highlights how, in the digital transformation, i.e. the platform economy, where profit margins in most industries are destroyed by technological aggregators, hyper-personalization and fragmentation of services, tailored to one target market, can return profits back to the profit margin. Personalization is worth paying for (Williams 2023). Unlike PornHub, the OnlyFans platform is not suitable for sexual slavery. Therefore, consumers gain the peace of mind of consuming content from consenting parties, and content creators gain the freedom to produce their own content - not content orchestrated by large pornography distributors. The rise of websites such as OnlyFans also reflects a shift in the market towards direct consumption of content from creators, rather than messing with intermediaries or kiosks such as Pornhub (Sugiura 2021). The development of the web cam strategy and conversations with sex workers was also followed by the Snapchat platform, in the premium subscription model. Content creators can participate in challenges that include live interactions with audience members, production of sexually explicit content with other content creators, and private requests for explicit material. Both platforms have become ubiquitous in popular culture (Thusi 2021).

According to the model of content creation and revenue generation, they have become an example of the digital transformation of business in relation to the classic publication of pornographic content on the Internet, as done by PornHub. Creating personal contact with the owner of the content, which does not have to be exclusively sexual in nature, completely changes the paradigm of digitization of sexual content. The digital transformation of the process allowed viewers contact, but also the possibility of additional rewards in the form of tips or other gifting models. Another factor that brings sex workers to OnlyFans is the digital disruption of sex work and the rise of the shared and gig economy. This type of economy consists of a labour market of short-term contracts and freelance jobs. Sex workers' participation in this economy is defined by moving from traditional sex work, like acting in adult films and working in strip clubs, to even shorter-term opportunities like digital sex work (Marston 2020). The development of billing on the platform is based on a blockchain model in which creators connect directly with users, and payment is made in one of the cryptocurrencies. With other porn sites, this is not possible because the users are not in a direct relationship with the creators, but with the owner of the site, and large card companies are increasingly problematizing the use of cards to pay for pornographic content (Sugiura 2021). The platform has stabilized the network effect, achieved a form of virtual monopoly, attracted a large number of celebrities, and enters the field of technologically developed forms of payment, as a special form of digital transformation.

5.4. Copyright industry and "balance sheet positions"

In one of the episodes of the popular series "Sex and the City", Miranda conducts a sex conversation on the phone, which was very scandalous at the time, as were other plot twists in the popular series. The difference between contacting or connecting by phone and the digital transformation of the industry is precisely in the communication model and community building. Today's adult content owners are developing a community that interacts with the content owner, but also with each other in the community (Shields 2017; Sutherland 2021). Mia Khalifa only earned $12,000 in adult film fees during her ten-month career, but she remains one of the most sought-after adult film stars in history (Marston 2020). The digital transformation of the adult film industry enabled her to have direct contact with service users in the digital environment, and today she is the sixth on the list of the most suffering stars on OnlyFans. Fashion brand Rebecca Minkoff has joined the content subscription platform, offering viewers a glimpse into the inner workings of the brand. The fashion house's OnlyFans site will be free for consumers, offering behind-the-scenes videos and exclusive access to upcoming collections, as well as entrepreneurial advice from the brand's founder (Panesar 2021). OnlyFans gives its content creators ownership of their intellectual property, i.e. photos and videos, which the creators post on their pages for fans to view for a monthly fee (Marston 2020). Digital transformation of business into a model, in which content owners retain part of the rights over distribution and use, and alimony new income from subsequent reproduction, Christophers (2020) calls "rent capitalism" or "balance sheet economy", which is already Boldrin, and Levine (2020) described as "intellectual monopoly". In one of her songs from 2020, Beyonce mentions a girl who is thinking about opening a profile on OnlyFans (Thusi 2021). Baudrillard already pointed out in 2006 that if the world once headed towards transcendence or succumbed to other parallel worlds, today it has fallen into reality. Everything about the platform has become hype. It's not just pornography, it's a digital transformation in the sex industry.

6. CONCLUSION

The strategic business model of the OnlyFans corporation is a classic example of the digital transformation of the business model. The corporation operates in the platform economy model and uses modern strategies adapted to that form of business. Most of the content creators had profiles on other social networks and built a community of followers, which moved to the OnlyFans platform. Modern strategies of community building and sharing among users that are most suitable for business on social networks. In the research and analysis of the financial performance of the corporation, as well as the development strategy of digital transformation in the dating industry, six points that characterized the research stand out:

- Revenues and net profit had an unreal growth compared to some businesses from a linear business model, and there is no end in sight to the explicit growth.
- Revenues of content creators, that is, users on one side of the platform, grew more than the revenue of the platform, which is a very rare case in research on business in the platform economy model. The asymmetry of income in favour of users is another evidence in support of the claim about the digital transformation of the business model.
- Very quickly, several celebrities joined the platform and this strengthened the network effect. The news was shared within the primary group of users, but secondary and tertiary audiences immediately began to build. The female part of celebrities volunteered to become content creators, and blurred borders were created between acting, singing, pornography, sex, escorting, etc. Digital transformations and the world of postmodern society.
- The platform came under pressure from financial institutions and banks and was faced with the threat of suspension of financial services. However, with the appearance of famous celebrities on the platform, the pressures went into oblivion. Blurred borders of postmodern society in full glory.
- The network effect was built in a relatively large asymmetry on both sides of the platform, that is, there was not even an approximately equal number of creators and users on the other side. Celebrity's only increased the asymmetry, and the platform was more and more stable!!!!
- The platform proved itself as a "game changer" in many fields because it was the first to stabilize the network effect on both sides of the platform regardless of the asymmetry of users, it changed the way of consuming content for adults, it attracted many celebrities who showed some new identities, it shook the monolithic nature of the financial system in relation to the sex industry, etc.

In the context of the first research question, the research proved the exponential growth of all analysed parameters from the profit and loss account, as well as the capitalization of the corporation. The platform's revenues grew at an average annual rate of 329.7%, and profits at an average annual rate of 360.3%. The increase in the value of the platform followed the increase in profits, and grew at an average annual rate of 360.3%. The growth trends show no signs of a significant weakening, which indicates an even longer period of growth in income and value of the platform. In the context of the second research question, research has proven exponential growth in creator income. Revenues grew annually at a rate of 331.9%, which is above the average annual value of revenue growth. The platform, like the creators, takes advantage of the zero marginal cost effect, due to the negligible growth of variable costs, and the effects of the long tail economy, because all creators have the same access to the user community. Of course, already established stars earn incomparably more than other creators, which proves the effects of the long tail economy. Although everyone has the same opportunity to access the market, most of the income is generated by "products from the top of the curve". In the context of the third research question, the platform has digitally transformed the model of the dating industry, but also a large part of the sex industry. The "gatekeepers" between creators and consumers disappeared, which enabled direct contacts. The platform used the Covid-19 pandemic to attract already established celebrities, which is one of the "evangelization" strategies already known in digital transformation.

In contrast to the "PorhHub" web portal, which is part of the digitization strategy, OnlyFans has improved its business model and, in addition to the digitization model, has moved to a digital transformation model. The OnlyFans platform broke various taboos about what is acceptable and what is not in postmodern societies. The power of the model of sharing and disseminating news, which has built up a strong network effect, and then revenues and profits that fly into the sky, the platform has shaken the "firm" postulates of the financial industry. Despite the various pressures, the financial background was stronger than the paragraphs in the rules on reputational exposure. Questions remain open for future research about the distribution of earnings between already known stars and newcomers to the platform, as well as about the actual number of users visiting the platform, and average spending per user.

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MARKETING STRATEGIES FOR BUSINESS RESILIENCE DURING WARTIME IN UKRAINE: OVERCOMING CHALLENGES

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ABSTRACT

This study aims to highlight the resilience of business during wartime in Ukraine. Threats for the survival of businesses in Ukraine during wartime have been analyzed. To gain insight into how businesses adapt to wartime conditions, an expert survey has been conducted. The research findings indicate that the overall goal of strategic marketing management in times of war is to develop and implement effective strategies that enable businesses to adjust to highly volatile and unpredictable business environments. The war brought about uncertainty, risks of property destruction, physical dangers, unpredictability, market loss risks, contract disruptions, and infrastructure destruction. 25% of businesses ceased to exist, while the rest attempted to adapt through relocation, production reduction of business activities, product adaptation, and changing their business activities. Strategies for adaptation should reduce uncertainty, mitigate physical damages and losses, improve safety measures, and maintain the stability of businesses. In such circumstances, the primary focus lies in continuously monitoring and assessing the risks associated with the changing environment. Among the possible strategies applied for business adaptation in times of war are: strengthening security measures to protect the company's assets, employees, and customers; enhancing employee resilience and offering flexible work arrangements; diversifying product/service offerings; diversifying suppliers; establishing relationships and collaborations with other businesses, both domestically and internationally; exploring new markets and partnerships; and using innovations to improve efficiency and reduce dependence on human resources. These strategies aim to enable businesses to adapt and survive during times of war by ensuring security, flexibility, diversification, collaboration, and innovation.

Keywords: *Business, Marketing Strategy, Resilience, Wartime*

1. INTRODUCTION

On February 24, 2022, Ukraine faced Russia's bloody war, which led to the loss of thousands of lives, extensive destruction of buildings and infrastructure, and a severe impact on the country's economy. Throughout this year, domestic businesses have been striving to stay afloat. Countless businesses have incurred significant losses, especially at the beginning of the large-scale war. There are entrepreneurs who have lost everything due to brutal destruction and the occupation of parts of Ukrainian territories. However, as a whole, the business community has attempted to survive and continue operating despite the relentless efforts of the aggressors to destroy the economy, both through military actions and the energy crisis. Ukrainian businesses had just begun to gradually recover from the Covid-19 pandemic when they were faced with significant challenges associated with a full-scale war on Ukrainian territory. The war brought about uncertainty, risks of property destruction, physical dangers, unpredictability, market loss risks, contract disruptions, and infrastructure destruction.

According to the Kyiv School of Economics, as of August 1, 2022, the direct losses to the Ukrainian economy from the damage and destruction of residential and non-residential buildings and infrastructure (in monetary terms) amounted to $108.3 billion. The indirect losses are preliminarily estimated at $128.8 billion (Kyiv School of Economics, 2022). The conflict has resulted in an estimated 6.5 million individuals becoming refugees, as the UN Refugee Agency (2022) reported, and approximately 8 million people have been internally displaced within Ukraine (Internal Displacement Monitoring Centre, 2022). During times of war, businesses are confronted with a unique and multifaceted challenge in strategic marketing management. They must effectively navigate the situation's inherent instability while addressing their target audience's specific demands, particularly in terms of safety. Throughout this process, it is crucial to uphold social and ethical principles, ensuring that the needs of consumers and society as a whole are prioritized. Certain businesses have halted their operations entirely, while others have temporarily paused their activities, and some have adapted to the challenges of war and are working toward growth. However, the primary focus for businesses at this time is predominantly on ensuring their survival. The paper aims to investigate marketing strategies for business resilience during wartime in Ukraine. So, the research questions are as follows:

1) What are the market threats to the survival of businesses in Ukraine during wartime?
2) Which marketing strategies are used for business resilience during wartime?

2. BUSINESS IN VUCA ENVIRONMENT

The current era is characterized by regular disruptions, volatility, uncertainty, complexity, and ambiguity (VUCA environment). It is marked by significant dynamism, fluidity, and a high degree of variability in factors. During periods of war or crisis, businesses frequently encounter the necessity to temporarily suspend operations or promptly adjust their activities. In response, they may opt for strategies such as pausing operations, exploring new market sectors, implementing cost-cutting initiatives, and adopting agile workforce management practices. In such conditions, it is challenging to make predictions, and businesses need to adapt their survival strategies. Covid-19 pandemic has added a crucial healthcare dimension to the overall picture of the crisis. The tendencies menacing business that emerged from Covid-19, are being investigated by numerous researchers. The crisis caused by the coronavirus forces to adapt ways of working, infrastructures and spaces to the companies to face the new normality; including day-to-day management, the development of various technological solutions and the promotion of digital transformation actions to enhance online channels (Eurecat, 2020). Thus, countries and companies enter a period that has already been named as New Normality and which is defined as follows: “The 'new normality' characterized by volatility, increasing chaos in the business environment, as well as a high rate of change and unpredictability, means that survival and development of organizations may need to be achieved through adopting new business model, which help deliver sustainability” (Rudavska, 2018). New normality in social and economic processes appeared due to the influence of global political and economic crises, as well as the impact of Covid-19 and government responses to the pandemic. The measures taken by governments to provide financial support to businesses and citizens during the global economic crisis of 2008-2011 and the Covid-19 pandemic were driven by the objective of preventing widespread bankruptcies of companies and a significant decline in living standards. The term resilience is viewed in scientific literature during the last few years. Kantur and Say (2015) define resilience as the ability to easily adapt to changing circumstances and move forward. Resilience framed this way is simply a reaction to a crisis and is considered a pattern rather than a set of controlled activities and processes (Conz et al., 2017; Lengnick-Hall & Beck, 2003). However, since an organization faces multiple disruptions on a regular basis, the ability to withstand systematic discontinuities reactively as well as the capability to adapt to changing to disruptions proactively (Ates & Bititci, 2011), even to develop new capabilities (Lengnick-Hall et al., 2011, Bhamra et al., 2011). Muhammedamin (2021) defines the term business resiliency as the adaptability to disruptions, growth (positive performance), and the ability to seize the business opportunity amid a challenging business environment. According to Williams et al. (2013), the idea of resilience in entrepreneurship up to now is often used to label firms' economic performance and responsiveness in light of specific shocks, such as financial crisis and recessions (Williams et al., 2013). Nazli (2023) study proposes, that organizational resilience is not only a competency but also a philosophy of how organizations can come across negative and uncertain situations, such as the current pandemic and the war, in responsible ways to sustain their businesses. Fiksel (2006) defines organizational resilience as an organization's capability to survive, adapt, and improve despite a crisis. Amore et al. (2018) mention that organizational resilience can be built in different ways through people (employee resilience), processes (business continuity management), and/or partnerships (social networks). Previous studies investigated the association between war and the resilience of destinations and businesses (Grum & Kobal, 2023; Prayag, 2023; Butler, 2022). Klöckner et al. (2023) emphasize that the responses to crises differ across organizations, as some leverage potential and others mitigate risk. Financial, digitalization, and risk mitigation responses are evaluated positively by the organizations during the Covid-19 pandemic. Prayag (2023) states that the frequency of unexpected and adverse situations, such as wars, pandemics, and political unrest, contribute to an uncertain and vulnerable business landscape that can lead to uncertainty and anxiety in organizations. Organizational resilience is an organization's capacity to survive, adapt, and develop despite turbulence (Fiksel, 2006). Research conducted by Murovana (2023), Kuzmenko (2022), Lebid, R., and Kurishko, D. (2022) aims to analyze entrepreneurship in Ukraine in the context of war. Dykan V. and Frolova N. (2022) investigate the directions and tools of state support for the development of small and medium-sized businesses in Ukraine during the war. Possible strategies proposed in the literature for business adaptation include diversification, exploring untapped market segments, implementing cost-saving measures, and adopting flexible workforce management practices. However, it is important to note that there are no universal approaches that disregard the specific characteristics of the region and individual businesses. This study also contributes to the expanding body of literature by examining the impact of the Russia-Ukrainian war on businesses, aiming to analyze the turbulent market environment and identify possible marketing strategies for business resilience.

3. BUSINESS RESILIENCE AND WAR IN UKRAINE

3.1. Market threats for businesses in Ukraine during wartime

According to Starostina A. (2021) the main goal of marketing is to align the economic interests of producers and consumers in a competitive market setting. Given these conditions, there is a pressing need for substantial adjustments in business strategies that take into account the distinctive characteristics of the market environment. These adaptations may involve navigating through unpredictability, exploring emerging market opportunities, implementing cost-reduction measures, adopting flexible approaches to personnel management, leveraging new production facilities, and embracing innovative marketing strategies aimed at surviving in the turbulent market environment during times of war with its unforeseen changes. Ukraine's losses from the full-scale war as of October 2022 have already exceeded $127 billion. Only during the summer of 2022, the war caused damages to the country's economy of over $31 billion. According to various estimates by experts, the loss in the economy ranges from 30% to 50% at present. The GDP decline forecast also stands at 30-50%. On average, approximately 35% of the economy is currently non-operational. Consequently, the budget is roughly being executed at 50-70% of peacetime levels. Meanwhile, expenditures on social needs, humanitarian aid, and demining have dramatically increased.

The Prime Minister noted that over 200 factories have been lost, around 17% of businesses have completely ceased operations, and 60% of enterprises are functioning at a lower level compared to pre-war times (Ministry of Economy of Ukraine, 2023). Key sectors of Ukraine's economy prior to the war were the extractive industry, metallurgy, and the agro-industrial sector. However, these sectors have suffered the most significant losses as a result of the war (The Russian-Ukrainian war, 2022). For instance, the total damages inflicted on enterprises and industries have already exceeded $10 billion, and this figure continues to rise. The inflation rate in the country has increased by almost 3.5 times. In December 2022, consumer inflation on an annual basis stood at 26.6%, which was 18.7% higher than in 2021. The acceleration of inflation in 2022 is primarily associated with the consequences of Russia's full-scale military aggression. Among them are the destruction of enterprises and infrastructure, disruption of production and supply chains, increased production costs for businesses, and situational panic-driven demand for certain goods and services. Indirect consequences of the war also had an impact, including exchange rate effects and deteriorating expectations of the population and businesses throughout the year. Additionally, global inflationary pressures influenced prices in Ukraine, as most countries experienced multi-year inflation highs last year. According to a study by Gradus Research (2022), 45% of businesses continue to operate as before; 42% are operating partially, with a decrease in income of over 58%; 12% have ceased their activities; 1% have started new businesses after the full-scale invasion of Ukraine by Russia. The top 10 sectors of business activity include information and communication services (20%), retail trade (15%), wholesale trade (13%), manufacturing of goods (12%), construction (10%), IT sector (9%), financial and insurance activities (5%), real estate operations (5%), and service provision, agriculture/forestry/fishing (4%). Due to combat actions, some enterprises lost their assets, while others remained in temporarily occupied territories. In order to preserve their businesses, some enterprises were forced to relocate to more stable western regions or abroad. Within a year of the war, 800 enterprises were relocated to safer regions of the country, of which 623 have already resumed operations in their new locations. According to Tetyana Berezhna, the Deputy Minister of Economy of Ukraine, the majority of enterprises relocated to Lviv (24%), Zakarpattia (14.5%), Chernivtsi (9.8%), Ivano-Frankivsk (8.3%), Khmelnytskyi (7.3%), and Ternopil (6.3%) regions (Ministry of Economy of Ukraine, 2023). Over 650 enterprises, initially planning to relocate their production capacities, decided against it due to the de-occupation of the territories where they were located. Additionally, some enterprises are now returning to their previous workplaces as the security situation improves, particularly in the Kharkiv, Chernihiv, and Sumy regions. Already, 44 enterprises have returned (Ministry of Economy of Ukraine, 2023). Considering all relocated enterprises as 100%, 72% relocated their businesses within Ukraine, 11% internationally, and 17% partially within Ukraine and internationally. Among the relocated enterprises that have successfully resumed their operations in new locations, the largest share belongs to the following sectors (Verenova, 2022):

- Wholesale and retail trade, repair of motor vehicles: 40.24%
- Manufacturing industry: 31.71%
- Information and communication: 6.32%
- Professional, scientific, and technical activities: 5.85%
- Construction: 4.15%.

Another challenge faced by Ukrainian businesses is the reduction in work volumes, which has led to a decrease in employees within enterprises. Specifically (Ukrinform, 2022):

- 20% of the personnel were sent on leave;
- 27% are working under reduced wage conditions;
- 20% experienced job cuts (over 1 million individuals);

- 18% emigrated to other countries (some were able to continue working online, while others became unemployed);
- 7% were mobilized.

A significant negative impact was also experienced in the logistics sector. Challenges for the logistics industry emerged several years before the new phase of the Russian-Ukrainian war. Due to the pandemic, the market started to localize and relocate supply chains closer to the country of production or product realization at an accelerated pace. However, in 2022, companies were forced to make decisions rapidly. This was primarily due to the occupation of parts of Ukrainian territories, limited assortment and suppliers, and complications in logistics operations. This, in turn, affected foreign economic activity and international transportation logistics. The closure of airports and the blockade of seaports led to the search for alternative logistic delivery schemes, as only road and rail transportation remained, which faced additional burdens. The structure of international road freight logistics partially changed due to delivery difficulties in regions bordering temporarily occupied territories, where not all carriers are willing to transport goods. Additionally, the cost of freight for road transportation increased. When considering alternative logistic delivery schemes, multimodal transportation utilizing multiple modes of transport is typically chosen as the only feasible option for exporting/importing goods. This includes multimodal transportation involving road transport to/from European airports. The nearest and most popular route for air freight transportation to Ukraine is through airports in Poland or Romania. The logistic problems faced by Ukrainian businesses are as follows:

1) Abandoning stockpiling: The more goods are kept in warehouses, the higher the volume of frozen finances. Moreover, keeping goods in warehouses for an extended period is risky as they can be lost in case of an attack.
2) Changing warehousing conditions: The largest hub (70-80% of professional warehouse space) was located in the Kyiv region. With the onset of hostilities, companies were forced to transport goods to western Ukraine, where there were generally no warehouses of such capacity.
3) Difficulties in procuring goods: Problems are primarily associated with limited assortment and suppliers, port blockades, and strain on railway infrastructure.
4) Complications in logistics operations: Checkpoints between cities and regions, inspections, curfews—all of these make cargo transportation more challenging. Additionally, it is necessary to plan alternative routes in advance, as there is a risk of new attacks.

During spring and summer, logistics were complicated by a significant decrease in fuel availability and the complexity of fuel procurement. However, by the end of summer, the problem was resolved through fuel imports, although this led to an increase in fuel prices. Ukraine's energy infrastructure, which includes the Zaporizhzhia nuclear power plant, Kakhovska hydroelectric power station, and several thermal power plants in cities like Kyiv, Kharkiv, Sumy, Chernihiv, and Mariupol, suffered extensive damage and destruction. As a consequence, prolonged power outages occurred, lasting for several days. However, diligent power engineers labored tirelessly to restore the facilities, eventually implementing a carefully regulated four-hour schedule for power supply. In the fall of 2022, after another round of missile attacks, Ukrainian businesses faced a new problem—energy supply disruptions. There were scheduled power outages for hours, and sometimes even lasting for days. This, in turn, caused additional problems with heating, water supply, poor communication, and internet connectivity. Most large, small, and medium-sized enterprises found a solution to ensure uninterrupted operations by acquiring generators. This resolved issues with electricity, communication, internet, and heating.

However, it also brought about new challenges, such as additional expenses for fueling and maintaining these generators. With the declaration of a state of war in Ukraine, the question arose regarding the need for implementation and legislative changes. To this end, the government has actively started introducing comprehensive changes to legislation and state programs aimed at supporting the Ukrainian economy (Kuzmenko, 2022). It is evident that under such circumstances, the only viable means of supporting businesses is through complete deregulation, liberalization, and increased state support, which are reflected in the following changes: removal of requirements for obtaining licenses and permits for the majority of activities, liberalization of labor relations, tax innovations, preferential taxation, cancellation of inspections and absence of sanctions for untimely reporting, support for agrarians and the implementation of planned sowing campaigns. Furthermore, a government grant program called "eWork" (Government program, 2022) was introduced, which includes the opportunity to receive grants for starting new businesses and creating new job opportunities. Some entrepreneurs were also able to relocate their businesses to safer regions with the assistance of the government, within the framework of the relocation program, and restart their operations there. According to information from the Ministry of Economy, as of the beginning of February, 791 enterprises had been relocated, of which 617 are already operational in their new locations. In 2022 Ukraine obtained the long-awaited status of a candidate country for European Union membership and has been making every effort to expedite the integration process. Undoubtedly, this will be a key driving force for change, including for domestic businesses, as Ukraine will become a full participant in the European market. Help for business includes the energy visa-free initiative, in which Ukraine joined the European energy grid, the transport aspect, which allows Ukrainian businesses to no longer require permits for road freight transportation, and the economic aspect, which eliminated all tariffs and quotas on Ukrainian goods exported to the EU for a year. However, there are certain obstacles that hinder businesses from recovering and developing, namely: a lack of a sufficient number of solvent enterprises in the domestic market (62.2%), unpredictability of the situation's development in Ukraine and the domestic market (46.6%), a lack of sufficient capital (39.4%), a lack of necessary equipment (11.4%), and only 3.6% of companies indicated having an outdated business model (Lebid at al, 2022). Besides, during times of conflict, consumer behavior often shifts as priorities change. Customers may become more cautious about spending, leading to decreased demand for certain goods and services. Businesses must adapt their strategies to meet changing customer needs and preferences. Based on the analysis of the business environment factors, a list of market threats for businesses has been identified. During times of war, businesses in Ukraine face numerous challenges that threaten their resilience (table 1).

Table following on the next page

Table 1: Market threats for businesses in Ukraine during wartime

Political threats	Socio-economic threats
Uncertainty of the political situation due to military action	Decrease in purchasing power of the population
Legal and regulatory uncertainties	Fluctuations in currency value
Physical risks	Inflation
Property destruction due to missile attacks	Increase in electricity tariffs
Loss of agricultural land and harvest due to the occupation of territories	Rise in unemployment level
Destruction of infrastructure	Human capital challenges, employee layoffs
Decreased demand and cessation of supplies to the occupied territories	Loss of skilled workforce due to migration
Termination of business activities	Reduction in the number of employees due to mobilization
Disruption of supplier relationships, logistics difficulties	Physical damage
Termination of international cooperation agreements with the russian federation	Transportation disruptions
Power outages	Limited access to financial resources
	Communication and Internet disruptions

Source: own elaboration

3.2. Adapting to new realities: changes in strategic marketing management for business resiliency

To gain insight into how businesses adapt to wartime conditions, an expert survey was conducted from September till December, 2022. The survey involved managers from various sectors, including the hotel industry, agriculture, insurance, IT, education, entertainment, pharmacy, advertising agencies, and design services (table 2).

Table 2: Results of expert surveys

Business adaptation during wartime (n=32)	Percent %
Termination of business activities	25
Termination of business activities in international markets	19
Business relocation	56
Product adaptation	56
Reduction of business activities	69
On-line work	44
Complete change in business activities	4

Source: own elaboration

The results show that 25% of surveyed domestic enterprises have ceased their operations. The rest have resumed their activities, attempting to adapt to the new conditions. The findings show, that the biggest part of businesses (69%) experienced a decrease in business activity, including the forced closure of some offices, retail outlets, or branches, 56% - were compelled to relocate their businesses, 56% - fulfilled product adaptation, 44 % - adapted their business activity due to online work, 19% of the surveyed businesses discontinued their operations in international markets, 4% completely changed their entrepreneurial activities.

Regarding the future activities of domestic enterprises, they plan to continue their operations in the following directions:

- seeking new clients;
- searching for new partners in the external market;
- changing their own business model;
- seeking funding opportunities;
- cutting down on their expenses;
- implementing crisis management measures;
- putting their business on hold;
- introducing technological innovations;
- readjusting to the needs of the military.

These findings demonstrate the resilience and adaptability of domestic enterprises in the face of challenging circumstances. The consequences of the war will persist in various ways, leading to far-reaching effects on the mindset, lifestyle, and functioning of the world. Our findings align with other research and emphasize the importance for businesses to adapt and be flexible, given that their ability to effectively manage crises in both the current and future contexts has become increasingly critical. Accenture research (2022) investigates risks that businesses face in Ukraine during wartime and presents a five-pillar framework that can provide valuable insights for making informed decisions across various departments within an organization regarding business continuity. It spans foundational aspects of the business, beginning with the most critical consideration, an organization's people (Accenture research (2022): 1) the people that power the organization; 2) the overarching strategy of the organization and how it differentiates the company; 3) the systems that underpin operations, both internally and with customers; 4) the supply chain and operational network that allow the company to fulfill customer needs; 5) the partner and customer ecosystem and its alignment to business goals.

4. CONCLUSIONS

In our research, we brought attention to the primary difficulties that businesses encounter when operating in Ukraine during times of war. This period is rather difficult for business, however, despite this, Ukrainian resilient people continue to live, work, and contribute to the pursuit of victory. The development of sectors of the economy with significant export potential and their access to international markets is crucial for Ukraine's economy. The overall goal of strategic marketing management in times of war is to develop and implement effective strategies that enable businesses to adjust to highly volatile and unpredictable business environments. These strategies should improve safety measures, reduce uncertainty, mitigate physical damages and losses, and maintain the stability of businesses. In such circumstances, the primary focus lies in continuously monitoring and assessing the risks associated with the changing environment. In times of war, businesses must be prepared for unforeseen and unpredictable changes that can significantly impact the market. The main challenges that strategic marketing management may face in times of war include a decrease in demand for certain goods and services, changes in audience behavior, decreased business income, decreased availability of resources (particularly labor), and unpredictable changes in the market. In the post-war future, during the country's reconstruction, experts anticipate that domestic businesses will face a shortage of knowledge, expertise, and technology, a lack of skilled workforce, challenges in obtaining financing for recovery, and the need to adapt to new conditions. Therefore, it is important to conduct systematic monitoring and thorough analysis to identify vulnerabilities and potential threats to the business as well as analysis of the market and forecasts of military operations.

To enhance business resilience during wartime in Ukraine, here are some key strategies and measures that businesses can consider:

1) Strengthen security measures to protect the company's assets, employees, and customers. Focus shifts towards safety: in the conditions of war, it is necessary to focus on products and services that promote the safety of the audience. However, demand for other goods and services will not be zero, especially depending on the location and intensity of military situations in different regions. Therefore, it is important to develop marketing campaigns that will help maintain and increase the level of safety.
2) Enhance employee resilience and offer flexible work arrangements, including online work, to help employees cope with the impact of wartime conditions.
3) Diversify suppliers. This strategy strengthens business resilience by providing flexibility and helps to mitigate potential disruptions that may arise from issues such as supplier shortages, price fluctuations, or logistical challenges.
4) Diversify product/service offerings, adapting production to conditions of reduced demand, specific customers' needs, or price changes. Possible reorientation towards products/services that are relevant to military needs and the military state.
5) Establish relationships and collaborations with other businesses, both domestically and internationally.
6) Explore new markets and partnerships (especially for spheres with high export potential).
7) Monitor the actions of competitors and their reactions to market changes. This will allow for the development of an effective strategy for responding to changes.
8) Use innovations to improve efficiency, reduce dependence on human resources, and streamline operations. Invest in technology and automation, explore options for digitizing processes, and implement robotics to enhance productivity and adaptability.

By proactively addressing these challenges, businesses in Ukraine can improve their resilience during wartime and increase their chances of surviving and thriving in difficult conditions.

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IS THERE A RISK OF GREENWASHING IN THE APPLICATION OF THE EU SFDR IN THE SRI FUND INDUSTRY? SOME CRITICAL ISSUES

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ABSTRACT

The present research has the aim to analyze the effects that the new European legislation is having on the sustainable investment market in order to evaluate whether the predisposed goals can be said to be achieved or not. In particular, the author wants to analyze the impact of the EU Sustainable Finance Disclosure Regulation (2019/2088 EU), known as SFDR, on the SRI Fund Industry, considering that interpretative difficulties have arisen in the SRI market with the introduction of SFDR. The analysis shows that critical issues in the implementation of SFDR reside not so much in its disclosure obligations, but upstream, in the definition of sustainable investmentand in its product classification (as Article 6, Article 8 and Article 9) that lead to a situation characterized by an excessive subjectivity by asset managers of SRI Funds when they are called to qualify the products they offer. Because of the consequent risk of greenwashing in SFDR application, the necessity of its urgent adjustment can be pointed out and the work presents in its final part the indication of some policy recommendations to policymakers drafted by Eurosif just to realize these necessary adjustments of the EU regulation.

Keywords: *Sustainable Development, SRI Funds, SFDR, Greenwashing, EU ESG Regolamentary Framework*

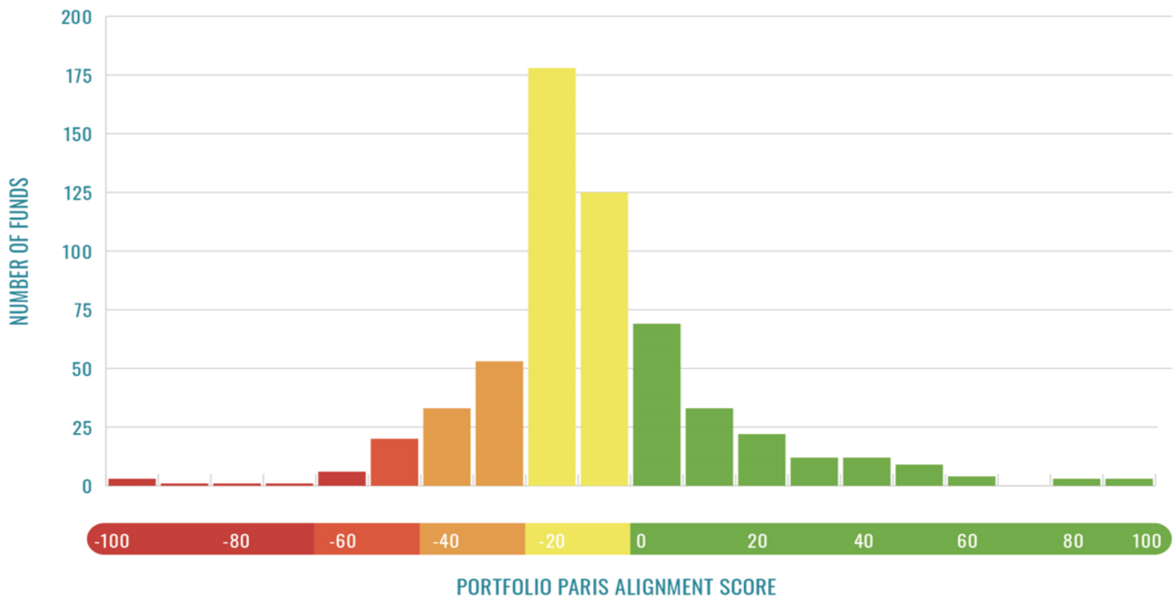
1. INTRODUCTION

In recent years the Sustainable Responsible Investing (SRI) industry has become an important part of the International Asset Management Capital Market, incorporating ESG factors into its investment selection, management processes and investment decisions too. The present study has the aim to show some critical issues that are present in the application of the new European ESG Regulatory Framework to the Asset Managemet Industry. Considering the existing tools and regulatory initiatives in the EU sustainable finance agenda, this work wants to verify whether they are adequate to enable and enhance investor impact and to tackle the risk of greenashing. If we consider the effects deriving from the coming into force of the new ESG European Legislative Initiatives, it is possible to see that there are still some critical issues to solve. This is real, in particular, if we examine the effects deriving from theapplication of the EU *Sustainable Finance Disclosure Regulation* (SFDR) on SRI Fund trends. In fact, the SFDR, that can be considered a cornerstone of the *EC Action Plan for Financing Sustainable Growth* (March, 2018), shows: a) an insufficient clarity regarding the definition of "sustainable investment", that does not correspond to the definition of "sustainable investment" introduced by the EU Taxonomy (creating a difficult for Finacial Market Participants if they have to consider one or the other definition of sustainable investment); b) a poor delineation of product categories; c) a lack of minimum standards and thresholds with respect to portfolio composition with the legal text, leaving so the door wide open to different interpretations. So, it is possible to point out a possible risk of greenwashing deriving just from the application of the SFDR to the SRI Fund Industry. Consequently, it is worth to consider as necessary further steps in the EU regulation to solve these critical aspects, in particular adjusting the SFDR to permit to SRI Funds to represent really an important financial instrument to collect those flows of funds necessary to achieve the SDGs of UN 2030 Agenda. If SFDR needs urgently some adjustments, Eurosif has drafted some policy recommendations addressed to policymakers *for making the framework fit for purpose* (Eurosif, 2022), indicating also some solutions to realize them. And the same ESMA is going in the same direction, to tackle that risk of greenwashing that is particular dangerous for the sustainable financial development. The work begins giving some definitory profiles of the risk of greenwashing, considering that tackling this kind of risk can be be considered a principle goal of the new European ESG Regolamentary Framework. Then, the EU SFDR will be considered, in order to understand the reasons that make necessary its adjustment. Finally, some policy recommendations for adjusting SFDR indicated by Eurosif are presented, to understand some possible solutions to the relative critical aspects drafted in the study. Some conclusive considerations close the work, with the indication of some elemets for further research.

2. THE AIM OF THE NEW EUROPEAN ESG REGOLAMENTARY FRAMEWORK TO TACKLE THE RISK OF GREENWASHING

Sustainability is the model for Europe's future development and finance. In fact, the European Union is playing an important role in this process that is a global process, giving a positive and constructive contribution to the development of the UN 2030 Agenda for Sustainable Development (Eurostat 2017). The EU has been leading on this Agenda, taking ambitious steps towards decarbonisation and the transition to a sustainable European economy. In recent years the European Union has positioned itself as the world leader in promoting a sustainable financial growth, pushing for concrete policy actions and regulatory frameworks through its *Action Plan on Financing Sustainable Growth* (European Commission, March 2018; European Commission Press Release, May 2018) and, more recently, in July 2021, with its *Renewed Sustainable Finance Strategy*, to further enable the financial industry to contribute for achieving the goals both of the *EU Green Deal* (European Commission, December 2019) and the *Next Generation EU Programme* (European Commission, May 2021; European Commission, July 2021). The EU Institutions have made many efforts to conceive and implement a set of regulations to promote, in the European market and beyond, transparency and common definitions on sustainability and sustainable investments. In particular, it is important to underline how all this new EU sustainable regulation framework has the aim to tackle the risks of "greenwashing". But what is the meaning of "greenwashing"? It is possible to find different definitions of greenwashing in literature: greenwashing can be defined as "*the selective disclosure of positive informations about a company's environmental or social performance, without full disclosure of negative informations on these dimensions, so as to createan overly positive corporate image*" (Lyon and Maxwell, 2011), or, according to a most recent definition, it can be «*generally identified as a misrepresentation, mislabelling, mis-selling and/or mis-pricing phenomenon that gives rise to potential detriment to investor who wish to allocate resources to sustainable investments*» (ESMA, February 2022). The phenomenon of greenwashing is very present in the financial universe, as demonstrated by the InfluenceMap study presented in August 2021(InfluenceMap, 2021). This research was based on the analysis of all funds present on the market that had at least USD 10 million capital in AUM and that were compliant with ESG criteria as a policy or which contained in their name key words related to sustainability. In particular, the variable studied was the alignment with the Paris agreement (*The Portfolio Paris Alignment score*), calculated thanks to the PACTA (*The Paris Agreement Capital Transition Assessment*), which is an open-source climate tool that compares what companies should do to achieve the SDGs and what is actually expected from the five-year plans of the companies in which the fund invests (Second Investing Initiative, 2018). The main observations were in relation to the expected reduction of greenhouse gases, the renewable energies used, the amount of fossil fuels used and others.

The results of this report showed that among the 593 funds, identified as ESG, for a total of 265 billion dollars, 421 funds, representing 71% of them, had a negative Portfolio Paris Alignment. In relation to funds that instead had keywords related to sustainability in their nomenclature, about 55% were not aligned with the Paris agreements according to their Portfolio Paris Alignment Score, as shown by the following Graphic 1. But this is only one example, among the various possible ones, of greenwashing, that therefore represents a real and concrete problem for the financial system, both for investors and issuers. A system that is not able to guarantee that investments will be channeled towards designated activities, in this case sustainable ones, can produce many negative effects, first of all the losing confidence of investors, who could stop financing it. Obviously, this could be lethal not only for issuers, who could have difficulties in funding, but for the all financial system too: in fact, in this case, without sustainable investments by institutional and retail investors, it would be impossible to reduce the existing gap in the investments required to achieve the SDGs of the UN 2030 Agenda.



Graph 1:Portfolio Paris Alignment Score of ESG Funds
(Source: InfluenceMap (2021), Climate Funds: Are They Paris Aligned?)

Considering the existing tools and regulatory initiatives in the EU sustainable finance agenda, this work wants to verify whether they are adequate to enable and enhance investor impact. If we consider the effects deriving from the coming into force of the various new European Legislative Initiatives, responding to the aim to create a new ESG Regulatory framework in EU, it is possible to see that there are still some critical issues to solve. This is real, in particular, if we examine the effects deriving from the EU Sustainable Finance Disclosure Regulation (SFDR) on SRI Fund trends. In fact, considering these effects some problems can be pointed out, as underlined by Morningstar, using just the following words:

"It's almost a year since the European Union introduced its Sustainable Finance Disclosure Regulation, requiring for the first time that asset-management companies provide information about their investments' environmental, social and governance risks as well as their impact on society and the planet. Since 10 March 2021 funds available for sale in the EU have been classified by their managers as Article 6, 8 or 9, depending on their sustainability objectives.
A lack of clear policy guidance has resulted in different approaches to product classification, which in turn have led to confusion and greenwashing concerns (...)" (Morningstar, May 2022)

Considering that EU SFDR would be seen as a world leading standard for financial market participants (FMPs) to address the challenges of climate change and social inequalities, it is useful to understand why it may represent a risk of greenwashing in the SRI Fund Industry, when its aim would be just that to tackle this kind of risk. To give an aswer to this question, that represent an apparent paradox, it is necessary to observe some characters of the EU SFDR, pointing out how it has been adopted by the financial market participants.

3. THE SUSTAINABLE FINANCE DISCLOSURE REGULATION (2019/2088/EU) AND THE REASONS OF ITS NECESSARY "ADJUSTMENT"

The *Sustainable Finance Disclosure Regulation*, known *breviter* as SFDR, came into force in March 2021. Issued in November 2019 as EU Reg. 2019/2088, it can be considered a cornerstone of the *EC Action Plan on Sustainable Finance* issued on 8 March 2018. The EU SFDR is a set of EU disclosure rules that have to be applied both at product and entity level, just to make the sustainability profile of funds clearer and easier for investors to understand and compare them. SFDR aims to trigger changes in behavioural patterns in the financial sector, discouraging greenwashing and promoting responsible and sustainable investments (Morningstar, 2021). In fact, the SFDR requires financial entities to provide clients and investors with information on sustainability factors and risks at both product and company level. This information is intended to be made available to clients and investors on a pre-contractual basis. The implications of the SFDR application for fund providers are manifold. According to the SFDR, financial market participants (FMPs) have to disclose their engagement policies as part of a negative impact statement (Article 4,2/c). While the SFDR was conceived of as a transparency tool, in practical terms the SFDR has become a quality standard for SRI policies and products across the market. In other terms, the SFDR has partially established product standards for SRI funds, creating a "common language" among FMPs, whereby "Article 8", or "light green" funds, are products that promote environmental and/or social characteristics and "Article 9", or "dark green" funds, are products that pursue a sustainable investment objective. "Article 6" covers all products which don't integrate any kind of sustainability into the investment process, labelling them as non-sustainable funds.

Fig. 1: SFDR Classification at Product level
(Source: Morningstar, February 2022)

The SFDR also provides with its Article 2 (17) a definition of "sustainable investment" as "*an investment in an economic activity that contributes to an environmental or social objective, where the company does not harm other objectives, besides having good governance practices*".

Hence, from a theorethical standpoint, the SFDR has the potential to convey powerful market signals through the proliferation of Article 8 and Article 9 products.

However, market researches reveal that this isn't the case because of some elements:

1) the insufficient clarity regarding the definition of "sustainable investment", that does not correspond to the definition of "sustainable investment" introduced by the EU Taxonomy[1] (creating a difficult for FMPs if they have to consider one or the other definition of sustainable investment);
2) the poor delineation of product categories;
3) the lack of minimum standards and thresholds with respect to portfolio composition with the legal text, leaving so the door wide open to different interpretations.

As for the lack of thresholds, Article 5 and Article 6 of the Taxonomy Regulation (2020/852/EU), introduced in June 2020, prescribe the disclosure of Taxonomy-aligment of Article 8 and Article 9 products. However, no thresholds has been specified, so products with 1% as welll as 99% of Taxonomy-aligment can be potentially marketed under the same label. And this in spite of EU Taxonomy goal to provide FMPs and companies with a common standard by which sustainable economic activities could be identified. The classification of financial products into different groups, as Article 9, Article 8 and Article 6, has seen a very wide uptake in all the European markets as well as beyond the EU's border in global market. However, evidence available shows that financial market participants have been giving widely different interpretations to the different categories. In fact, as a result of the flexibility of the SFDR to self-define, with unclear and ambiguous words, different methods of fund categorization have been used by fund asset managers (Morningstar, February 2022). This scenario has led to situations where funds with similar characteristics are classified in different categories or products in the same SFDR category are hard to compare, leading so to misunderstanding and accusations of greenwahinng, contrary to the aim of the European legislator when it had thought to the SFDR (ZEB-Morningstar, 2022). Since FMPs are strongly interested in including SFDR-compliant funds in their offers, they have increasingly allocated capital towards issuers that allowed them to qualify their products as Article 8 or Article 9. But, considering the existent lack of clarity, FMPs have started adopting widely divergent approaches to the classification of Article 8 or Article 9 funds. The SFDR "(…) *was not meant to be a labeling system: vague concepts and the resulting differences in interpretation pose a major challenge for asset managers. Classifying funds continues to be one of the most difficult tasks in complying with the SFDR*" (Duarte *et. al.*, 2022). But there is also another risk: a growing number of national regulators could adopte local guidance and rules[2] to protect investors against this risks of greenwashing (deriving from a different interpretation by the asset managers on how to classify their investment funds), with a consequent further increasing of the risk of fragmentation of the European Asset Management market, with all the connected problems in pursuing the Capital Markets Union's goals. Then, it is necessary to consider the *Regulatory Technical Standards* (*breviter* RTSs), that were published by the *European Supervisory Authorities* (ESAs) on 4th February 2021 and approved by the European

[1] The EU Taxonomy provides a list of economic activities that qualify as environmentally sustainable if they are able to satisfy certain conditions. In particular, these activities must make a substantial contribution to one of the six environmental objectives stipulated by the EU Taxonomy while avoiding significant harm to the others in the process. The Taxonomy sets out also the so-called *Technical Screening Criteria (TSC)* that specify how economic activities can make such a significant contribution and avoid harm to the climate and the environment. (EUROSIF, 2021)

[2] Effectively, considering the problems in the SFDR application, in Germany, Spain or Ireland national financial regulators have underlined the urgency to create their own procedures for disclosures and labeling sustainable funds, such as the Spanish CNMV (*Comisiòn Nacional del Mercado de Valores*). For istance, France's *Autorité des Marchés Financiers* (AMF) have mandated ESG funds to remove 20% of the investable area, while BaFin (*Federal Financial Supervisory Authority*), the German Financial Regulator, has proposed additional minimum standards for a fund to be considered "sustainable". At the EU level, there has been a discussion about the possibility to introduce a minimum sustainability benchmark for Article 8 funds or even for creating a new category between Article 8 and Article 9 (a so called "Article 8 plus"). This new category is regarded as the outcome of the *MiFID II draft sustainability assessment*, that are more stringent than the ones under the SFDR. (ESMA, January 2022)

Commission on 6th April 2022. The RTSs are commonly known as *Level 2 SFDR*, implemented in January 2023. The RTSs, together with ESAs explanation on some of the RTSs' most important features, can apport more clarity on some key points of the SFDR. In fact, under the RTSs, asset managers have to justify their fund classification with many informations - such as the list os PAIs, the proportion of sustainable investments in the fund, an explanation as to why the classification under Article 8 or 9 is warrented – that are required to follow a standardised template. So, it is expected that with much more detailed informations required to be disclosed under *Level 2 SFDR*, many SRI fund classifications presented in this last period will necessarily need to be revisited, so curbing the feeling of laxity in these classifications (Duarte *et al.*, 2022). Unfortunately, the delayed finalisation of the RTSs with technical guidance on the product disclosure requirements further compounds the fragmentation of the market. The result is that market signals are weak and fall short of precipitating the massive allocation of capitale that is needed to transition the real economy towards the Sustainable Development Goals of UN 2030 Agenda. Therefore, it is possible to point out that a review of the SFDR is urgently necessary to clarify and specify further the characteristics of the different categories of funds, to consent a correct evaluations of these products by their same managers and, consequently, by the investors that towards these products have to direct their investments. In particular, a significant contribution to solve the recognised problems might arrive from an SFDR review aimed at introducing minimum sustainability criteria for Article 8 products, as envisaged in the *Renewed Sustainable Finance Strategy* of the EU. In fact, Article 8 has become an all-encompassing category, home for a different range of asset types, with disparate strategies on ESG too. While some funds have aligned their strategies with the objectives defined by the SFDR, others have only formalized ESF exclusion, without changing any characteristic of their investment process or strategy. Many asset managers have justified the Artcle 8 classification simply by stating that ESG considerations were "included" in their investment decisions. According to a study by MainStreet Partners, in 21% of situations the Article 8 fund classification is questionable (MainStreet Partners, 2022). Morningstar, considering that 1.800 funds have been "upgraded" from Article 6 to Article 8 or 9 or from Article 8 to 9, with no funds "downgraded" from Article 8 or 9 to Article 6 and just 16 downgraded from Art. 9 to Art. 8, warns that funds which change their classification without making any changes to their investment strategies "*have legitimately raised concerns that asset managers are greenwashing their product ranges*" (Webb, 2022). According to Morningstar, 23% of funds labelled Article 8 under the SFDR do not meet its criteria of an ESG fund, so it has removed nearly 1.200 funds, with USD 1,4 trillion in AUM, off its European sustainable investing list, where the majority of these funds were self-declared Article 8 funds (Morningstar, 2022b). Moreover, we have seen previously that the EU SFDR also requires certain financial firms to report on how they consider and take into account *Principle Adverse Impact* (PAI) indicators (Art. 4 SFDR). At this stage, firms are only required to report voluntary on any actions planned to mitigate PAI, referring to their *Shareholder Rights Directive II* (SRD II) engagement policies too[3]. Considering that engagement by investors can be one of the most impactful tools, it seems clear that the requirements and provisions on shareholder engagement and stewardship in the SFDR will need to be strengthened considerably in future, as part of the necessary review of the SFDR.

[3] The *Shareholder Rights Directive II* (SRD II) (2017/828/EU), effective as of 10 June 2019, establishes an overarching shareholder engagement framework in Europe. Its aim is to enable institutional investors and asset managers to carry out longer-term shareholder engagement, improving the trasparency of the voting process and enhancing investor-company dialogue. In its current form, the SRD II applies a "comply or explain" basis, whereby investors and asset managers are not required to have any engagement policy, as they can offer an explanation as to the absence of one. In addition to this, investors are required to describe their processes for monitoring companies and voting, but not to report on the outcomes achieved. The legal provision hence fall short of ensuring substantive engagement that may lead to positive investor impact. So, some national stewardship have introduced higher standards than those legally mandated by the SRD II. An example is the UK Stewardship Code 2020, that demands more than a mere description of engagement policy, by requiring out-come-based reporting of the voting and engagenment actions. (EUROSIF, 2021)

4. SOME POLICY RECOMMENDATIONS FOR "ADJUSTING" SFDR

The *EU Sustainable Finance Disclosure Regulation* (SFDR) can be considered a fundamental "building block" of that European sustainable finance framework drafted with the EU Action Plan on Financing Sustainable Growth issued in March 2018. The SFDR was introduced to bring transparency to the market for investment products with sustainability-related claims, to enhance the comparability of products, to enable investors to better understand the impact of their investment decision, for channelling capital towards more sustainable activities and companies. Considering the detailed disclosure requirements introduced by the SFDR, applied as of March 2021, it is possible to understand that the SFDR was conceived of as a disclosure-based regulation, but, although it, we have seen previously that Financial Market Participants (product manufacturers, asset owners and distributors) have used the categories of products indicated in the SFDR as a labeling model, as a common point of reference and, in this kind of contest, they have faced a great number of difficulties in interpreting and applying its provisions. The conclusion is that the SFDR has increasingly been perceived and used as a product standard for classifications, although it was not equipped to fulfil this function currently. In fact, following the logic of a disclosure-based framework, the product categories in the SFDR have a broad scope, left voluntary broad to capture as wide a range of products as possible. This is a positive element when viewed from the perpective of transparency, ensuring that disclosures can be applied to a wide segment of the market, however significant risks emerge when this framework, designed only for transparency, starts being used to classify products. By contrast, a label will seek to define a standard to identify the products using cogent characteristics, better if quantitative and not only qualitative. It is almost clear that these two different logics require different approaches. So the SFDR needs urgently some "adjustments" that are necessary to ensure that the regulatory framework can be adapted to the use that the market and FMPs have made of it.

Some policy recommendations, addressed to policymakers "*for making the framework fit for purpose*" have been drafted by EUROSIF in June 2022 (EUROSIF, 2022), indicating also some solutions to realize them, and they are indicated as follows:

- "Disclosure framework used as a standard – making it fit for this role. *If SFDR is used by market participants as a product classification system, it reflects a need for such a framework. SFDR should be adjusted accordingly to fulfil this need. To achieve this, a clearer delineation between product categories is required to ensure that Financial Markets Participants (FMPs) can classify their investment products appropriately and in a manner that clearly conveys the characteristics of the product (…).*
- Introduce a new category of products focussing on sustainability risks and opportunities. *A clear distinction must be made between financial products taking into account sustainability-related risks and opportunities, focussing on financial materiality, and financial products integrating sustainability considerations as the heart of their investment process (…). This can be done by adding a new article to the legislation or amending the existing Article 6 SFDR on sustainability risks.*
- Clarify "promoting Environmental and Social characteristics. *Amending Article 8 to clarify that this category applies to product which can state and demonstrate the presence of binding environmental or social factors at the heart of the investment process, applicable to the entire investment portfolio. This could be achieved by referencing a subset of relevant Principle Adverse Impact (PAI) indicators as binding environmental or social characteristics in pre-contractual documentation depending on the objective of the product or strategy.*
- Clarify or remove the definition of "Sustainable Investment". *The definition of sustainable investment (Article 2(17) SFDR) currently leads to complications because there is no clear*

way of identifying and calculating which company qualifies as a sustainable investment, leading to a lack of comparability due to diverging interpretations. Currently there are two frameworks, SFDR and the EU Taxonomy, to define the notion of sustainability. This creates a complex duplication which is hard to apply uniformly across FMPs and will make comparability across products challenging. We recommend two options:

- *Option 1 – Developing in further details a methodology that would allow FMPs to calculate in a similar way their share of sustainable investments. (…). The risk is that it may show some duplication with the EU Taxonomy and be difficult to properly articulate in a way that makes it fully comparable.*
- *Option 2 –Removing the definition or aligning it with the definition of sustainable economic activity (Article 3 Taxonomy Regulation). (…) It may simplify operationally the application of regulation and remove a criterion which may be hard to compare. However, it carries the risk that FMPs will be left with reporting on their alignment with the Taxonomy which currently covers only a limited share of the economy and therefore of investment portfolios.*

- The MiFID Sustainability Preferences delegated regulation. *If the SFDR is updated with the above recommendations and Article 2(17) is removed or aligned with Article 3 Taxonomy (sustainable economic activity) in line with Option 2, the MiFID II delegated regulation could be modified to remove criteria (b) on the share of sustainable investments.*
- Develop a set of voluntary labels at European level. *In the longer-term, we would recommend looking at the possibility of creating a set of voluntary labels for financial products, seeking to define different levels of ambition, and providing a framework for investment strategies focussed on transition rather than on already sustainable economic activities*." (EUROSIF, 2022, pp. 3-4)

5. CONCLUSIONS

Analyzing the impact that the new European legislation is having on the sustainable investment market and evaluating whether the predisposed goals can be said to be achieved or not, we have seen that the critical elements of the implementation of the EU SFDR reside not so much in the disclosure obligations, but upstream, just in the definition of sustainable investment and in the product classification (as Article 6, Article 8 and Article 9). The inconsistency on the classification of the products represents nothing more than the prolongation of the problem that the SFDR itself had set out to eliminate, which is represented by greenwashing. This leads to a situation characterized by an excessive subjectivity by asset managers when they qualify the products that they offer. But, as seen above, the scenario could even get worse: in the absence of an intervention by the European legislator, the individual national supervisory authorities could intervene, providing clarifications on the classification within their own markets. Consequently, the European investment market could be fragmented, compromising the cross-border distribution of sustainable products and forcing asset managers to navigate through a "patchwork" of different regulatory regimes, with evident problems for the realisation of the EU Capital Markets Union too. Therefore, in the light of the interpretative difficulties that have arisen in the SRI market with the introduction of the SFDR, it is clear that there is the need of an urgent regulatory intervention that can definitively fill the uncertainty points of the existing regulation, "*for making the framework fit for purpose*", allowing its useful implementation and reducing, at the same time, the risk of greenwashing. And greenwashing is just one of the most dangerous risk for the future growth of a sustainable finance that the new regulatory initiatives have showed to want to tackle.

The *European Securities and Market Authority* (ESMA) is well awareness of this if in its "*Sustainable Finance Roadmap 2022-2024*", issued on 10 February 2022, defines in the following way the three priorities for ESMA's sustainable finance work in this period:

a) *Tackling greenwashing and promoting transparency;*
b) *Building National Competent Authorities (NCAs) and ESMA's capacities, for a better understanding of the intersection between sustainability matters and finance;*
c) *Monitoring, assessing and analysing ESG markets and risks* (ESMA, February 2022).

Then, it is possible to point out that there is also a problem in terms of *ESG rating activities*: the ESG ratings represent valuable instruments to convey market signals and their use provides meaningful informations about the way SRI investors evaluate the ESG credentials of the investee company or fund. The ESG ratings currentlt available employ differing methodologies and neither the companies subject to the rating, nor the investors using them in their investment process can understand how these ratings are determined by the provider. A lack of standardized criteria, used by the different ESG rating agencies, makes as consequence extremely difficult for investors the possibilty to compare the various financial instruments, as SRI funds, in which they want to invest. The same EU Commission has planned to conduct an impact assessment with the aim to improve the trasparency, the comparability and the reliability of ESG ratings. A new rating system "*that measure the economic, human and environmental costs of market failure caused by corporations*" (Taparia, 2021) is thus required to drive investments towards achieving positive ESG outcomes and send strong market signals (EUROSIF, 2021). Considering that additional analysis and metrics are required to assess fund's ESG credential, the same SFDR has to formalize guidelines around ESG metrics started in January 2023 (Level 2 of SFDR), increasing trasparency and comparability for investors. A related problem is also present in terms of disclosure in ESG activities: in this sense is just going the European regulation, with the new *Corporate Sustainability Reporting Directive* (CSRD), approved on 28 November 2022 by the EU Council (EU Council Press, 2022), which amplifies the audience of recipients and also strengthens the existing rules on non-financial reporting, introduced by the *Non-Financial Reporting Directive* (NFRD) issued in 2014, rules that are no longer tailored to the deep European transition towards a sustainable economy.

But these are all elements which need to be analysed in a deeper way, representing possible subjects of further research.

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ROLE OF AI-POWERED CHATBOTS IN BUILDING CUSTOMER-BRAND RELATIONSHIPS: USING SEQUENTIAL EXPLANATORY RESEARCH DESIGN

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ABSTRACT

Artificial Intelligence (AI) has been shaping marketing and service-related tactics including sales approach, customer behavior, and customer support options on a larger scale. Therefore, in the era of Artificial Intelligence, many firms are widely taking advantage of AI-powered Chatbots to enhance customer relationships with the brand. But the question that arises here that how the brands can use the tactics to create a customer relationship with the brands. Keeping it in view, this paper aimed to explore the experiences of customers and brands in using AI-powered Chatbots and to evaluate the impact of these tools on customer-brand relationships. In this regard, the research followed a mixed method using sequential explanatory research design, including quantitative and qualitative approaches, whereby the primary data was collected using an online survey. The research collected a total of 116 responses and carried out analysis using SPSS STATISTICS. In second phase, the study used previous articles and literature to present the secondary findings. The results indicated a positive and significant influence of interactivity, information/accessibility, and customization features of AI-Powered Chatbots on the customer-brand relationship. In addition, the study's findings revealed a positive and strong association of these features with the customer-brand relationship. Based on the results of the research, it can be recommended that companies and brands looking to enhance customer-brand relationships should consider using AI-powered Chatbots.

Keywords: *AI-powered Chatbots, Customer-Brand Relationship, Mixed-Method Research, Brand*

1. INTRODUCTION

Customers acquire experience at various points in their journey through interaction with human representatives (employees), functional elements (technical qualities), and mechanical (sensory) components (Prentice & Nguyen, 2020). Each of the three factors significantly contributes to the customer's emotional and cognitive evaluation of the quality of the service. According to research, Artificial Intelligence (AI) tends to shape marketing and service-related tactics, including sales approach, customer behavior, and customer support options (Dwivedi et al., 2021). Therefore, in the era of Artificial Intelligence, many firms are widely taking advantage of AI-powered Chatbots to enhance customer relationships with the brand. This technology has been introduced in recent years to offer a more human-like service interaction across various customer touchpoints. According to Kushwaha et al. (2021) work, the purpose is to enhance the customer experience by providing a reliable and accessible communication channel. The customers are considered the strength of the brand. They play a crucial role in the success of a business as they provide the revenue that allows the brand to operate and grow. For this reason, brands often view their customers as valuable assets and try to understand their needs and preferences to serve them better. But the question that arises here that how the brands can use the tactics to create a customer relationship with the brands. Therefore, this research aims to assess one of the popular AI technologies, i.e., Chatbots, and how these are playing a significant role as a bridge to building a customer-brand relationship.

The rapid advancements in artificial intelligence (AI) have reshaped the landscape of marketing and customer interactions in recent years. Among the various AI applications, chatbots have emerged as a prominent tool for businesses to engage with customers, offering personalized and interactive experiences (Cheng & Jiang, 2022; Aslam & Farhat, 2023). The adoption of AI-powered chatbots has significantly impacted the way customers perceive and interact with brands, with previous studies highlighting the potential of chatbots to enhance customer experience, satisfaction, and brand engagement (Trivedi, 2019; McLean, Osei-Frimpong, & Barhorst, 2021; Hari, Iyer, & Sampat, 2022). Despite the growing interest in using AI-powered chatbots, several research gaps and problems still need to be addressed. First, while some studies have investigated the role of chatbots in the context of banking and financial services (Ho & Chow, 2023; Hari, Iyer, & Sampat, 2022), little attention has been paid to other industries such as retail, e-commerce, and luxury brands (Rahman et al., 2023; Li & Wang, 2023). Additionally, the role of digital multisensory cues in shaping customers' engagement and perception of AI-powered chatbots has yet to be thoroughly explored (Rahman et al., 2023). The underlying psychological processes that drive customers to develop and maintain brand relationships through chatbots still need to be investigated (Lin & Wu, 2023; Tsai, Liu, & Chuan, 2021). Understanding these processes can provide valuable insights into the design and implementation of chatbot strategies to foster stronger customer-brand relationships. The challenges and limitations of using AI-powered chatbots to build customer-brand relationships have not been sufficiently examined (Gołąb-Andrzejak, 2023; Al-Tuama & Nasrawi, 2022). Identifying these challenges and limitations is essential for businesses to overcome potential obstacles and successfully integrate chatbots into their marketing and customer service efforts. By bridging these gaps, this research contributes to the existing body of knowledge and provides practical implications for businesses seeking to leverage AI-powered chatbots to strengthen customer-brand relationships:

1) To explore the experiences of customers and brands in using AI-powered Chatbots and to evaluate the impact of these tools on customer-brand relationships.
2) To examine the impact of features, including interactivity, information/accessibility, and customization of AI-Powered Chatbots on the customer-brand relationship.
3) To investigate the relationship between features of AI-Powered Chat and customer-brand relationship.
4) To compare and contrast the results from both qualitative and quantitative data collection methods and to draw conclusions about the role of AI-powered Chatbots in building Customer-brand relationships.

2. LITERATURE REVIEW

2.1. Experience of customers and brands in using AI-powered Chatbots in Customer-brand relationships

AI-powered chatbots have revolutionized how customers and brands interact, resulting in a paradigm shift in customer-brand relationships (Cheng & Jiang, 2022; Aslam & Farhat, 2023). Chatbots have been increasingly adopted by businesses across various industries to improve customer experience, satisfaction, and brand engagement (Trivedi, 2019; McLean, Osei-Frimpong, & Barhorst, 2021; Hari, Iyer, & Sampat, 2022). This section reviews the existing literature on the experiences of customers and brands in using AI-powered chatbots in customer-brand relationships. AI-powered chatbots have been found to enhance customer experience and satisfaction through personalized and interactive communication (Nguyen, Quach, & Thaichon, 2022). Customers appreciate the convenience, speed, and accessibility of chatbots in addressing their needs and queries (Ho & Chow, 2023; Li & Wang, 2023). For instance, Trivedi (2019) examined the customer experience of using banking chatbots and found a positive impact on brand love, mainly when perceived risk was low.

Similarly, Hari, Iyer, and Sampat (2022) found that chatbots on bank websites positively influenced customer brand engagement by providing instant, personalized responses to customer queries. The role of digital multisensory cues in shaping customer engagement with AI-powered chatbots has been explored by Rahman et al. (2023), who found that such cues significantly influenced customer engagement in the context of luxury brand online shopping experiences. This study suggested that integrating multisensory cues, such as visual, auditory, and haptic elements, into chatbot interactions can enhance the overall user experience and foster stronger customer-brand relationships. The underlying psychological processes driving customers to develop and maintain relationships with brands through chatbots have been investigated by several researchers (Lin & Wu, 2023; Tsai, Liu, & Chuan, 2021). Lin and Wu (2023) examined the psychological process of developing consumer-brand relationships through the strategic use of social media brand chatbots. They found that trust, perceived usefulness, and perceived enjoyment significantly influenced customer attitudes towards brands. Tsai et al. (2021) highlighted the importance of chatbots' social presence communication in enhancing consumer engagement, with parasocial interaction and dialogue serving as mediators.

2.2. Impact of interactivity, information/accessibility, and customization of AI-Powered Chatbots on the customer-brand relationship

2.2.1. Interactivity

AI-powered chatbots have the potential to provide interactive and engaging communication experiences for customers, which can significantly influence customer-brand relationships (Tsai, Liu, & Chuan, 2021; Lin & Wu, 2023). Tsai et al. (2021) found that chatbots' social presence communication enhances consumer engagement, with parasocial interaction and dialogue serving as mediators. Lin and Wu (2023) also emphasized the importance of trust, perceived usefulness, and perceived enjoyment in shaping customer attitudes towards brands, which the interactive nature of chatbot conversations can influence.

2.2.2. Information/Accessibility

The accessibility and provision of information by AI-powered chatbots play a crucial role in shaping customer-brand relationships (Ho & Chow, 2023; Hari, Iyer, & Sampat, 2022). Customers appreciate the convenience, speed, and accessibility of chatbots in addressing their needs and queries, which can positively impact their satisfaction and brand engagement (Trivedi, 2019; Nguyen, Quach, & Thaichon, 2022). For instance, Ho and Chow (2023) found that AI-powered chatbots positively influenced customers' brand preference for retail banks in Hong Kong by providing instant access to relevant information and services. Similarly, Hari et al. (2022) demonstrated that chatbots on bank websites improved customer brand engagement by offering timely, personalized responses to customer queries.

2.2.3. Customization

Customization is another key aspect of AI-powered chatbots that can significantly affect customer-brand relationships (McLean, Osei-Frimpong, & Barhorst, 2021; Li & Wang, 2023). The ability of chatbots to provide personalized and tailored experiences can enhance customer satisfaction and brand engagement. McLean et al. (2021) examined the influence of AI-powered voice assistants on consumer brand engagement and found that personalization and customization features were significant factors driving engagement. Additionally, Li and Wang (2023) explored the effect of chatbot language style on customers' continuance usage intention and attitude toward brands in e-commerce, emphasizing that a customized communication style can foster stronger customer-brand relationships.

2.3. Relationship between features of AI-Powered Chat and customer-brand relationship

The existing literature highlights the critical role of various features of AI-powered chatbots in shaping customer-brand relationships. Interactivity and responsiveness are essential aspects that have significantly influenced customer engagement and satisfaction (Tsai, Liu, & Chuan, 2021; Lin & Wu, 2023). The ability of chatbots to provide relevant information and ensure accessibility has also been identified as a key factor in fostering strong customer-brand relationships (Ho & Chow, 2023; Hari, Iyer, & Sampat, 2022). In addition, customization and personalization features have been found to impact customer satisfaction and brand engagement substantially (McLean, Osei-Frimpong, & Barhorst, 2021; Li & Wang, 2023). These studies collectively emphasize the importance of developing AI-powered chatbots focusing on interactivity, responsiveness, accessibility, and personalization to foster stronger and more meaningful customer-brand relationships.

2.4. Limitations and challenges of using AI-powered Chatbots

Despite the potential benefits of AI-powered chatbots in building customer-brand relationships, several challenges and limitations have been identified in the literature (Gołąb-Andrzejak, 2023; Al-Tuama & Nasrawi, 2022). Gołąb-Andrzejak (2023) emphasized the need for businesses to overcome technical, organizational, and data-related challenges when implementing chatbot solutions. Al-Tuama and Nasrawi (2022) surveyed the impact of chatbots on marketing activities. They identified several challenges, including privacy concerns, lack of human touch, and potential miscommunication due to language barriers or limited chatbot capabilities. Although AI-powered chatbots offer numerous benefits for enhancing customer-brand relationships, several limitations and challenges exist in their implementation and usage. This literature review explores some of the primary concerns and issues that researchers have identified in the context of AI-powered chatbots. One of the most prominent challenges associated with AI-powered chatbots is their technical limitations (Al-Tuama & Nasrawi, 2022). Further, Chatbots may need to help understand complex or ambiguous user queries, leading to inaccurate or irrelevant responses. Moreover, chatbots' natural language processing capabilities may need to be advanced enough to recognize variations in language, slang, or dialects, resulting in suboptimal communication experiences for users. Besides, AI-powered chatbots typically lack the emotional intelligence to effectively recognize and respond to users' emotions (Surikova, Siroda, & Bhattarai, 2022). This limitation can hinder the development of meaningful customer-brand relationships, as chatbots may need to help to empathize with users or respond to their emotional needs. Human-like conversational agents with emotional intelligence capabilities are necessary to foster strong customer connections. Finally, privacy and security concerns are significant challenges associated with AI-powered chatbots (Aslam & Farhat, 2023). Customers may hesitate to share sensitive information with chatbots, fearing data breaches or unauthorized access to their data. Building trust in chatbots' security and privacy measures is crucial for encouraging customers to engage with them more openly.

3. RESEARCH METHODOLOGY

3.1. Research Design

The research design refers to the plan or strategy for conducting a study. It involves making decisions about the type of study to be conducted, the methods to be used, and the procedures to be followed, to achieve the research objectives. A research design provides a roadmap for the collection, analysis, and interpretation of data (Asenahabi, 2019). Therefore, this research is aimed to be systematic, efficient, and effective. According to Mele et al., (2019) work, a research design is broadly comprised of review-based, experimental, correctional, semi-experimental, interpretive, and exploratory.

Due to this, the research is conducted by exploratory, correctional, and descriptive designs to assess the role of AI-powered Chatbots on customer-brand relationships.

3.2. Research approach

Research approaches refer to the broad philosophical and theoretical frameworks that guide the design and conduct of a research study. The research of Grønmo, (2019) classified the research approaches into three categories which include the Quantitative research approach which uses numerical data and statistical methods to address the research problem, the Qualitative research approach which uses non-numerical data, such as interviews, observations, and texts, to understand and interpret human experiences and behaviors, and Mixed methods research approach which combines both qualitative and quantitative research methods to gain a more comprehensive understanding of a research problem. In this research, the mixed method is used to correctly analyze the impact of AI-powered Chatbots on customer-brand relationships.

3.3. Data Collection

The work from HR et al., (2022) explained that data collection refers to the process of gathering information or data from various sources to be used in a research study. Data collection is a crucial step in the research process; therefore, this research uses quality data in determining the validity and reliability of the research results. The detailed work of Sileyew & K (2019) depicts that the data can be collected from surveys, observations, experiments, and interviews. This research used the survey and archival data to examine the relationship between customers and brands in terms of an AI-powered Chatbot to draw accurate results and conclusions.

3.4. Data Sampling

Data sampling is the process of selecting a subset of individuals or observations from a larger population to conduct research (Ames et al., 2019). The research of Mahmud et al., (2020) found that there are several types of sampling methods, including random sampling, stratified sampling, systematic sampling, cluster sampling, convenience sampling, and purposeful sampling. In this research, convenience sampling is used because it was not feasible to study the entire population. Finally, the Likert scale is well suited and truly useful for indicating the degree of agreement with and disagreement with several statements about attitude, perception, object, person, or event (Taherdoost, 2019). Therefore, the study used 17 closed-ended questions based on a 5-point Likert scale.

3.5. Data Sampling

Regarding the role of BCT on customer trust and reputation, this study carried out data from the consumers. The convenient sampling technique is used to obtain the required data. The research aimed to survey 300 respondents which included data on their demographic information along with a questionnaire of 17 closed-ended questions on a 5-point Likert scale. The online questionnaire survey is used as it is convenient and cost-effective which also increases the response rate (Bartram, 2019) Therefore, the quantitative part of the study is conducted with an online survey.

3.6. Data Analysis

Secondary data which is collected from the work of the previous researchers help to understand the concepts they used and is referenced in the study. While the numerical data gathered from the survey is analyzed using mathematical and statistical methods to assess the effects of BCT on customer trust and brand reputation. According to Sen et al (2022), researchers prefer using the Statistical Package for the Social Sciences (SPSS) program to conduct the statistical analysis, as it improves accuracy and representativeness.

SPSS is widely used in quantitative research due to its ability to perform complex data analysis efficiently and accurately. It provides a user-friendly interface and a variety of statistical tools for data manipulation, descriptive statistics, inferential statistics, and data visualization. The significance of SPSS lies in its ability to help researchers process, analyze, and interpret large amounts of data in a relatively short amount of time, allowing them to draw accurate and meaningful conclusions from their research. In this regard, the SPSS program has been used to obtain the findings from the survey as quantitative outcomes. At first, the data was sorted out and the responses that were completely filled (116) were considered for the analysis. Specifically, the paper performed statistical tests, including frequencies, descriptive statistics, reliability and validity, t-test, matrix of correlation, and regression estimation to achieve the objectives. The qualitative results are interpreted by assessing the existing literature.

4. RESEARCH FINDINGS

4.1. Quantitative Findings

4.1.1. Demographic characteristics of Participants

The general characteristics of the study’s participants, including gender, age, level of qualification, and frequency of using Chatbots are shown in the following table. As per the above statistics, most of the participants (60.34%) were females while 39.66% were males. In terms of age, the majority of participants fall between the ages of 26 and 35 years (45.69%) while the smallest group is older than 55 (5.17%). The majority of participants hold a Bachelor's or equivalent degree (58.62%) while a smaller number holds a Master's or equivalent degree (32.76%). The least educated participants hold a High School degree (5.17%), and most educated participants (PhD degree) holds 3,45%. The results also show that a large majority of participants use Chatbots frequently (96.55%).

Participant's Characteristics		
Gender	N	%
Male	46	39.66
Female	70	60.34
Age		
18 – 25 Years	8	6.90
26 – 35 Years	53	45.69
36 – 45 Years	34	29.31
46 – 55 Years	15	12.93
Older than 55	6	5.17
Level of Qualification		
High School	6	5.17
Bachelor's or Equivalent Degree	68	58.62
Master or Equivalent Degree	38	32.76
PhD Degree	4	3.45
Do you use Chabot frequently?		
No	4	3.45
Yes	112	96.55

Table 1: Participant's Characteristics
(Source: author)

4.1.2. Descriptive Statistics

Descriptive statistics assist in summarizing the supporting and non-supporting data. These statistics, including the mean and standard deviation for each sample, are indicated below.

Considering the above statistic, it is observed that entire elements have a mean value greater than 3. This means higher supportive data for the study's propositions. In addition, the standard deviation of each element is close to 1, depicting a higher central tendency of the responses toward mean value. In simple words, a larger number of participants have agreed that the AI-powered Chatbot provides personalized attention (mean=3.59), possesses sufficient knowledge for customer inquiries (mean=3.66), and is able to answer accurately (mean=3.87). Moreover, most of the research respondents believe that AI-powered Chatbot provides timely information (mean=3.97), offers suggestions (mean=3.57), and is capable to provide instant responses anytime and anywhere (mean=3.59). Similarly, a larger portion of participants also thinks that AI-powered Chatbot can successfully complete the task (mean=3.89), promptly address comments (mean=3.89), and genuinely address issues (mean=3.97) ultimately satisfying individual requirements (mean=3.91). Most importantly, the majority of respondents prefer brands using Chatbot (mean=3.83) and value relationship with the brand (mean=3.68) over not having one. Finally, a larger number remain highly satisfied with the use of Chatbot by Brands (mean=3.86); thinking that it assists brands in maintaining a long-term commitment (mean=3.86). Thus, the participants will continue buying products/services from brands that use Chatbots (mean=3.77).

Descriptive Statistics		
	Mean	**Std. Dev**
Interaction		
Provides personalized attention to each customer	3.59	1.04
Possesses sufficient knowledge to respond to customer inquiries	3.66	1.03
Highly attentive to current customer needs	3.70	1.11
Able to answer questions accurately	3.87	1.09
Information and Accessibility		
Provides timely information that aids in my purchasing decisions	3.97	0.98
Offers suggestions on the company's products/services	3.57	1.13
Assists in comprehending events occurring within the company	3.77	1.02
Capable of providing instant responses anytime and anywhere	3.59	1.09
Customization		
Possesses the capability to successfully complete the task	3.89	0.95
Promptly and directly address customer complaints	3.89	0.88
Genuinely addresses customer issues	3.97	1.03
This customer service satisfies my individual requirements	3.91	1.05
Customer Brand Relationship		
Prefer brands using Chatbot over not having one	3.83	1.07
Value relationship with the brand; one that uses Chatbot	3.68	1.03
Highly satisfied with the use of Chatbot by Brands	3.83	1.03
Highly assist brands in maintaining a long-term commitment	3.86	0.98
Continue buying products/services from brands that use Chatbots	3.77	1.07

Table 11: Descriptive Statistics
(Source: author)

4.1.3. Reliability and Validity

Reliability and validity estimation assists in understanding whether the collected data can be relied on or not. As a thumb rule, Cronbach's alpha value greater than 0.70 is considered acceptable. These statistics for the collected samples are indicated in table 3. The Cronbach's alpha value of interaction, information/accessibility, customization, and customer brand relationship is around 0.856, 0.743, 0.878, and 0.865, respectively. Thus, entire samples are found credible and valid for analysis.

Reliability Statistics		
Sample	Cronbach's Alpha	N of Items
Interaction	0.856	4
Information and Accessibility	0.743	4
Customization	0.878	4
Customer Brand Relationship	0.865	5

Table 3: Reliability Statistics
(Source: author)

4.1.4. T-Test

A t-test is a statistical hypothesis test used to determine whether there is a significant difference between the means of two groups or not. Similarly, this paper performed the test on collected sample groups whereby the findings are presented in table 4. It is observed that an overall average score of information, information/accessibility, customization, and customer brand relationship is around 3.703, 0.726, 0.916, and 3.793, respectively. This indicates a higher agreeableness of the participants with the study's propositions. In addition, the t-statistics of interaction, information/accessibility, customization, and customer brand relationship is around 8.472, 9.869, 11.773, and 10.216, respectively, along with a p-value of 0.000 for each sample. This means there is a significant difference between the means of these groups. Thus, the null hypothesis remains rejected. The results of the t-test show statistically significant differences between the mean values of the interaction, information and accessibility, customization, and customer-brand relationship variables compared to a hypothetical value of 3. The p-values for all variables are less than 0.05, indicating that the differences are significant at a 95% confidence level. The mean difference for interaction (0.703), information and accessibility (0.726), customization (0.916), and customer-brand relationship (0.793) all indicate that the AI-powered chatbots have a positive impact on these aspects, as their respective means are more significant than the hypothetical value of 3. Therefore, the findings suggest that AI-powered chatbots significantly improve interaction, information and accessibility, customization, and customer-brand relationships. These results provide evidence that implementing AI-powered chatbots can enhance various aspects of the customer experience and contribute to building stronger customer-brand relationships.

T-Test					
	Mean	t	df	P-Value	Mean Difference
Interaction	3.703	8.472	115.000	0.000	0.703*
Information and Accessibility	3.726	9.869	115.000	0.000	0.726*
Customization	3.916	11.773	115.000	0.000	0.916*
Customer Brand Relationship	3.793	10.216	115.000	0.000	0.793*
*. Test at a hypothetical value 3.					

Table 4: Independent sample t-Test
(Source: author)

4.1.5. Matrix of Correlations

Researchers estimate a matrix of correlation to depict the association between variables. Similarly, following the approach, the correlation between the variables of this study is shown in the following table. The results indicate a positive and strong correlation of customer-brand relationship with interaction (r=0.768), with information/accessibility (r=0.846), and with customization (0.742). This means the interaction, information/accessibility, and customization features of AI-Powered Chatbots are directly linked with the customer-brand relationship.

Correlations				
	Customer Brand Relationship	Interaction	Information and Accessibility	Customizatio n
Customer Brand Relationship	1	.768**	.846**	.742**
Interaction	.768**	1	.791**	.642**
Information and Accessibility	.846**	.791**	1	.723**
Customization	.742**	.642**	.723**	1
**. Correlation is significant at the 0.01 level (2-tailed).				

Table 5: Matrix of Correlations
(Source: author)

4.1.6. Regression analysis

Regression analysis is used to determine the impact of one variable over another one along with the strength of the impact. The statistics for the variables of interest are indicated in table 6. Table 6 presents a multiple regression analysis that examines the relationship between three independent variables (interaction, information and accessibility, customization) and the dependent variable, likely customer-brand relationship or satisfaction. The model's constant term (intercept) is 0.133, with a standard error of 0.196. The t-statistic for the constant is 0.677, and the corresponding p-value is 0.500. This result indicates that the constant term is not statistically significant, which suggests that when all independent variables are equal to zero, the dependent variable does not significantly differ from the constant term. The regression coefficients for interaction (Beta = 0.218), information and accessibility (Beta = 0.499), and customization (Beta = 0.241) represent the expected change in the dependent variable for a one-unit increase in the respective independent variable, holding all other variables constant. The positive values of these coefficients indicate that increases in interaction, information and accessibility, and customization are associated with increases in the dependent variable. The t-statistics and p-values for the independent variables show that all three are statistically significant predictors of the dependent variable. Interaction has a t-statistic of 2.894 and a p-value of 0.005, indicating its significant relationship with the dependent variable at the 95% confidence level. Information and accessibility have a t-statistic of 5.971 and a p-value less than 0.001, which signifies a strong, statistically significant relationship. Customization has a t-statistic of 3.615 and a p-value less than 0.001, demonstrating its significant contribution to predicting the dependent variable. Therefore, the regression results show that interaction, information and accessibility, and customization are all significant predictors of the dependent variable, likely representing customer-brand relationship or satisfaction. This finding suggests that improving these aspects of AI-powered chatbots can lead to better customer experiences and stronger customer-brand relationships.

Regression Coefficients				
Construct	Beta	Std. Error	T-Statistics	P-Value
(Constant)	0.133	0.196	0.677	0.500
Interaction	0.218	0.071	2.894	0.005
Information and Accessibility	0.499	0.088	5.971	0.000
Customization	0.241	0.067	3.615	0.000

Table 6: Regression Coefficients
(Source: author)

At first, the value of r-squared is around 0.769. This shows a very strong explanation of the model. In simple words, 76.90% of the variations in the customer-brand relationship are explained by interactivity, information/accessibility, and customization.

Model Summary		
R-Square	Adjusted R-Square	Std. Error
0.769[a]	0.763	0.407
a. Predictors: (Constant), Interaction, Information and Accessibility, Customization		

Table 7: Model Summary
(Source: author)

4.2. Qualitative Findings

4.2.1. Using Chatbots for Marketing

Chatbots have become an increasingly popular tool for marketing, as they can help companies to engage with customers, provide personalized suggestions, and offer assistance with purchases (Ko et al., 2016). Qualitative research has been conducted to explore the potential benefits and challenges of using Chatbots in this way, and the findings are quite interesting. One major finding is that Chatbots can be very effective in generating leads and increasing sales, particularly when they are designed and implemented properly (Illescas-Manzano et al., 2021). For example, Chatbots can be programmed to ask customers about their needs and preferences and provide them with tailored recommendations based on their responses. This can help to improve the customer experience and increase the likelihood of a sale. In addition, Chatbots also being used to provide customers with information about promotions, discounts, and other marketing initiatives. As this can help to drive sales and increase customer engagement with the brand (Neidhardt & Wörndl, 2020). However, the study also found some challenges associated with using Chatbots for marketing. For example, customers may find Chatbots to be impersonal or intrusive, particularly if they are not used in a way that aligns with the customer's expectations or preferences (Skjuve, et al., 2019). Another potential challenge is that Chatbots may not be able to provide the same level of psychological link as a human marketing representative. This can be particularly important in situations where customers are dealing with sensitive or complex issues and may require a more human touch (Skjuve et al., 2021).

4.2.2. Customer Brand Engagement through the Chatbots

In recent years, Chatbots have become increasingly popular as a means of engaging with customers in the online space. As such, many companies have turned to Chatbots as a way to improve customer engagement and brand loyalty. Qualitative research has shown that Chatbots can indeed be effective in achieving these goals. One major finding is that customers appreciate the convenience of Chatbots. Chatbots allow customers to quickly and easily get the information they need without having to navigate through a complicated website or wait on hold for a customer service representative. This convenience factor can lead to increased customer satisfaction and can also help to build brand loyalty (Shumanov & Johnson, 2021). Customers also appreciate the ability to access a Chatbot at any time of day, even outside of normal business hours. This can be especially important for customers who live in different time zones or who work irregular hours. By being available 24/7, Chatbots can help to build trust and convenience, which can lead to increased engagement and loyalty (Jenneboer et al., 2022). Another key finding is that customers appreciate when Chatbots can offer tailored recommendations or solutions based on their individual needs and preferences. For example, a Chatbot that suggests products or services based on a customer's purchase history can make them feel valued and understood. This type of personalization can make customers feel more connected to the brand and can also help to build trust and loyalty over time (Ho, 2021). Chatbots can also be effective in resolving customer issues and complaints. Qualitative research has shown that customers appreciate the speed and efficiency with which Chatbots can resolve their problems. By quickly addressing customer issues, Chatbots can help to build trust and goodwill, which can lead to increased engagement and loyalty (Jenneboer et al., 2022). Additionally, qualitative research has shown that Chatbots can be an effective way to build brand awareness and engagement. By offering helpful tips, product recommendations, and other resources, Chatbots can help to establish a relationship between customers and the brand. This relationship can lead to increased brand recognition, positive word-of-mouth marketing, and ultimately, increased sales (Nordheim et al., 2019). Chatbots can also be used to provide customers with educational resources, such as tutorials, guides, and FAQs. By offering these resources through a Chatbot, companies can ensure that customers are getting the information they need in a format that is easy to understand and accessible. This can be especially important for complex products or services, where customers may need extra support and guidance (Følstad & Skjuve, 2019).

4.2.3. Customer Brand Relationship through the Chatbots

The qualitative findings of a study on customer brand relationship through Chatbots revealed that customers tend to form an emotional bond with Chatbots when they perceive them as friendly and helpful. The Chatbot's ability to provide customized recommendations and prompt responses to queries were key factors that influenced customers' attitudes towards the brand. customers valued the Chatbot's ability to provide individualized suggestions based on their previous interactions and preferences (Chung et al., 2020). The US markets have launched over 30,000 Chatbots on texting applications such as Facebook, and Viber. As this feature enhanced the customer's sense of being understood and valued by the brand, further strengthening the psychic connection (Cheng & Jiang, 2022). Moreover, customers appreciated Chatbots that were able to resolve their issues quickly and efficiently, without the need for long wait times or transfers to human agents. They also preferred convenience and accessibility that Chatbots offer, allowing them to access information or solve problems at any time without the need to speak to a human representative. According to 42% of participants, the three primary benefits of utilizing Chatbots are their comfort, quickness, and flexibility of use (Sanny et al., 2020). However, the study found that the quality of the Chatbot's responses was essential in shaping customer perceptions of the brand. Chatbots that provided inaccurate or irrelevant information could harm the customer's trust in the brand and lead to negative associations. Customers expect Chatbots to provide accurate and helpful information, just like they would expect from a human customer service representative. When Chatbots fail to provide satisfactory responses, customers can become frustrated and lose trust in the brand. Therefore, it is important to ensure that Chatbots are designed with high accuracy and relevance in mind by using effective natural language processing, machine learning algorithms, and integrating the Chatbot with relevant data sources to provide up-to-date information (Kushwaha et al., 2020).

5. DISCUSSION

Customers are considered potential and valuable assets for the brand. So, good customer relationship is very important for the brand. Importance of the interaction with customers is creating the need for a digital environment such as Chatbot. The objective of this research was to examine the role of AI-powered Chatbots in building customer-brand relationships. The research followed the dual method of quantitative as well as qualitative method for analysis. The finding of the study shows the positive impact of AI-Powered features, including interaction, information/accessibility, and customization on the customer-brand relationship.

5.1. Chatbots Interaction and Customer-Brand Relationship

The result from the correlation analysis shows a positive association between customer-brand relationships with interaction. So, pieces of evidence of the improvement in the customer-brand relationship are found with the utilization of interaction AI-Powered Chatbots. The interaction of the customer is very important in providing positive support to the brand; however, if the interaction of the customer with the brand is not in a positive way, it can affect the customer-brand relationship. Under limited social interaction, AI customer communications and interaction are different (Huang et al. 2021). Constructing an effective relationship with the customer is a potential factor for the long-term success of the brand. The interaction with an AI agent is considered a beneficial factor for the customer-brand relationship. However, interaction with AI agents is considered a risk factor for the customer-brand relationship if it is not operates in positive and efficient way. The researcher explores the Chatbot e-service as an improvement tool for brand engagement with customers and in customer service encounters (Chung et al., 2020). Ho & Chow (2023) suggest that marketing efforts AI have a significant effect on the brand experience and repurchase intention of the consumer. Good engagement with the customer helps the brand to grow its customer retention. A strong relationship with customers is also a sign of a more secure and trustworthy connection, that helps to validate the opinion of customers, which further helps to build a community. There are several interactive marketing tools that businesses can use to ensure that their customers are engaging with a brand and build customer relationships. Factors such as security and privacy are also supportive agents for increasing the efficiency of customer interaction. The multitasking, centralization, coordinating, and structuring capability of the Chabot improve the interactions simultaneously, and the technology supports the ideal gain in efficiency of customer services (De Andrade et al., 2022). AI technology with Chabot improves the efficiency of customer satisfaction (Brill et al., 2019). Chatbots' inability to address more specific or complex requests was regarded as a major limitation. However, Chabot need to improve the ability to interact in complex situations.

5.2. Chatbots Information/Accessibility and Customer-Brand Relationship

The finding of the study suggests a positive association between customer-brand relationships with Chatbot's information/accessibility. Similarly, the positive impact of the Chatbot's information/accessibility on customer-brand relationships is reported. Chatbot marketing directly efforts the quality and value of communication, and also it indirectly affects customer response and customer–brand relationships (Cheng & Jiang, 2022). Brand customer relationship efficiency and customer satisfaction are positively influenced by the perceived utilitarian and hedonic attributes of Chatbots (Magno & Dossena, 2022). Additional contributing factors such as and system quality of the Chatbot also provide beneficial support to customer satisfaction which further contributes to the customer-brand relationship. Chatbots are considered as the broadly circulate information source, scalable, widely accessible, and have the ability to gather to collect information from a vast audience. These characteristics enable it to perform the in a more efficient and effective way (Amiri & Karahanna, 2022).

The accessibility attribute of the Chatbots by sensing the user intention and responding to social prompts makes it more efficient for the customer-brand relationship (Maniou & Veglis, 2020). Similarly, the recognition of the emotion can also provide potential influence on customer-brand relationships. The variety of responses to the different accessibility features of the Chatbots supports consumer satisfaction and loyalty to the brand. The response can vary such as with voice, text message, and image or another way, this kind of accessibility helps the consumer to understand the quality and value of the product and brand. Further, the quality of the information including the accuracy, format of the information, and completeness support the customer-brand relationship. The interaction of the Chatbots with consumers is more familiar and is helping in increasing customer satisfaction, which further improves the brand relationship with the customer Moreover, Chatbots allow the presentation of information in a more effective way that helps the consumer to understand and interpret the information with a more efficient approach.

5.3. Chatbots Customization and Customer-Brand Relationship

This study shows a positive association between customization and customer-brand relationships. Similarly, the positive impact of the AI-Powered features customization on the customer-brand relationship is found. So, indications of the enhancement in the customer-brand relationship are found with the utilization of customization AI-Powered Chatbots. These results are similar to the finding from the previous literature. The customization of the AI-Powered Chatbots provides better customer insight as well as multilingual and Multichannel support, effective personalization, and better marketing to provide support in building the customer-brand relationship. The human and personal approaches of the Chatbots are found to have a significant impact on the brand experience as well as the repurchasing intention of the customer. The customization feature of the Chatbots provides more personalization, which creates a positive attitude among the consumer, which further positively affects the consumer's attention and loyalty. The characteristic of the customer-brand relationship such as brand awareness, brand loyalty, and perceived quality is supported by the customization feature of the Chatbots. The Customization feature of the Chatbots enables the customers to get the chance to interact with the brand at any stage of the product purchase process (de Cosmo et al., 2021). Companies are now able to customize their relationship with costumer by examining the special characteristic and preferences of the customer (Tsai & Chuan, 2023). Overall, the study provides an important contribution to the role of AI-powered Chatbots in building customer-brand relationships. However, the effective role of AI-powered Chatbots is only possible if equal attention is paid to customer privacy and comfort.

6. CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

In conclusion, AI-powered Chatbots have transformed the way businesses interact with their customers. By providing a personalized and immediate experience, Chatbots have become a crucial tool in building strong customer-brand relationships. As robotic Chatbots are available 24/7, providing customers with the convenience of accessing customer support at any time of the day. This round-the-clock availability enhances customer satisfaction and instills trust in the brand. Additionally, Chatbots offer individualized experiences by using data to understand customer behavior and preferences, resulting in a more targeted and effective approach to customer engagement. Furthermore, they can provide quick and accurate responses to customer queries, reducing response time and improving the overall customer experience. With the help of Natural Language Processing (NLP), artificial conversation entity can understand and respond to customer queries in a conversational manner, which helps to build a connection and foster positive relationships with customers.

Moreover, artificially powered Chatbots can provide valuable insights into customer needs, requirements, preferences, and pain points. These insights can be leveraged to improve products and services, resulting in a better overall customer experience. By using Al-powered Chatbots, businesses can also provide more customized and targeted solutions to customer needs, which ultimately results in a robust customer-brand rapport.

6.2. Recommendations

Based on the findings of this study, several recommendations can be made for businesses seeking to optimize their AI-powered chatbots to enhance customer-brand relationships. Firstly, enhancing interactivity is crucial. Businesses should invest in improving the conversational capabilities of their chatbots to make them more engaging and responsive to user queries. This can be achieved by incorporating natural language processing (NLP) techniques and advanced algorithms that allow chatbots to understand better and interpret user inputs, resulting in more meaningful and interactive dialogues. Secondly, focusing on information and accessibility is essential. Companies should ensure that their chatbots provide accurate and relevant information to users, addressing their needs and concerns effectively. This can be accomplished by regularly updating chatbot knowledge bases, improving data integration with other company systems, and refining chatbot algorithms for better information retrieval. Furthermore, businesses should strive to make their chatbots easily accessible across multiple platforms and channels to cater to diverse user preferences. Thirdly, businesses should emphasize customization and personalization in their chatbots. Companies can foster stronger customer-brand relationships by tailoring the chatbot experience to individual users' preferences and behaviours. This can be achieved by utilizing user data, machine learning algorithms, and AI-driven personalization techniques to deliver personalized content, recommendations, and interactions. Additionally, incorporating user feedback mechanisms can help businesses continuously improve their chatbots and customize them to meet customer expectations better. To fully leverage the benefits of AI-powered Chatbots, companies can consider the following recommendations:

- Focus on interactivity: Companies can design Chatbots that are interactive and provide an enjoyable experience for customers. This can help create a more personal connection with customers.
- Provide easy access to information: Companies can design Chatbots that provide easy access to information and make it simple for customers to find the answers they are looking for.
- Offer customization options: Companies can design Chatbots that can be customized to meet the specific needs and preferences of individual customers. This can help create a more personalized experience for customers.

6.3. Limitations and future directions

Despite the valuable insights derived from this study, some limitations should be acknowledged. Firstly, the issue of generalizability arises. The findings may not be generalizable to all industries or regions, as the study's context might only apply to business settings. This limitation implies that applying these insights to other sectors or geographic locations should be done cautiously. Further research is necessary to examine the relevance of these findings in different contexts. Secondly, the use of cross-sectional data is another limitation. Cross-sectional data represents a snapshot of a particular point in time. It may need to capture the dynamic nature of customer-brand relationships or the evolving role of AI-powered chatbots. Longitudinal studies, which collect data over time, can provide a more comprehensive understanding of how these relationships develop and how chatbot features impact customer-brand relationships in the long term.

Given these limitations, several future research directions can be identified to increase the generalizability of the results. Future research should investigate the role of AI-powered chatbots in different industries and geographic locations. This will help determine the extent to which the findings are applicable in various contexts. Conducting longitudinal research can provide valuable insights into the dynamic nature of customer-brand relationships and the long-term effects of AI-powered chatbot features. Researchers can better understand how chatbot improvements may influence customer-brand relationships and satisfaction by tracking changes over time.

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APPENDIX

Appendix A – Questionnaire

Introduction

The purpose of this research is to the role of AI-powered Chatbots in building customer-brand relationships. It will not take more than 10 minutes. All of your data will be handled following the data privacy rule. Carefully read the questionnaire and answer honestly. Please, tick the following box before proceeding

☐ I am participating in the survey voluntarily.

Section 1: General Characteristics

1. Please specify your gender.

☐ Male
☐ Female

2. Please indicate your age bracket below.

☐ 18 – 25 Years
☐ 26 – 35 Years
☐ 36 – 45 Years
☐ 46 – 55 Years
☐ Older than 55

3. Please mention your highest level of qualification

☐ High School
☐ Bachelor's or Equivalent Degree
☐ Master or Equivalent Degree
☐ PhD Degree

4. Do you use Chabot frequently?

☐ Yes
☐ No

SECTION 2: AI-POWERED CHATBOTS

		SD	D	N	A	SA
	Interaction					
1	The AI-powered Chatbot provides personalized attention to each customer					
2	The AI-powered Chatbot generally possesses sufficient knowledge to respond to customer inquiries.					
3	The AI-powered Chatbot tends to be highly attentive to current customer needs.					
4	AI-powered Chatbot is able to answer questions accurately.					
	Information and Accessibility					
5	The Chatbot customer service representative provides timely information that aids in my purchasing decisions.					
6	The Chatbot efficiently offers suggestions on the company's products/services.					
7	The Chatbot assists in comprehending events occurring within the company					

8	The Chatbot is capable of providing instant responses anytime and anywhere.					
	Customization					
9	I trust that the Chatbot possesses the capability to successfully complete the task.					
10	The Chatbot is equipped to promptly and directly address customer complaints.					
11	When a customer experiences an issue, the Chatbot demonstrates a genuine concern in resolving it					
12	I find that utilizing Chatbot and interacting with this customer service satisfies my individual requirements.					

SECTION 4: CUSTOMER-BRAND RELATIONSHIP

	Customer Brand Relationship	**SD**	**D**	**N**	**A**	**SA**
13	I prefer to have a working relationship with brands using Chatbot over not having one.					
14	I believe that compared to other brands, I value my relationship with the brand; one that uses Chatbot.					
15	I am highly satisfied with the use of Chatbot by Brands, as it helps a lot.					
16	I believe that Chatbots can highly assist brands in maintaining a long-term commitment to customers.					
17	I plan to continue buying products/services from brands that use Chatbots in the future.					

Thank you for your participation

COMPARATIVE VIEW OF ENERGY TAXATION IN THE REPUBLIC OF CROATIA AND THE COUNTRIES OF THE EUROPEAN UNION

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ABSTRACT

The paper compares energy taxation in the Republic of Croatia and the European Union and analyzes the economic, environmental and fiscal impacts. The purpose and objectives of the study are to compile the theoretical determinants of excise taxes on energy products and other taxes related to the sale of energy products, the legal determinants of taxation of energy products and electricity at the level of the European Union and in the Republic of Croatia, the results of a comparison of energy taxation in the Republic of Croatia and the countries of the European Union, and the fiscal, economic and environmental impact of energy taxation in the Republic of Croatia and the Member States of the European Union.
The paper enables an overview of the differences in energy taxation between the member states of the European Union and the effects resulting from the taxation.
Keywords: *Taxes, economic, environmental and fiscal impact, excise*

1. INTRODUCTION

Energy and energy products are taxed by special taxes, excise taxes, which form a subsystem of the sales tax, i.e., the consumption tax. Excise taxes are one of the oldest forms of taxation and are mentioned as early as the 16th century. In modern tax systems, "they are a generous instrument for collecting budget revenues" (Blažević et al. 2011, p. 13). The obligation to pay excise taxes arises from their use. Therefore, excise taxes "are considered a tax paid when goods are taken out of the economic environment to be used in further entrepreneurial or government production or consumed by the final consumer" (Šimović, Šimović 2006, according to Blažević et al. 2011, p. 13). Excise taxes are introduced to cover the increase in public expenditures resulting from various measures aimed at preserving the health of the population, redistributing the income of the population, protecting the environment, etc. Excise taxes on energy products belong to environmental taxes. They are indirect and objective taxes (Blažić 2006, p. 33). The increasing use of energy sources as a result of dynamic economic development at the global level affects the increasing environmental problems caused by the release of harmful gasses into the atmosphere and waste substances into the soil and water. Pollution is increasing and nature's defense mechanisms are weakening. Such a situation requires setting ecological standards for the existing way of life (Jelčić et al. 2008, p. 678). The level of tax rates affects the price of energy sources and their competitiveness, encouraging the consumption of energy sources with lower tax rates. Unlike excise taxes on coffee, beer, or tobacco, which are designed as consumption taxes, i.e., taxes that burden an individual's income during consumption to meet the individual's need for these products, the tax on energy and electricity goes beyond personal consumption. Since energy is used to produce almost all products, energy tax belongs to energy taxes and not to taxes on personal consumption (Šinković 2015, p. 684). Excise taxes on energy usually affect the price of all products. Lower tax rates on energy products allow lower prices for final products and increase the competitiveness of producers. Thus, this tax also has an economic function, i.e., excise taxes can be used to improve the competitiveness of the economy in a way that allows for a more efficient allocation of production resources, which ultimately leads to an increase in economic growth and real income for consumers. This is supported by the Directive on the taxation of energy products, i.e. Directive 2003/96/ EC (2003), the aim of which is to improve the functioning of the European Union's internal market and limit the distortions of competition to which entrepreneurs in the European Union may be exposed. The Directive establishes the minimum rate of taxation for energy products in order to reduce the significant differences in the rates of taxation of energy products at the national level in the Member States of the European Union, which have proved to be detrimental to the proper functioning of the internal market (Directive 2003/96/ EC 2003, point 4). Therefore, the aim of harmonization of energy taxation at the level of the European Union was to avoid the harmful effects of energy tax competition between Member States. Member States also have the option of using tax policy to support other policies, including environmental protection policy, transport policy, reorientation of tax policy to combat unemployment, etc. Until the adoption of Directive 2003/96/ EC, Directives 92/81/EEC33 and 92/82/EEC34 , with the amendments of Directive 94/74/ EC, which introduced the taxation of mineral oils into the tax system of the European Union, were applicable. Products taxed under the aforementioned directives included petroleum and petroleum derivatives, gas oil, kerosene, liquefied natural gas (LNG), and natural gas (Šinković 2015, p. 687). Environmental reasons were one of the most important factors in determining the level of tax rates, so that more acceptable products, as well as products from more acceptable sources, had a lower tax rate. Directive 2003/96/ EC extended the list of taxable products to all energy sources, including coal, coke, natural gas and electricity. The Directive sets the minimum tax rates for energy products and electricity, taking into account the intended use as firewood or fuel, the type of use and environmental reasons. For example, as of January 1, 2010, the lowest tax rate for leaded gasoline used as a fuel is 421 euros per 1,000 liters, while the lowest tax rate for liquefied natural gas used as an environmentally friendly energy source is 125 euros per 1,000 kg (Directive 2003/96/ EC 2003 , Annex 1). By setting the lowest tax rate for energy products, the competitiveness of various energy products and electric energy should be reflected, and by expanding the scope of taxable products, the legislator took influence on reducing competition between petroleum and petroleum derivatives and other energy products and electric energy (Šinković 2015). The Directive leaves the possibility for Member States to apply differentiated tax rates beyond the minimum rate without a cap, and they can independently introduce higher rates than the minimum rate. In accordance with their national interests, they can determine and implement the policy of taxation of energy products and electric power completely independently. The European Commission's report on the evaluation of the Directive (European Commission 2019) highlights that although the Directive originally had a positive impact on the internal market, the rules are no longer keeping pace with the development of technology, national tax rates and the energy market. The problem lies in the large differences in national energy tax rates, which are not in line with other policy instruments and can lead to fragmentation of the internal market. The situation is exacerbated by the widespread use of optional tax exemptions (European Commission 2019). Therefore, in July 2021, the European Commission proposed a revision of the Energy Taxation Directive as part of the "Fit-For-55" ("Ready for 55%") package." The aim of the revision is to harmonize the Directive with other European Union policies and to contribute to the achievement of the European Union's medium- and long-term energy and climate goals, which include the European Green Plan, a strategy to achieve the sustainability of the European Union economy by addressing climate and environmental challenges in all policy areas and ensuring a legal and inclusive transition (Ministry of Economy and Sustainable Development n.d.). In implementing the European Green Plan, one of the most important actions is the need to rethink tax policy in light of the increasing importance placed on protecting and restoring natural ecosystems, using resources sustainably, and improving human health (European Commission 2019, p. 3). Taxation at the European Union level should be consistent with the climate targets set. The revision of the directive should more clearly reflect the impact of different energy sources on climate change and encourage consumers and businesses to change their behavior.

Energy taxation thus has an economic and ecological function in addition to its fiscal function. European Union member states harmonize their energy tax systems with European Union directives in order to standardize tax rates and reduce the harmful effects of different tax rates on the internal market. Other taxes are also levied on circulating energy sources, such as value-added tax, and various levies and subsidies are used to promote the use of more environmentally friendly energy sources and the production of energy from renewable sources.

2. NORMATIVE FRAMEWORK OF ENERGY TAXATION IN THE REPUBLIC OF CROATIA

Energy taxation in the Republic of Croatia is based on excise taxes on energy products used as firewood or fuel, as well as on electricity, which is taxed in accordance with the VAT applicable in the Republic of Croatia. In addition, the price of energy products and electricity in the Republic of Croatia is charged with renewable energy fees, which are mandatory for every energy consumer. Excise taxes were introduced into the tax system of the Republic of Croatia only in 1993 and are considered the most recent taxes in this system. The Act on Special Tax on Petroleum Derivatives, which entered into force on July 1, 1994, provided the legal basis for their taxation. The Act was amended several times, and in 2009 the Act on Excise Taxes was adopted, harmonizing the excise tax system of the Republic of Croatia with that of the European Union. The following excisable products are covered by the Act: alcohol and alcoholic beverages, tobacco products, energy products and electricity (Excise Tax Act 2009). In accordance with the Directive on the taxation of energy products in the European Union, the Excise Tax Act taxes energy products used as fuel or combustible for heating purposes, as well as electricity (Excise Tax Act 2009, Article 69, paragraph 1). The taxation of electricity is a novelty. In 2018, a new Excise Tax Law was adopted, which will come into force with amendments in 2019 and 2021, starting on January 1, 2022. The Act states that "excise taxes are taxes and revenues of the state budget of the Republic of Croatia" (Act on Excise Taxes 2018, Article 1), emphasizing the fiscal role of excise taxes. According to the Act, "excise taxes are levied on energy products used as fuel or combustibles for heating and electricity that are produced (including extraction from the ground, if applicable), imported, or brought into the Republic of Croatia" (Act on Excise Taxes 2018, Article 96, paragraph 1). The Regulation on the Amount of Excise Tax on Energy Products and Electricity sets the amount of excise tax on goods subject to excise tax. The energy crisis caused by the war in Ukraine led to a series of amendments to the Regulation in 2022, with which the Government of the Republic of Croatia responds to the increase in energy prices and mitigates the negative consequences of the increase in energy prices on the world market for the economy and the purchasing power of the population. The last amendment was made on October 31, 2022. The Excise Tax Law also provides for the possibility of refunding or deducting from the payment of excise tax a part of the excise tax paid on energy products, for example, if biofuel has been added to the energy products: "The user has the right to a refund or deduction from the payment of excise tax in proportion to the share of biofuel added to the product, but up to a maximum amount of 5%" (Excise Tax Law 2013, Article 84, paragraph 10). According to Article 104 of the Excise Tax Act, part of the excise tax on diesel fuel used in commercial passenger transport may be refunded as the difference between the amount of excise tax on diesel fuel in Croatia and the minimum amount of excise tax prescribed in Directive 2003/96 EC, as shown in Table 1.

Table following on the next page

	HRK/1.000 l	Conversion rate HRK/EUR	EUR/1.000 l
Amount of excise tax on diesel fuel in HRK	**3.060,00**	**7,4980**	**408,11**
Minimum amount of excise tax according to Directive 2003/96 EC	**2.474,34**	**7,480**	**330,00**
Difference (Article 104 of the Excise Tax Act)	**585,66**	**7,4980**	**78,11**

Table 1: Calculation of the excise tax refund for diesel fuel in commercial transport
(Source: Rulebook on Exercising the Right to Return a Portion of the Paid Excise Tax on Diesel Fuel in-Commercial Goods and Passenger Transport/6361 (Nov. 12, 2022), online: https://carina.gov.hr/trosarinsko-postupu/propisi-o-trosarinama-i-posebnim-porezima/ rulebook-exercising-the-right-to-return-a-portion-of-the-paid-excise-tax-on-diesel-fuel-in-commercial-goods-and-passenger-transportation/6361)

According to the calculation in Table 1, the refund of part of the excise tax for one liter of diesel fuel amounts to HRK 0.5856. In 2022, the excise tax rate for diesel fuel was reduced, which also affected the reduction of the refund amount of a part of the excise tax paid. The development of the refund amount of a part of the excise tax paid in the period from 2019 to the last change on July 1, 2022 is shown in Table 2.

Year	HRK/l
2019.	**0,6071**
2020.	**0,6143**
2021.	**0,5642**
01.01.-31.03.2022.	**0,5856**
01.04.-30.06.2022.	**0,3856**
FROM 01.07.2022.	**0,1856**

Table 2: Amount of refund of part of excise tax paid on commercial diesel fuel by year, 2019-2022.
(Source: Rules for Exercising the Right to Return a Portion of the Paid Excise Tax on Diesel Fuel inCommercial Freight and Passenger Transport/6361 (Nov. 12, 2022), online: https://carina.gov.hr/trosarinsko-postupu/propisi-o-trosarinama-i-posebnim-porezima/ rules-for-exercising-the-right-to-return-a-portion-of-the-paid-excise-tax-on-diesel-fuel-in-commercial-goods-and-passenger-transportation/6361)

The data in Table 2 shows the reduction in the refund amount of part of the excise tax paid on diesel fuel for commercial purposes from 2019 to July 2022 due to the reduction in the excise tax rate on diesel fuel as a measure by the government to curb the increase in the price of diesel fuel. It can be concluded that with the excise tax system, the legislature takes into account the environmental, economic and social impacts in addition to the generation of excise tax revenue. Energy and electricity used in transportation are subject to VAT (abbreviated VAT). The legal basis for the taxation of energy products and electricity is contained in the Value Added Tax Act, which has been in force since 2013. The law has been amended ten times during its implementation, and the latest amendment will enter into force on January 1, 2023. The object of taxation VAT includes goods subject to excise tax, their supply within the country for consideration, the acquisition of these goods within the European Union by the taxpayer within the country for consideration, and importation (Law 2013 VAT, Article 4, paragraph 1). Until the global energy crisis, the Republic of Croatia, like most countries of the European Union, applied a standard rate VAT of 25% to energy products, with the exception of the supply of electricity to another supplier or final consumer, including charges related to this supply of electricity, which were taxed at a lower rate. As part of the realization of the goals of energy transition in the Republic of Croatia, various levies are imposed that affect the price of energy products and electricity. Thus, the legislator has provided for a special compensation for the environment, which consists of a special compensation for the environment due to non-marketing of biofuels and a special compensation for non-reduction of greenhouse gas emissions, which is set in HRK/MJ and calculated according to proportions in a range from HRK 0.01/MJ to HRK 0.30/MJ (Regulation on Special Compensation for the Environment Due to Non-Marketing of Biofuels 2018, Article 3). In 2022, the amount of this fee was reduced to HRK 0.01/MJ in order to lower fuel prices for end users (Regulation on Special Compensation for the Environment Due to Non-Marketing of Biofuels 2018, Article 3). The fee is paid to the Fund for Environmental Protection and Energy Efficiency. The compensation for renewable energy and high-efficiency cogeneration is included in the electricity price, i.e. it represents a surcharge on the electricity price. It was introduced in 2017 and amounts to HRK 0.105/kW for all end-users of electricity, except for end-users of electricity who are required to obtain a permit to emit greenhouse gases under the Clean Air Act, for which the fee amounts to HRK 0.007/kWh (Decision on Remuneration for Renewable Energy and High-Efficiency Cogeneration 2017), which was amended in 2020 and amounts to HRK 0.021/kWh, and for final consumers who have the right to reduce the remuneration, the remuneration is determined according to the classes of electricity intensity, in the range from HRK 0.021/kWh to HRK 0.063/kWh (Decision on the Amendment of the Decision on the Remuneration for Renewable Energy and High-Efficiency CHP 2020). Thus, the levies for environment and renewable energy sources have an ecological function and are used for investments in the infrastructure of renewable energy sources.

3. COMPARATIVE VIEW OF ENERGY TAXATION IN THE REPUBLIC OF CROATIA AND THE MEMBER STATES OF THE EUROPEAN UNION

In this part of the paper, a comparative account of energy taxation in the Republic of Croatia and other Member States of the European Union is given, presenting the economic, environmental and fiscal effects of taxation.

3.1. Economic and environmental effects of energy taxation in the Republic of Croatia and in the member states of the European Union

The European Commission Report on Energy Taxes (2020) shows the growth of total taxes on energy consumption in the period from 2008 to 2018 in most EU Member States. The Republic of Croatia shows significantly higher growth compared to the other Member States (Chart 1), which is due to the fact that the Excise Tax Act of 2009 expanded the scope of taxation and harmonized the excise tax system of the Republic of Croatia with Directive 2003/96/ EC.

Chart following on the next page

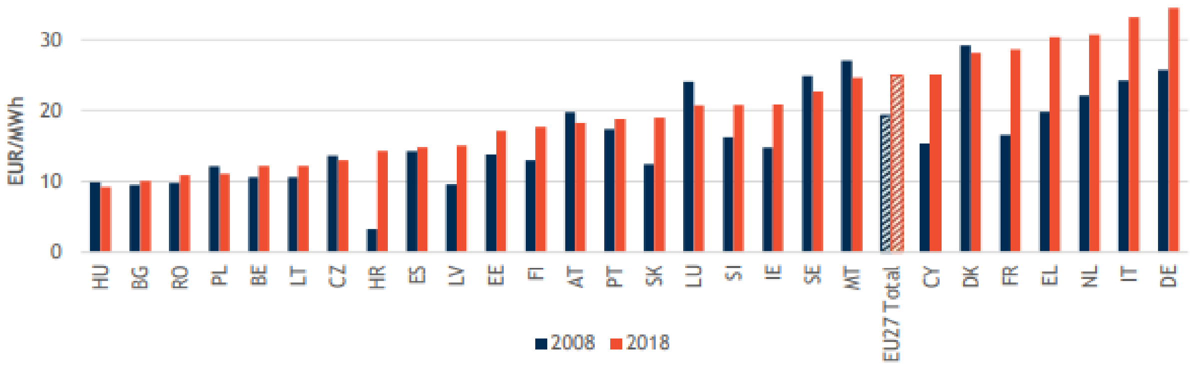

Chart 1: Total Reported Tax Rates on Energy Consumption in the EU-27, 2008-2018 (Source: European Commision 2020, Energy Taxes: Energy costs, taxes and the impact of government interventions on investments, pg. 19, online:file:///C:/Users/KorisnikPC/Downloads/energy%20 taxes-MJ0320635ENN.pdf (11.11.2022.))

In 2018, reported total tax rates on energy consumption in the EU-27 ranged from 9 euros/MWh (Hungary) to 34 euros/MWh (Germany), and in 19 EU-27 Member States they were one year higher than in 2008. The Republic of Croatia had the lowest total tax rates on energy consumption in 2008 and was still well below the EU-27 average in 2018. An increase in total tax rates also leads to an increase in revenues from taxes on energy consumption. Total revenues from taxes on energy consumption increased in the EU-27 from EUR 219 billion in 2008 to EUR 263 billion in 2018, an increase of 23% (European Commission 2020, p. 29). In 2018, Germany and France accounted for 47% of total energy tax revenues in the EU-27, followed by Italy, Spain, and the Netherlands with 28%. The average revenue from excise and energy taxes accounted for 6.8% of total tax revenue in the EU-27 in 2018. For comparison, in the Republic of Croatia they are involved in 10.1%. The reason for this is the structure of the excise tax system of the less developed EU-27 countries compared to the more developed countries and the dependence of the less developed EU-27 countries on non-renewable energy sources subject to taxation. However, there are differences in revenues from energy taxes in relation to total tax revenues and within the developed EU-27 countries, e.g., their share is 5.6% in France and 9.1% in Italy. The share of revenues from energy taxes in the GDP of the Republic of Croatia increased from 1.71 to 2.35% in the period from 2012 to 2018 (Chart 2).

Chart following on the next page

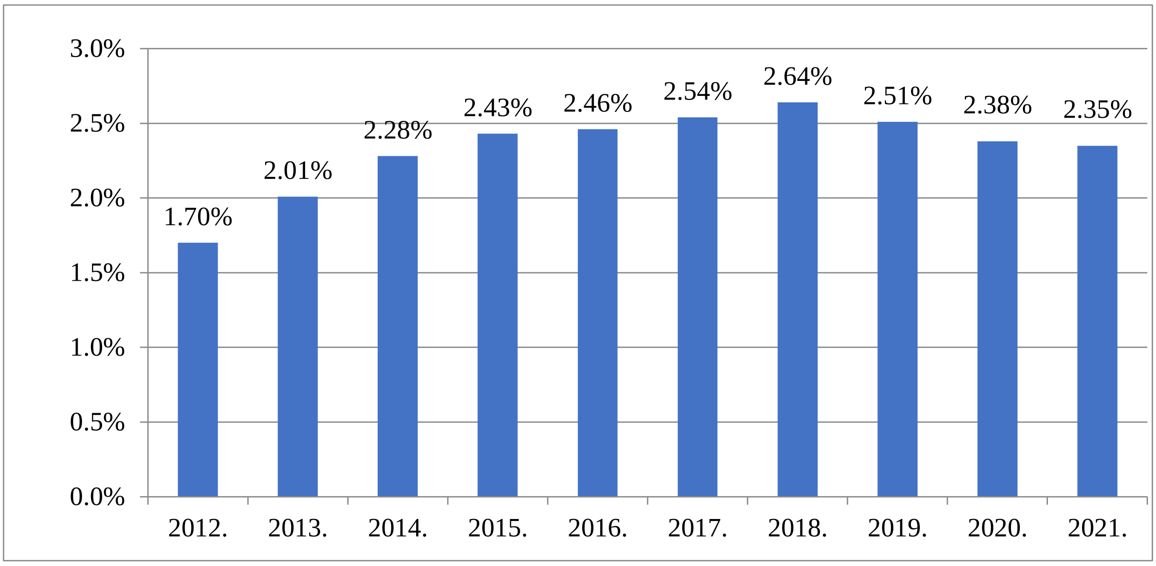

Chart 2: Share of revenues from excise and consumption taxes in the GDP of the Republic of Croatia, 2012-2021.
(Source: Author's calculation according to: Tax revenue statistics, online: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tax_revenue_statistics (14.11.2022.); Zubak, Hanzl 2022, pg. 1 i 2., https://www.hgk.hr/documents/gospodarskakretanja010222www623c503a2692b.pdf (14.11.2022.))

The data in chart 2 show the growth of the share of revenues from energy and electricity taxes in the GDP of the Republic of Croatia until 2018, when they reached the highest level of 2.64%. After that, there was a decrease in the share, which ended in 2021 almost at the same level as in 2020. The decrease in the share is the result of a higher growth rate of GDP compared to revenues from excise taxes on energy and electricity until 2019, while in 2020 both excise taxes and GDP decreased, with the decrease in excise taxes being higher than the decrease in GDP. The impact of the Covid 19 pandemic and measures to restrict passenger transportation to prevent the spread of the virus led to a decline in fuel consumption, which in turn led to a decline in revenues from excise taxes on energy products. Government measures to reduce excise taxes on energy products to support the population and the economy also contributed. However, the GDP decline was mitigated by tourism results, which were better compared to other Mediterranean tourism countries due to Croatia's proximity to attractive destinations. According to available data for 2018, the share of excise taxes and duties on energy consumption in the Republic of Croatia was significantly higher than the EU-27 average (1.9%) and approached the maximum share of 2.8% (European Commission 2020, p. 19). The taxation of energy sources and electricity is intended, among other things, to reduce the consumption of energy sources from non-renewable sources, especially the consumption of fossil fuels, which should ultimately contribute to the reduction of greenhouse gas emissions into the atmosphere. The main purpose of taxation is to influence the behavior of consumers and producers. Not only national nominal tax rates are applied to a large part of energy and electricity consumption in the European Union, but also incentives and refunds of taxes paid, resulting in significant deviations from nominal tax rates and energy taxation below the minimum rates set in Directive 2003/96/ EC. The report of the European Commission (2021) on the need to restructure energy taxation shows that the tax burden on final consumers varies widely among Member States. The analysis of effective taxes includes the taxation of gasoil ("blue diesel") in agriculture, transport and households. Figure 3 shows the effective tax rates on gasoil in agriculture.

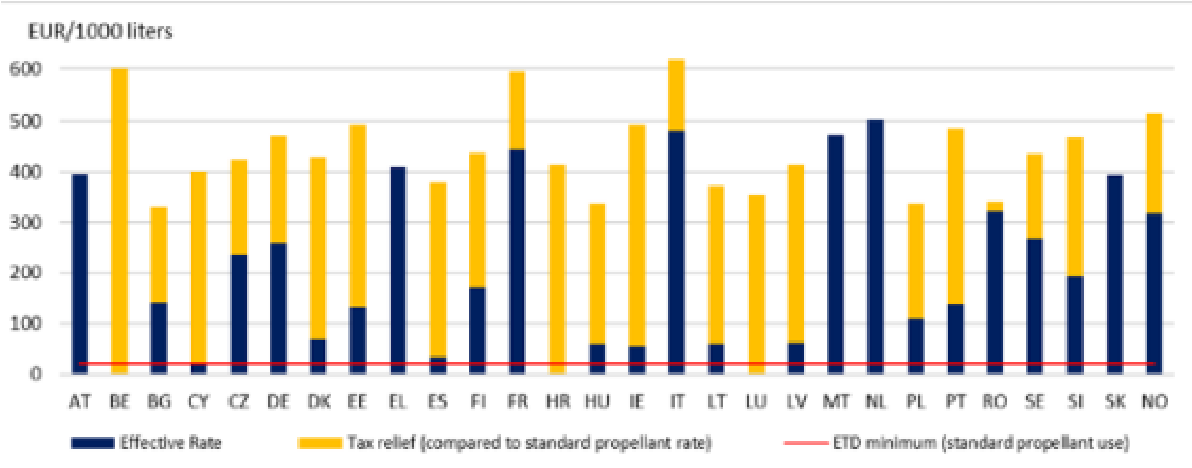

Chart 3: Tax rates on gas oil in agriculture in the EU-27, 2019/2020
(Source: European Commission 2021, Proposal for a Coucil Directive restructuring the Union framework for the taxation of energy products and electricity (recast), SWD(2021) 641 final, part 1/3, Brussels, str. 21, online: https://eur-lex.europa.eu/resource.html?uri=cellar:30010ced-e558-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF (13.11.2022.))

Chart 3 shows the differences between nominal and effective tax rates, with tax incentives highlighted in yellow. Effective energy tax rates include various tax incentives applied at the national level and show the actual differences in energy taxes paid by consumers in Member States. The calculation of the effective tax rate for the EU-27 Member States takes into account the taxation of the different drivers of the energy transition, e.g. hydrogen, energy storage and renewable energy sources, as well as CO2 taxes. Directive 2003/96/ EC allows Member States to tax gas oil used in agriculture below a minimum rate, including a full tax exemption. Croatia makes use of this possibility and applies a gas oil tax rate of 0% (yellow column in Figure 3). The same applies to Belgium and Luxembourg. Other Member States apply nominal rates (all blue columns): Austria, Malta, and the Netherlands. Other Member States apply refunds or rebates (yellow-blue columns), which reduce the effective tax rate compared to the nominal rate, while respecting the minimum rate required by the Directive. Figure 3 clearly shows that Member States tax gasoil, which accounts for more than half of the sector's energy consumption, differently. According to the European Commission (2021, p. 20), the effective energy tax rate in the EU-27 shows that fossil fuels are favoured, which is contrary to the objectives of the "Fit-For-55" package and one of the possible causes of distortions in the EU internal market. Tax credits for gas oil use can increase fuel consumption and create incentives for fossil fuels that prevent the achievement of environmental targets set at the EU level and the achievement of climate neutrality by 2050 (European Commission 2021). The directive allows for lower excise taxes on the use of gas oil in commercial road transport (Chart 4). By the beginning of 2020, ten member states had made use of this option, mainly in the form of refunds that hauliers could apply for. Among them is the Republic of Croatia, which offers this incentive to companies in both road and rail transport by refunding part of the tax paid as a difference from the minimum rate set in the Directive.

Chart following on the next page

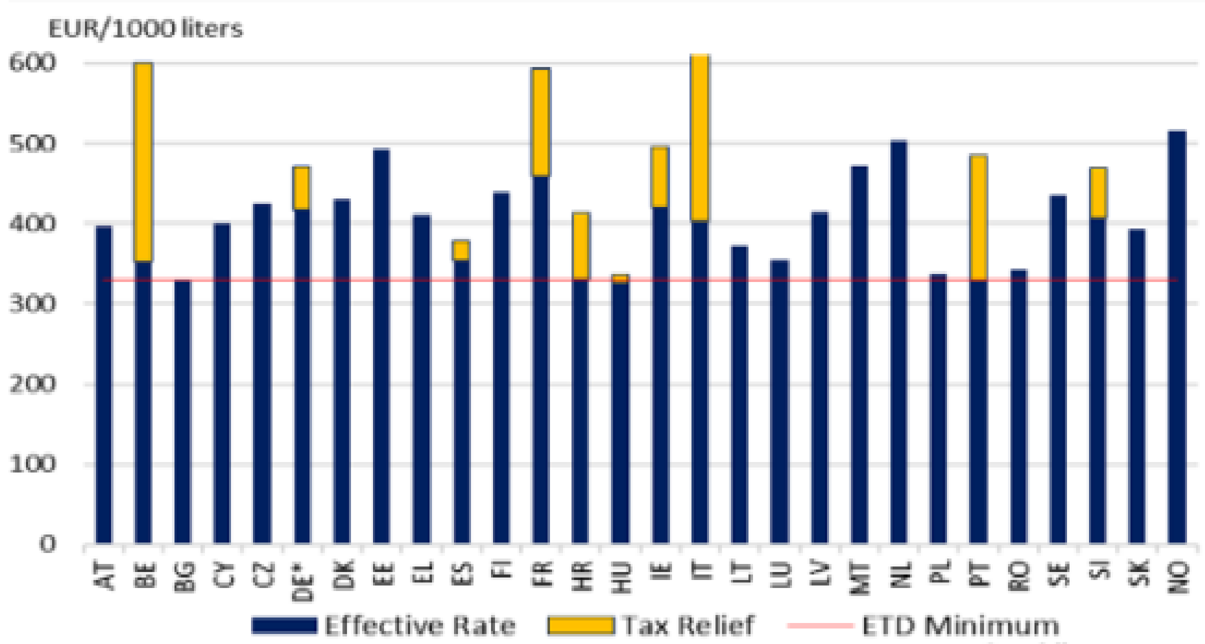

Chart 4: Effective tax rate for commercial gas oil used in road transport in the EU-27 Member States, 2019/2020
(Source: European Commission 2021, Proposal for a Coucil Directive restructuring the Union framework for the taxation of energy products and electricity (recast), SWD(2021) 641 final, part 1/3, Brussels, str. 22, online: https://eur-lex.europa.eu/resource.html?uri=cellar:30010ced-e558-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF (13.11.2022.))

The tax credits for the use of commercial gas oil reduce nominal tax rates so that they approach the minimum rates required by the Directive and have no significant impact on the functioning of the internal market. However, the incentive affects the consumption of fossil fuels and favours the use of highly polluting, mostly imported energy. Directive 2003/96/ EC does not provide for different minimum rates for households and industry. Instead, separate minimum rates are set for commercial and non-commercial use, but they are the same for all energy sources except electricity, natural gas and coal. Residential rates are included in the "non-commercial" category. However, the nominal tariffs for "non-commercial" use often do not correspond to the tariffs actually paid by households. In the Republic of Croatia, levies are collected at the local and national level to help finance energy costs for vulnerable groups. Combining the nominal electricity tax rates at the EU-27 level with the tax incentives applied by Member States, according to the European Commission (2021), eight Member States have an effective tax rate of zero for household electricity consumption, seven Member States apply a zero rate for the excise tax on natural gas, while other Member States approve exemptions and reductions based on regional or social criteria, such as for vulnerable consumers (Chart 5).

Chart following on the next page

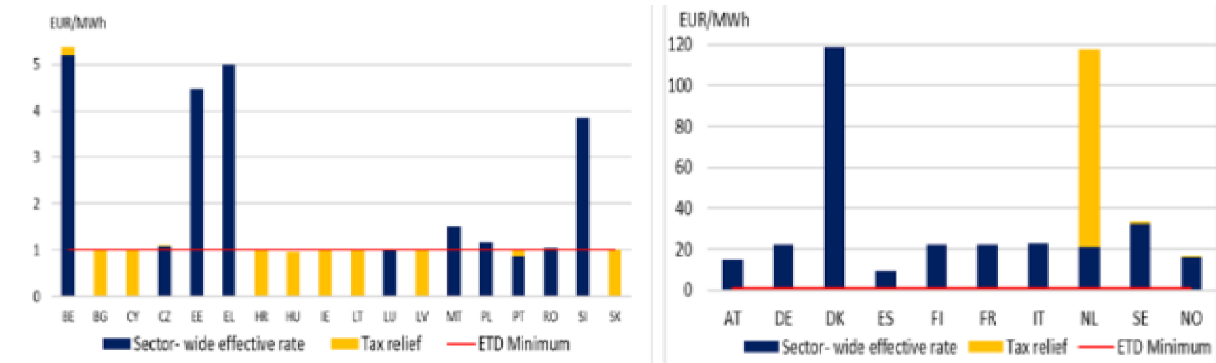

Chart 5: Effective rate for household energy consumption, 2019/2020
(Source: European Commission 2021, Proposal for a Coucil Directive restructuring the Union framework for the taxation of energy products and electricity (recast), SWD(2021) 641 final, part 1/3, Brussels, str. 22, online: https://eur-lex.europa.eu/resource.html?uri=cellar:30010ced-e558-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF (13.11.2022.))

Tax breaks for private consumption of natural gas, gasoil, and to some extent electricity can increase fuel consumption and incentivize fossil fuel use, which also poses a challenge to the implementation of the EU's environmental and climate agenda.

3.2. Fiscal impact of energy taxation in the republic of croatia and in the member states of the European union

Revenue from excise taxes on energy products and electric power in the Republic of Croatia in 2021 amounted to 8.44 billion. Kuna, which means an increase of 11.0% compared to 2020, but still did not reach the level of 2019, the year before the health crisis caused by the Covid 19 pandemic, when they amounted to 8.77 billion Kuna, while they reached their maximum growth compared to previous years (Table 3). The share of revenues from excise tax on energy products and electricity in total state budget revenues decreased from 55.7% to 52.6% in the period from 2017 to 2021. Namely, the growth of revenues from excise taxes on energy products and electricity reached a lower level than the growth of total revenues from special taxes and excise taxes. The share of excise taxes in the total tax revenues of the state budget of the Republic of Croatia ranges from 6.9% in 2017 to 5.5% in 2021.

Table following on the next page

	2017.	2018.	2019.	2020.	2021.
Revenue, in thousands of HRK					
Excise taxes on energy and electricity	8.427.751	8.627.450	8.772.981	7.602.824	8.441.043
Special taxes and excise duties	15.143.118	15.872.141	16.201.993	14.536.501	16.048.903
Total tax revenues	122.707.022	129.395.206	139.919.658	131.578.459	154.063.614
Chain index					
Excise taxes on energy and electricity	-	102,4	101,7	86,7	111,0
Special taxes and excise duties	-	104,8	102,1	89,7	110,4
Total tax revenues	-	105,5	108,1	94,0	117,1
Share of excise taxes on energy and electricity in total revenues from special taxes and excise duties, in %	55,7	54,4	54,1	52,3	52,6
Share of excise taxes on energy and electricity in total tax revenues, in %	6,9	67	6,3	5,8	5,5

Table 3: Revenue from excise taxes on energy products and electricity in the Republic of Croatia, 2017-2021.
(Source: Author's calculation according to: Ministarstvo financija n.p., Državni proračun 2018., pogledano 13.11.2022., online: https://mfin.gov.hr/proracun-86/drzavni-proracun-2018-godina/609; Ministarstvo financija n.p., Državni proračun 2019., pogledano 13.11.2022., online: https://mfin.gov.hr/proracun-86/drzavni-proracun-2019-godina/608; Ministarstvo financija n.p., Državni proračun 2021., viewed 13.11.2022., online: https://mfin.gov.hr/proracun-86/drzavni-proracun-2021-godina/3116 (13.11.2022.))

During the 2017-2021 observation period, the share of excise taxes on energy products and electricity in total tax revenues decreased by 1.4%, which means that the growth rate of total tax revenues during the observation period was higher than the growth rate of revenues from excise taxes on energy products and electricity. According to the Customs Administration data, excise taxes on energy products and electricity have the largest share in the structure of excise taxes collected, with a share of over 99.1%. In the period from 2017 to 2021, there were no significant changes in the paid excise duties on energy products and electricity in the Republic of Croatia. Excise duties on electricity ranged from 0.43% (2021) to 0.47% (2017 and 2018), and excise duties on gas ranged from 0.37% (2017 and 2018) to 0 .41% (2019 and 2021). At the level of the European Union, one can see different participation of excise duties on energy products and electricity in total excise duties and special taxes, as well as in total tax revenues in individual EU member states (Table 4).

Table following on the next page

	2012.	2013.	2014.	2015.	2016.	2017.	2018.	2019.	2020.	2021.
Croatia	**50,8**	**54,2**	**57,6**	**56,8**	**56,5**	**57,5**	**58,3**	**57,3**	**56,2**	**55,5**
Belgium	6,3	5,9	5,6	5,4	5,1	5,1	4,9	4,9	4,7	4,8
Bulgaria	76,1	90,0	80,4	94,8	88,8	68,7	42,3	38,2	53,7	53,5
Czechia R.	77,9	78,8	84,5	77,5	69,6	73,0	72,0	73,1	73,5	69,7
Denmark	60,5	61,1	64,1	62,1	63,3	66,5	68,5	72,2	72,9	76,0
Germany	71,4	71,6	71,5	70,7	71,9	72,2	72,1	71,8	70,1	69,9
Estonia	53,6	518	51,7	54,7	54,0	57,4	57,1	59,3	50,5	52,2
Ireland	53,4	53,7	52,9	53,0	52,4	49,9	54,7	49,9	45,2	46,1
Greece	61,2	59,6	60,0	61,8	58,6	64,3	61,7	63,6	62,6	63,4
Spain	51,4	62,4	63,2	63,3	64,2	64,3	65,2	63,9	62,8	65,0
France	62,9	63,2	63,7	65,5	66,9	67,4	66,3	65,6	60,9	62,6
Italy	98,9	98,8	98,6	98,6	98,6	98,5	98,2	98,4	98,3	98,1
Cyprus	58,7	61,1	63,5	64,7	65,7	67,0	67,0	65,9	66,1	68,2
Latvia	56,7	56,0	56,6	56,5	56,7	55,7	54,2	53,3	54,7	54,2
Lithuania	54,9	54,3	55,0	53,6	55,0	55,2	56,7	56,5	56,2	55,4
Luxemburg	66,2	65,3	60,0	66,0	62,3	62,1	62,3	62,0	55,2	55,7
Hungary	56,9	58,7	60,7	62,0	64,1	66,3	62,9	63,5	60,9	62,3
Malta	55,2	54,9	54,8	53,7	52,6	51,6	50,2	50,7	47,2	45,9
Netherlands	76,6	80,9	80,8	76,3	74,6	77,0	75,0	76,8	73,9	71,0
Austria	66,7	67,0	66,2	67,0	66,5	66,6	65,1	65,4	61,3	64,4
Poland	51,4	51,0	52,7	52,6	54,1	55,4	57,3	58,7	56,2	60,0
Portugal	81,1	78,3	81,4	85,1	81,8	76,0	85,0	85,1	83,0	83,5
Romania	48,2	50,8	57,5	55,5	57,1	56,5	56,1	54,9	49,4	49,8
Slovenia	67,4	66,9	66,8	67,0	68,3	67,7	67,1	66,7	63,1	64,1
Slovakia	61,9	63,6	63,5	63,7	63,4	64,1	63,9	63,1	63,6	61,9
Finland	53,2	52,8	52,3	53,4	54,3	54,6	53,3	53,4	53,6	55,1
Sweden	73,9	74,1	72,8	72,4	73,6	73,5	73,6	74,0	72,1	72,1
EU-27	61,2	79,7	62,9	63,5	63,0	62,7	61,9	61,8	60,3	60,8

Table 4: Comparison of the share of revenues from excise taxes on energy and electricity in total revenues from excise taxes and excise duties of the EU-27 Member States, 2012-2021. Years
(Source: Author's calculation according to:Tax revenue statistics n.d., viewed 18.10.2022., online:https://ec.europa.eu/eurostat/statistics explained/index.php?title=Tax_revenue_statistics)

Table 4 shows that the share of revenues from excise duties and taxes on the consumption of energy sources and electricity exceeds 50% in most EU-27 Member States. Belgium has the lowest share with 6.3% in 2012, which was subsequently reduced and is only 4.8% in 2021. In the Republic of Croatia, the share of excise duties and taxes on energy products and electricity was 50.8% in 2012, with an increasing trend, but below the EU-27 average, reaching the highest share of 58.3% in 2018 and decreasing to 55.5% in subsequent years. Italy has the largest share of excise taxes and energy consumption taxes in total excise taxes and consumption taxes with more than 98%. In 10 Member States, the share of excise taxes in total consumption taxes decreased between 2012 and 2021, while in others it increased. This trend can be explained by changes in the excise tax system of each EU-27 Member State, the decrease in consumption of energy products on which excise taxes and duties are levied, and the introduction of levies by national governments to reduce the tax burden on users of energy products. Table 5 shows the share of energy taxation in total tax revenue.

	2012.	2013.	2014.	2015.	2016.	2017.	2018.	2019.	2020.	2021.
Croatia	**7,1**	**8,1**	**9,3**	**9,7**	**9,6**	**10,0**	**10,1**	**9,6**	**9,4**	**9,4**
Belgium	0,8	0,8	0,8	0,9	0,9	0,8	0,8	0,9	0,9	0,8
Bulgaria	0,1	0,1	0,1	0,1	0,0	0,1	0,0	0,0	0,0	0,0
Czechia R.	10,6	10,6	9,6	9,4	5,9	6,9	6,1	6,0	6,4	5,4
Denmark	3,2	3,1	2,9	2,9	2,8	2,7	2,7	2,4	2,6	2,5
Germany	7,3	7,1	6,9	6,5	6,3	6,2	5,9	5,7	5,6	4,9
Estonia	11,6	10,6	10,3	10,5	11,2	11,2	10,5	11,1	7,8	7,5
Ireland	1,1	1,0	0,9	0,9	0,9	0,9	0,8	0,7	0,6	0,5
Greece	9,0	9,0	8,8	9,1	8,4	8,6	8,4	8,7	8,8	8,5
Spain	5,3	6,8	6,7	6,7	6,5	6,4	6,2	5,8	5,5	5,2
France	4,8	4,9	4,9	5,3	5,6	5,7	5,6	5,4	4,9	5,1
Italy	9,4	9,3	9,8	9,2	9,8	9,3	9,1	8,9	8,2	7,6
Cyprus	7,2	8,2	8,9	9,1	9,1	9,1	8,5	7,4	7,0	6,4
Latvia	9,0	8,6	8,5	8,5	8,6	8,3	8,8	8,8	9,1	8,7
Lithuania	9,3	9,3	9,5	9,5	9,9	10,0	10,2	8,3	8,4	7,5
Luxemburg	8,0	7,2	6,6	6,4	5,9	5,6	5,3	5,5	4,5	4,7
Hungary	7,7	7,4	7,3	7,5	7,7	7,5	7,1	6,8	6,5	6,4
Malta	6,0	5,5	5,8	5,6	5,3	4,9	4,6	4,6	4,0	3,3
Netherlands	4,1	4,0	3,9	3,8	3,3	3,2	3,4	3,2	3,0	2,6
Austria	5,7	5,5	5,3	5,2	5,4	5,4	5,0	4,8	4,3	4,5
Poland	9,7	9,5	9,3	9,1	9,6	9,6	9,5	9,2	8,5	8,9
Portugal	7,2	6,4	6,4	6,7	7,3	7,2	6,8	6,8	6,7	6,7
Romania	7,8	8,3	9,8	9,5	10,4	9,7	10,3	10,2	9,2	8,6
Slovenia	19,8	19,2	18,8	18,5	18,2	17,8	16,2	15,4	14,4	13,2
Slovakia	12,1	12,0	11,2	10,9	10,7	10,8	10,4	9,8	9,7	9,1
Finland	6,7	6,3	6,1	6,3	6,6	6,2	6,2	5,9	5,9	5,5
Sweden	4,7	4,4	4,1	4,0	4,0	3,8	3,9	3,8	3,7	3,5
EU-27	7,2	7,2	7,1	7,1	7,0	6,9	6,8	6,5	6,1	5,8

Table 5: Share of Energy Tax Revenues in Total Tax Revenues of EU-27 Member States in Comparison, 2012-2021
(Source: Author's calculation according to:Tax revenue statistics n.d., viewed 18.10.2022., online:https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tax_revenue_statistics)

Table 5 shows that energy tax revenues in the Republic of Croatia had a share of 7.1% of total tax revenues in 2012, with a tendency to increase to 10.1% by 2018, while its share decreases from 2019 and reaches 9.4% in 2021. This share is higher than the EU-27 average, which was 7.2% in 2012 and will decrease to 5.8% by 2021. In thirteen countries of the EU-27, the share of revenue from energy taxes is higher than the average, and in 14 countries it is lower. The share is lowest in Bulgaria (0.0% in 2021) and highest in Slovenia (13.2% in 2021). It can thus be seen that energy taxes do not have the same fiscal impact in all EU-27 Member States, depending on how energy taxes are managed in the individual Member States.

3.3. The impact of energy taxation on energy prices in the republic of Croatia and the European union

Energy taxation is actually a tax that directly affects prices. Taxation partially determines the price of energy products and electric power. Chart 6 shows electricity prices in the EU-27 Member States in the first half of 2022.

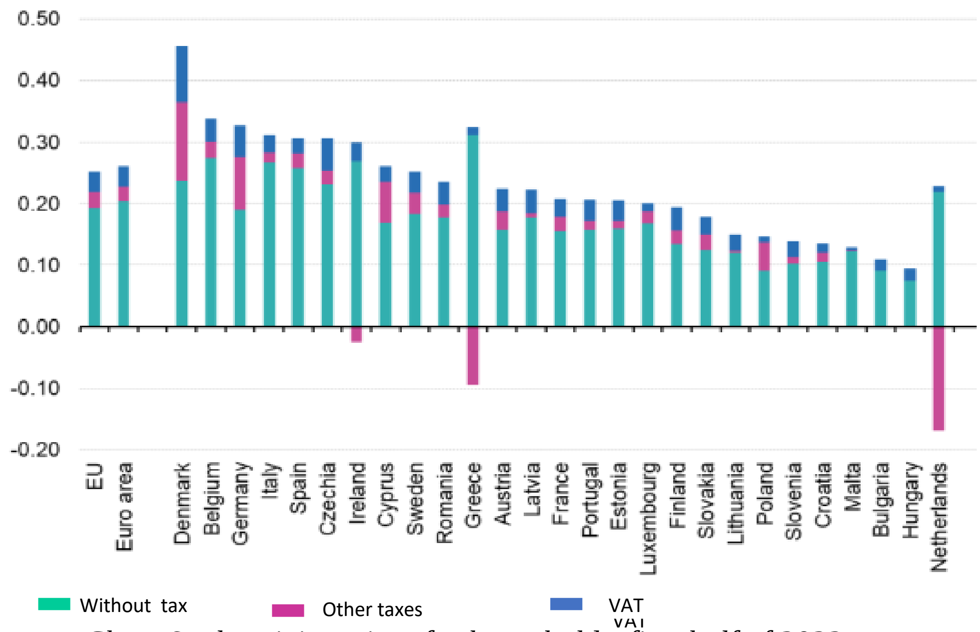

Chart 6: electricity prices for households, first half of 2022
(Source: Eurostat n.d., Electricity prices for household consumers – bi-annual dana (from 2007 onwards), viewed 16.11.2022., online: https://ec.europa.eu/eurostat/databrowser/view/NRG_PC_204__ custom_3972546/default/table?lang=en)

Data in Chart 6 show that electricity prices in the EU-27 (for medium consumers with annual consumption between 2 500 kWh and 5 000 kWh) in the first half of 2022 were highest in Denmark (0.4559 euros per kWh), Belgium (0.3377 euros per kWh), Germany (0.3279 euros per kWh), and Italy (0.3115 euros per kWh) (Eurostat n.d.). The electricity price in Croatia was 0.1354 euro per kWh, which was among the Member States with the lowest electricity prices. The Netherlands (0.0595 euro per kWh), Hungary (0.0948 euro per kWh) and Bulgaria (0.1093 kWh) had the lowest prices. Compared to the EU-27 average (0.2525 euro per kWh), households in Croatia pay a 46% lower electricity price, while Denmark, which has the highest electricity price, pays a price 80.55% higher than the average. In the Netherlands, households even pay a 76.4% lower electricity price than the EU-27 average. These differences reflect the application of electricity tax policies at the national level, as well as the subsidies and benefits granted to households in the Member States of the European Union.

4. CONCLUSION

The comparison of energy taxation in the Republic of Croatia and in other member states of the European Union has shown that the effects of taxation (economic, environmental and fiscal) are different in the member states of the European Union. These differences reflect the ability of member states to define and implement energy and electricity taxation policies completely independently and in accordance with their national interests. Directive 2003/96/ EC (2003) established minimum rates of excise duty on energy in order to reduce differences in energy taxation between Member States, improve the functioning of the internal market and limit distortions of competition for businesses in the European Union. Excise taxes on energy usually affect the price of final products, so their reduction can increase the competitiveness of producers. The environmental function of energy taxation should lead to a change in consumer behavior and encourage consumers to use more environmentally friendly forms of energy. However, research has shown that the effective energy tax rate applied in the Republic of Croatia and in other Member States of the European Union favors fossil fuels, which is contrary to the objectives of the "Fit-For-55" package and is one of the possible causes of the disruption of the European internal market. of the Union. Therefore, the need to restructure taxation at the EU level has been imposed. The fiscal impact of energy taxation also varies among the member states of the European Union. The share of excise taxes on energy products and electricity in the total tax revenues of the state budget of the Republic of Croatia is more than 52% and in the total tax revenues in 2021 is about 5.5%, with a downward trend in recent years. Revenues from excise tax on energy products account for more than 99% of the total excise tax on energy products and electric power. The revenue from the taxation of energy products in the European Union is influenced by the share of renewable energy sources in the total demand for energy products and electric power. The higher the share of renewable energy sources, the lower the demand for fossil fuels and the lower the revenue from the taxation of energy products and electric power.

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