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# **Economic and Social Development**

113<sup>th</sup> International Scientific Conference on Economic and Social Development

## **Book of Proceedings**

Editors:

**Karin Sirec, Barbara Doric, Irena Bilic**

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## **Economic and Social Development**

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*Prof. Dinko Primorac was officially first esd Conference Author, with first ever Application sent for the 1st esd Conference in Frankfurt, Germany (2013). He also very much supported Prof. Marijan Cingula ideas on this project, and helped us acquire first academic Partners. He is also responsible for connecting our small Team to University North, Croatia – our permanent co-organizer and co-publisher until today. We are welcoming him to the position of the Scientific Committee President, at the first esd Conference organized after loss of prof. Marijan Cingula.*

*Domagoj Cingula, Organizing Committee President*

## **INVITED LECTURE**

# **DIGITAL TRANSFORMATION „TRENDS, METHODS AND EXAMPLES”**

**Igor Pihir**

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### **ABSTRACT**

*Digital transformation is a new paradigm of continuous change introduced with new emerging technologies and new organizational models. Digital transformation has emerged as a pivotal element for enhancing business operations and economic performance. This lecture introduces the topic from the definition and main concepts. Dealing with new possibilities that digital transformation enables presenting trends, research, and practical use by industry and science fields. The lecture also presents major methods and frameworks for DT, determinants of DT, and possible implications of how it can change products/services, business processes, and finally business models. The topic also discussed digital transformation problems divided into challenges, issues, barriers, and problems that are examples of what can be expected in the complex process of DT introduction and implementation in practice. Ove lecture also presents key knowledge, skills, and experience for future chief digital officers and students in the field of digital transformation. The lecture ends with a couple of real-life working examples of digital transformation in several industries to conclude the lecture and present possibilities of this phenomenon of digital transformation.*

**Keywords:** *Digital transformation, Trends, Methods, Examples, Invited lecture*

**Igor Pihir** is associate professor at the *Department of Organization and Departments of Information Systems Development* of the Faculty of Organization and Informatics in Varaždin, University of Zagreb, and also the ex head of *Department of Organization* and a member of *Business Process Management and Digital Transformation Laboratory* and *Laboratory for data mining and intelligent systems*. He has been involved as a researcher or consultant on 30+ scientific and research, development and professional national and European projects and has participated in various scientific and professional projects with economy and public administration. He authored and co-authored 70+ scientific and professional papers and coauthor one university textbook. He attended and held presentations on 20+ scientific and professional conferences, and some of them were invited lecturers. He was editor of several conference proceedings and he was also reviewer for several journals and conferences. Areas of his interest are related to business process improvement, application of information and communication technology in business, e-business, digital transformation, modelling and business process management, and measurement of organizational efficiency. A complete list of the papers can be found on his [Google Scholar profile](#).



**INVITED LECTURE**

**IMPACT OF VIRTUAL REALITY AND ARTIFICIAL INTELLIGENCE  
ON EDUCATION, BUSINESS AND ENTREPRENEURIAL VENTURES**

**Mario Konecki**

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**ABSTRACT**

*Education and entrepreneurship is the most essential driving force of both local and global development. Although there are many promising business opportunities, two fields of business are especially future-oriented and offer a number of business novelties. These fields are gaming, which includes the technologies such as virtual reality and augmented reality, and artificial intelligence. The important question is how using this kind of technologies can impact education, business and entrepreneurial ventures. This lecture will give presentation of new technologies and show how these technologies can be used in education, and in both existing and new business and entrepreneurial ventures. Several real-world and lecturer's own projects and business ideas will be presented and discussed. The whole lecture will be given in a context of a project proposal.*

**Keywords:** *Virtual reality, Artificial Intelligence, Impact, Education, Business, Entrepreneurial Ventures*

**Mario Konecki** is an associate professor at the Faculty of Organization and Informatics (University of Zagreb) in Croatia. During his previous work as an author or co-author he published 78 scientific, 20 professional papers and 1 faculty textbook. He participated in 10 scientific and 17 professional projects, and 7 of his published scientific papers were awarded awards for the best scientific paper. He has successfully completed dozens of practical real sector business projects, and he is especially engaged in projects dealing with new technologies, such as virtual reality, augmented reality, artificial intelligence etc. He has received several awards and recognitions for scientific, teaching and professional work, and in 2016 he was awarded the award for contribution to society and volunteering. He is a member of the program and organizing committees of a number of scientific and professional conferences and a member of the editorial board of several scientific publications. His main areas of interest include education, user interface design, web technologies, video game development, artificial intelligence, and assistive technologies. A complete list of the papers can be found on his [Google Scholar profile](#).

## TAX COMPLIANCE COSTS AND SMALL BUSINESSES COMPLIANCE BEHAVIOUR IN ZIMBABWE

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### **ABSTRACT**

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

**Keywords:** *Compliance costs, tax compliance, small businesses, presumptive taxation*

### **1. INTRODUCTION**

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

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

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

## **2. CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT**

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

### **2.1. Tax compliance**

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

### **2.2. Compliance costs and tax compliance**

Small business owners must be aware of the many compliance procedures and standards in order to pay the proper taxes (Kamleitner, Korunka & Kirchler, 2012). The cost of tax compliance refers to the sum of money that small firms must spend in order to implement tax payments (Rantelangi & Majid, 2018). Small businesses may incur compliance costs in a variety of ways, such as waiting periods, postponements, superfluous regulatory requirements, and corruption (Klynveld Peat Marwick Goerdeler, 2016). Furthermore, according to Rantelangi and Majid (2018), small businesses incur three primary costs related to tax compliance: financial, time, and psychological costs for the taxpayers. First of all, financial expenses comprise the cost of hiring tax professionals, such as accountants and tax agents, as well as incidental fees and costs for books, communications, taxation guides, and other materials. Second, small businesses have to invest a lot of effort in keeping records for tax purposes, filing tax returns, and interacting with tax authorities. According to Rantelangi and Majid (2018), psychological costs encompass third-party charges such as the strain incurred from handling intricate tax matters. The impact of compliance costs on tax compliance has been shown in several studies.

Some studies found either no association or a positive correlation between tax rates and compliance, despite a vast body of data suggesting high tax rates are adversely correlated with tax compliance and positively correlated with tax evasion (Saad, 2009). Rantelangi and Majid (2018) came to the conclusion that a taxpayer's propensity for tax noncompliance increases with the cost of compliance that the taxpayer is willing to bear. In support of this assertion, Ayuba and Saad (2016) come to the conclusion that there is a negative correlation between tax compliance and compliance costs. Based on the previously discussed considerations, the following hypothesis is proposed:

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

### 3. METHODOLOGY

#### 3.1. Measurement scale

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

#### 3.2. Sample size

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

#### 3.3. Data analysis

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

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

## 4. RESULTS AND DISCUSSION

### 4.1. Scale reliability

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

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

*Table 1: Reliability assessment  
(Source: Field data)*

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

*Table 2: Reliability assessment  
(Source: Field data)*

#### 4.2. Reliability and validity assessment under confirmatory factor analysis

The convergent validity, construct reliability, and goodness-of-fit of the measurement model were tested in this study using CFA, which was employed following EFA. To evaluate the reliability and validity of the scales for latent (unobserved) variables, a measurement model was considered necessary.

Item loadings with scores less than 0.40 should always be eliminated (Hamid, Sami, and Sidek, 2017). Furthermore, items with scores less than 0.50 should also be deleted if this contributes to an increase in the composite reliability, average variance extracted (AVE), and Cronbach alpha. Based on the information provided above, items with loadings less than 0.50 were eliminated in this study. Items CC3, CC4, CC7, and PTC4 were eliminated from this study in order to increase composite reliability scores and due to low loadings. Consequently, in order to increase the measurement model's validity and reliability, items with low factor loadings were removed from the study. CFA results are displayed in Section 5 and Table 5.

#### 4.3. Descriptive statistics of small businesses

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

##### 4.3.1. Descriptive statistics for compliance costs

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

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

Table 3: Compliance costs  
(Source: Field data)

As depicted in Table 3, the sample respondents agreed that they got assistance in the filing of tax returns, as indicated by a mean score of 4.40.

Further investigation was affirmed by Table 3 that most small businesses spent more hours each month filing tax returns and respondents confirmed this with a mean score of 4.39. When asked whether they rarely hired the services of accountants and tax advisors per annum, sample respondents reported neutrality as shown by a mean score of 2.87. It is equally interesting to observe that the sample respondents revealed that the tax software was not integrated with their accounting system, as shown by a mean score of 2.44. Furthermore, the sample respondents perceived that presumptive tax rates were significantly lower, as represented by a mean of 4.31. The same sentiments were affirmed by the majority of sample respondents that the registration process for the presumptive tax system was simple and convenient to a new small business operator, as supported by a mean score of 4.45. This suggests that small business operators seemed to have no problems with the process of registration under the presumptive tax system. However, it is worrisome to note that the sample respondents confirmed that small businesses were not growing and expanding since they had registered for presumptive tax, as supported by a mean of 3.02. This suggests that small businesses viewed the expansion of business operations as not linked to the registration status under the presumptive tax. Most respondents reported neutrality, and that could be attributed to a higher standard deviation (1.348) showing that there were mixed reactions regarding the growth of the firm under a presumptive tax system. A further look at the mean scores for the statements on compliance costs shows that small businesses incurred substantial compliance costs in handling tax matters. The table below reports on the use of information technology among small businesses.

#### 4.3.2. Descriptive statistics for presumptive tax compliance

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

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

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

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



These mean results are more or less neutral, implying that compliance with the presumptive tax system was not present among small businesses.

#### 4.4. The measurement model

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

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

Table 5: Convergent validity  
(Source: Field data)

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

	CR	AVE	CC	PTC
CC	0.817	0.558	<b>0.747</b>	
PTC	0.872	0.636	-0.36	<b>0.797</b>

Table 6: Discriminant validity  
(Source: Field data)

#### 4.5. Structural model analysis

Following verification of the validity and reliability of the measurement model and the structural model, the path relationships between the study variables were examined. According to the findings, the structural model was deemed valid and reliable and was able to obtain a satisfactory fit. The relationship between compliance costs and presumptive tax compliance was examined using the structural model. The structural model generated using SPSS Amos is shown in Figure 1.

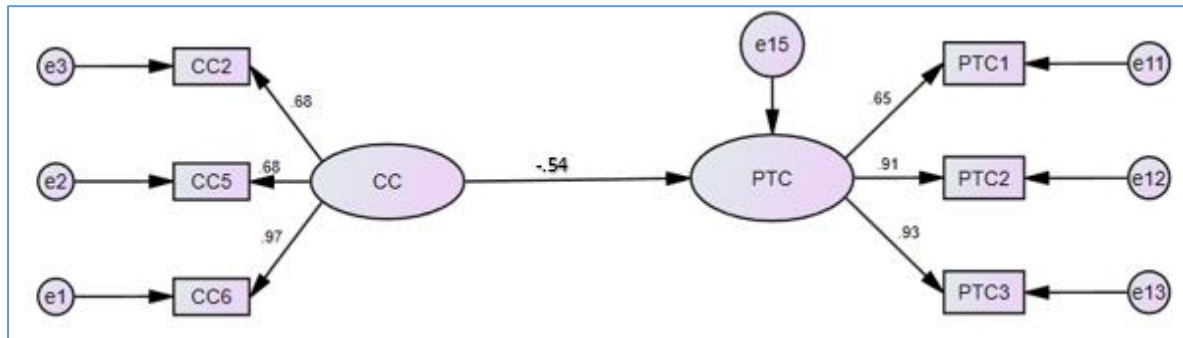


Figure 1: The structural model  
(Source: Field data)

#### 4.6. Hypotheses testing results

Hypothesis number	Path	Path Co-efficient ( $\beta$ )	T-value	P-value	Decision
$H_1$	CC $\rightarrow$ PTC	-0.535	-4.321	***	Supported

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

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

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

## **5. CONCLUSION**

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

## **6. LIMITATIONS OF THE STUDY**

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

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# DIFFICULTIES OF SMES IN SOUTHERN ITALY, FROM THE HISTORICAL ECONOMIC-GEORAPHIC ENVIRONMENT TO THE NEW CHALLENGES OF CYBER SECURITY

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## ABSTRACT

*Management and leadership challenges have persisted for years, nowadays including crises, pandemics, wars, inflation, and cyber-attacks. But there is a country, Italy, where the southern region is not only 1,200 km further away, but also grapples with complex historical issues alongside modern, rapidly changing issues. In more than 150 years of history, successive governments have not been able to eliminate this gap, which is still so great today that it qualifies the country as divided in two. But why do these differences exist? These contrasts have a profound impact on the reality of small and medium-sized enterprises (SMEs) and their competitiveness. They not only reflect the socio-economic peculiarities of the respective regions but also have profound implications for the country's overall economic growth. The objective of this paper is to present and analyze the main disparities that characterize SMEs in Southern Italy, focusing on several key aspects. These include firm size, industry sector, access to credit, innovation and competitiveness, population, unemployment, migration, infrastructure deficiencies, criminality, growing threats related to cyber security, limited resources and vulnerabilities, the public administration, and the regional-local governments, and last but not least the cultural specifics. Today between North and South the difference in GDP per inhabitant is about 45 percent. A rift that translates into the different level of efficiency of services, job opportunities, and quality of life. "La Questione Meridionale" (The Southern Issue) is an engaging and compelling historical and economic narrative, replete with data and plot twists, interwoven with the allure of „dolce vita“, a splendid coastal location and a favorable climate.*

**Keywords:** *management challenges, modern difficulties culminate historical ones, SME, Southern Italy*

## 1. INTRODUCTION

The contrasts between small and medium-sized enterprises (SMEs) in northern and southern Italy represent a significant challenge in economic and business studies. These contrasts not only reflect the socio-economic characteristics of the respective regions, but also have a profound impact on Italy's overall economic growth. This paper will analyze and present the main disparities that characterize SMEs in Northern and Southern Italy, focusing on several historical key aspects, including economics and access to credit, industrial sectors, innovation and competitiveness, infrastructural and social characteristics, faith, legal, education, and the new challenges for entrepreneurs in the Belpaese South. (Palumbo Crocco, 2016) With a surface area of 298,000 km<sup>2</sup>, Italy is the seventh largest country in the European Union in terms of surface area. In terms of population, it is surpassed in Europe only by Germany and France, with 58,850,717 inhabitants in the "Stivale" (Boots), according to Eurostat data for the last quarter of 2023. It may be surprising to learn that according to surveys conducted by the Italian National Office for Statistics (ISTAT), 24.4% of the Italian population is at risk of poverty or social isolation.

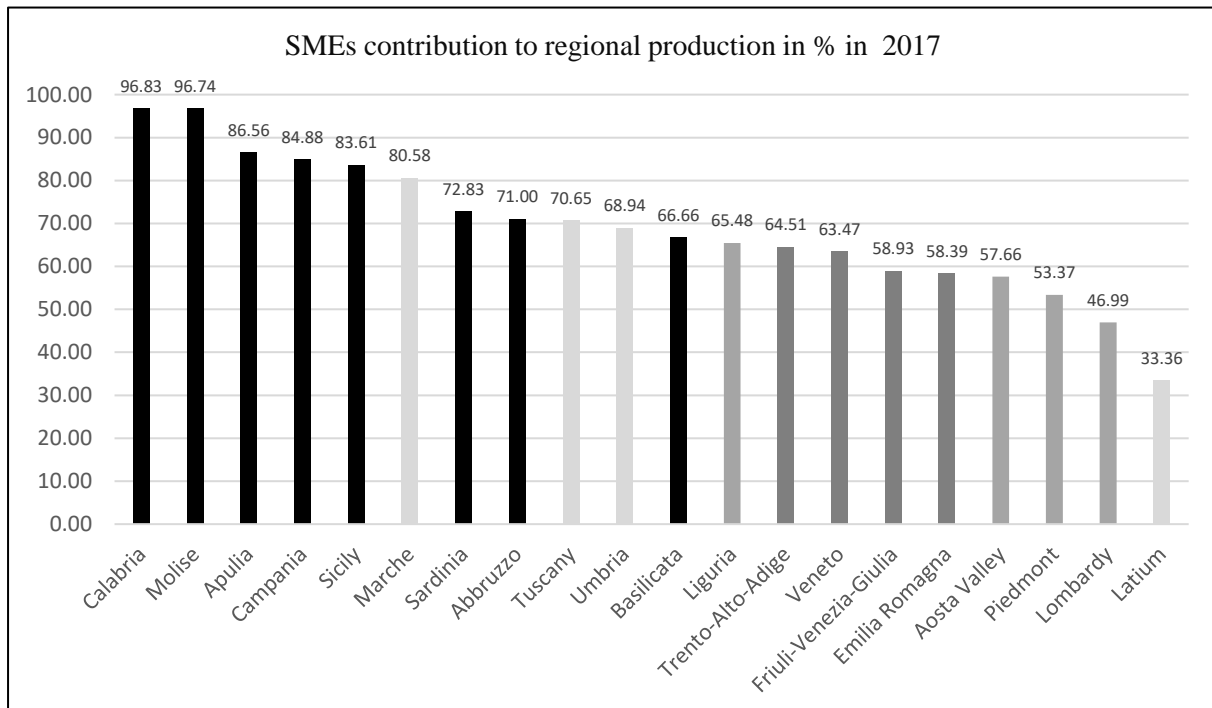
## 2. SMES: COMPETITIVENESS, INDUSTRIAL SECTORS, KEY FACTS

In southern Italy, small and medium-sized enterprises (SMEs) frequently encounter challenges in procuring financing due to banks' diminished confidence in the capacity of these companies to repay loans and the paucity of sufficient collateral. However, it is essential to ascertain the number of companies in question. The following figures and map demonstrate the significant geographical division of the Italian economy in terms of the role of SMEs. In southern departments where heavy industry is almost non-existent, the contribution of SMEs to production reaches almost 97%, while in the north it is only 47%. (Eurostat, 2023)

Class size	Number of enterprises			Number of persons employed			Value added		
	Italy		EU	Italy		EU	Italy		EU
	Number	Share	Share	Number	Share	Share	Billion €	Share	Share
Micro	3 551 239	94,8 %	93,5 %	6 531 886	42,7 %	29,4 %	203,4	25,5 %	18,6 %
Small	171 814	4,6 %	5,5 %	3 060 609	20,0 %	19,4 %	152,3	19,1 %	16,5 %
Medium-sized	20 597	0,5 %	0,8 %	1 992 123	13,0 %	15,5 %	145,6	18,3 %	16,6 %
<b>SMEs</b>	<b>3 743 650</b>	<b>99,9 %</b>	<b>99,8 %</b>	<b>11 584 618</b>	<b>75,7 %</b>	<b>64,4 %</b>	<b>501,4</b>	<b>62,9 %</b>	<b>51,8 %</b>
Large	3 789	0,1 %	0,2 %	3 716 277	24,3 %	35,6 %	296,2	37,1 %	48,2 %
Total	<b>3 747 439</b>	<b>100,0 %</b>	<b>100,0 %</b>	<b>15 300 895</b>	<b>100,0 %</b>	<b>100,0 %</b>	<b>797,6</b>	<b>100,0 %</b>	<b>100,0 %</b>

*These are estimates for 2022 produced by JRC, based on 2008-20 figures from the Structural Business Statistics Database as well as provisional data for 2021-2022 from the National Accounts database and the Short Term Business Statistics Database (all Eurostat).*

*Table 1: Datasheet about the italian SMEs  
(Source: Eurostat, 2023)*



*Table 2: SMEs contribution to regional production in % in 2017.  
(Source: prometeia.net)*



From these tables it is absolutely clear how geographically divided the Italian economy is in terms of the role of SMEs. In some southern departments, where heavy industry is almost non-existent, the contribution of SMEs to production reaches almost 97%, while in the north it is only 47%. The ten most profitable economic sectors in the southern provinces are:

Regions of "Meridione"	Population (millions)	Number of Companies (thousands)	Number of Employees (thousands)
Abruzzo	1.288	135	350
Basilicata	0.546	61	130
Calabria	1.947	155	390
Campania	5.774	581	1440
Molise	0.300	31	80
Apulia	4.029	378	900
Sardinia	1.598	174	430
Sicily	4.873	451	1150

Table 3: Most profitable economic sectors in the southern provinces  
(Source: datas from European Commission, 2023)

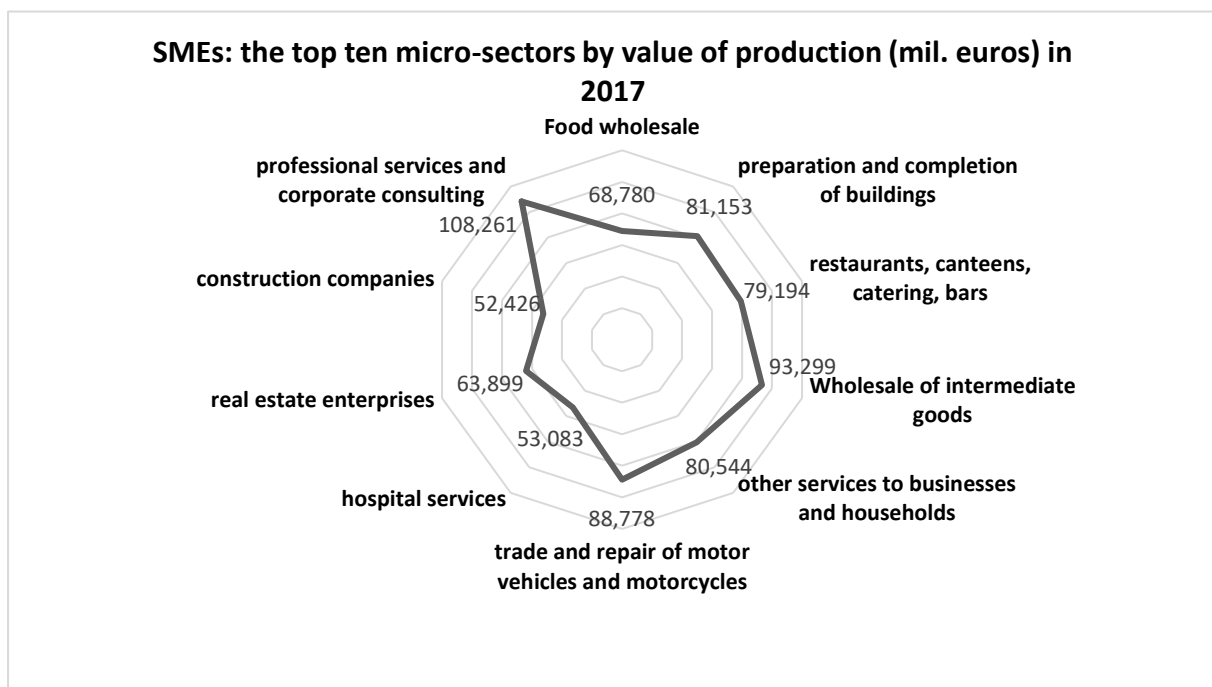


Table 4: SMEs: the top ten micro-sectors by value of production (mil. euros) in 2017  
(Source: prometeia.net)

### 3. ECONOMY, BANKING, CREDITS

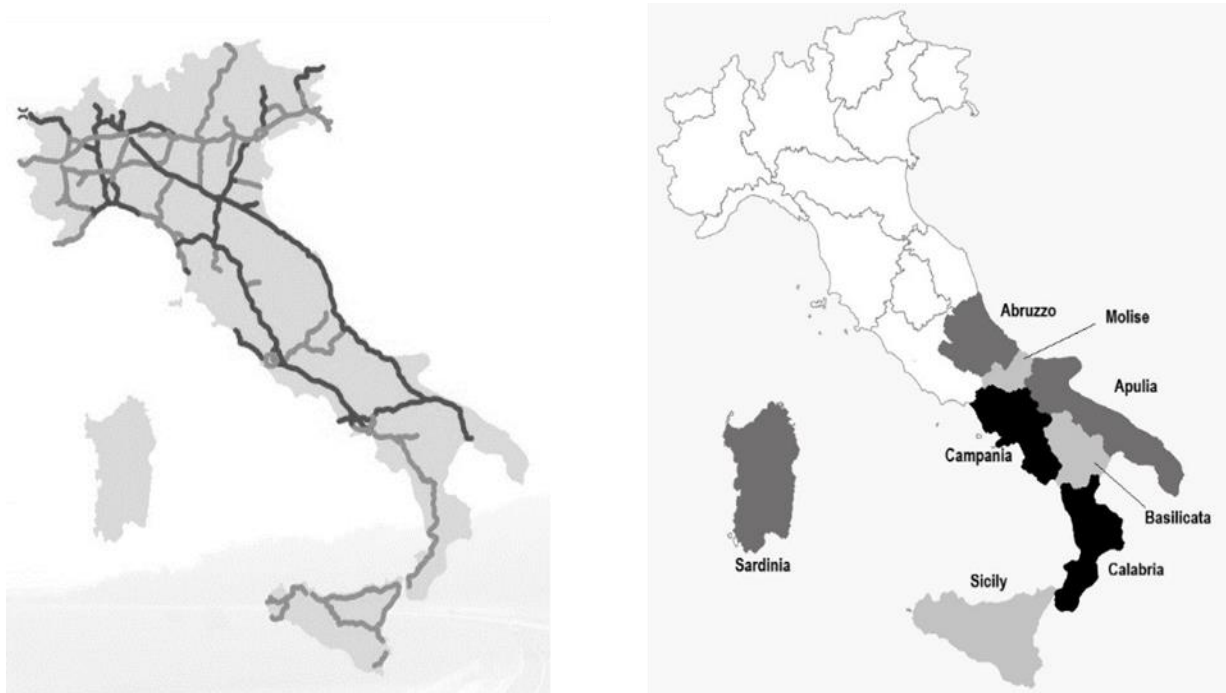
According to the Bank of Italy's 2020 data, only 30 percent of firms in the south received bank financing, compared with 38 percent in the north. Until the first half of the 1990s, Italy's credit system provided fairly widespread household and business financing throughout the country. Seventy percent of banking activities were directly or indirectly controlled by the state. Subsequently, a process of privatization of public credit institutions was initiated, followed by a plan of mergers and structural reorganization, this time involving credit institutions in general. Within a few years, there were almost 500 banks that were the protagonists of this change.

What happened in the south was that many small banking entities were absorbed by the more solid and organized ones from the center-north, with the result that we went from 3500 branches in the south in the mid-90s to just over 1000 in the 2000s. (Convegno AREC,2010) to get credit in the South, they have to charge interest rates that are on average 30 basis points higher than in low-crime areas, and they have to offer collateral that is often called (as with auto and motorcycle insurance: environmental risk). (G.Valetini,2012). During my research, I personally met several Italian SMEs whose owners had moved their headquarters to the north (perhaps even when they were founded) in order to have better access to so many opportunities: from possible loans to participation in possible public tenders. A risk that, translated into figures, still means a business volume of 150 billion euros, led by mafia activities and uneconomical of other nature. (G.Valentini,2012). For more than a century, the backwardness of the Mezzogiorno has been a national priority and a privileged area in the debate and policies for development and social cohesion. It is no coincidence that the topicality and urgency of the "southern question" is a qualifying point in the National Plan for Recovery and Resilience (hereafter: PNRR), to which a cross-cutting priority ("reducing the citizenship gap") is dedicated and to which substantial resources (about 40 percent of the total) are allocated to finance reforms and interventions, some of them exclusive to the 8 southern regions.

#### **4. SOCIAL CHARACTERISTICS, INCLUDING MAFIA AND INFRASTRUCTURE**

The unemployment rate in 2020, according to ISTAT data, will be 5.8 percent in the north, 8 percent in central Italy, and 15.9 percent in the south. This does not mean that people do not want to work. In Italy, especially in the south, where I had the good fortune to live for years, there are few job offers, there are a lot of those small fixed-term jobs, or seasonal jobs, or project-based jobs, or maybe moonlighting. The incidence of young people NEET always according to ISTAT, that more and more Neet, that is, those who neither study nor work, in 2014 there were more than three million throughout the country, of which about two million in the south. The precise index in the north for neets among young people at in 2019/2020 in the north was 15.25 percent, in the center 19.59 percent but in the south 35.78 percent; that is, almost 4 out of 10 young people were officially at home with nothing to do (C.Petraglia, S.Prezioso,2023). Two out of three Neets are women. Those who do study are generally more likely to graduate than men, but their employment is not significantly developed in the South. These data should also be read, however, in the light of a phenomenon that is sadly known and unfortunately as a soldier: undeclared work. However, it is not only the working population that is declining, but also the Italian population as a whole, which has been experiencing a decline in births for many years. Also contributing to this is the fact of a progressive decline in the Catholic faith (more in the north and less in the south), fewer marriages, more divorces. To the few births other innumerable causes, for example, economic hardship and psychological maturity of the couple, inadequate social support system, free cultural choice, and so on. In addition, there are fewer beds per capita in the South than in the central North, and contrary to popular belief, the hospitals in the South are so much less equipped, from X-rays to CT scans to MRIs and operating rooms to resuscitation, that more and more patients make trips of hope to go to the central North for treatment (L.Patrino,2015). Since an important part of the GDP of the South comes from tourism, the South suffers so much from the lack of adequate infrastructure to welcome both northern Italians and foreigners. After the COVID-19 pandemic, tourism in the south is recovering, more and more low-cost airlines are setting up charter flights, at least for the summer period, but then they land at a tiny airport in the Mezzogiorno, there is a lack of public services, shuttels, small trains, buses, officially licensed taxis, hotels and much more. But it's not only the means that are lacking, there's a real lack of highways, or at least highways in mediocre condition, there's a lack of electrified tracks, and sometimes just double tracks.

High speed trains are much more widespread, technically given to the north and center of Italy. What can I say, sometimes there is a real shortage of drinking water, especially on hot, dry days in the south, where the piped water system is often very old, with serious problems of leaks and decades of lack of maintenance and/or modernization. Let's face it, for a seaside resort that is fortunate enough to welcome tourists, these problems are daily, serious, sad and unbelievable for so many who visit the south of the Belpaese for the first time.



*Graph 1: Italian motorway network and the „Mezzogiorno”  
(Source: Autostrade Anas, 2024)*

One wonders why the government, the national government and the regional government have not been interested for a long time to take initiatives and money in hand to create the basic necessities, first for the locals, second to boost tourism and thus grow the economy of the South. There are indeed many beautiful places to see in the South, with crystal clear waters and friendly and hospitable people. Although the so-called "Southern Question" is always associated with the Mafia. Organized crime, of course, is not only Italian - and for decades not only from the south, even within Italy - it exists in many if not all countries, but some of these Italian organizations have been able to branch out abroad thanks to the migration of Italians abroad, for example the three famous ones from the south: the Camorra (Naples and surroundings), the Cosa Nostra (Sicily), and the 'ndrangheta (Calabria). Organized crime then paradoxically becomes the organization most able to provide employment and income for the poor, this culture however derived in the territories of origin from the absence of an organized civil society and a state incapable of enforcing the law, but also from the existence of a local latifundist and absentee elite. Each of these organizations that have survived to the present day has its own peculiarities, but they all share the family base. The concept of "amoral familism" (E.Banfield, 1958) describe the behaviors centered a culture of Southern Italy where the purpose of improving the welfare of one's family, in it not only the consequent nei but also the relatives, one does not hesitate to commit crimes against justice (nepotism), against the law (corruption and illegal economic activities), and against morality, even going as far as murder. Nowadays, their activities have become national and international, much less murder and much more lucrative business, from public contracts (construction, supply of hospital services, canteens,

transportation, funeral services, waste services and of hazardous waste disposal, etc.) to the washing of money gaudagnate with trafficking in narcotics and drugs, contract goods and even people. It has to be said that the central government and the rest of the country have not done enough in all these decades to help eradicate this historical legacy that grips many areas of the South and forces young people to leave. In the end, what will make the difference is precisely the great mobility of today's young people, which deprives the mafia of human resources because, even if they return to their areas of origin, they are no longer willing to be drawn into the mafia's circles. The great turning points in history can be triggered by external factors, but they can never be achieved without the collective commitment of the civil society of the places concerned. (V.Zamagni, 2015) Although the lives of the so-called "pentiti", thereó people who cooperate with justice, according to Italian law are individuals who, finding themselves in a situation of knowledge of criminal phenomena and involvement in them, decide to cooperate with the Italian judiciary. Often against their will or even against their own family. The protection of collaborators of justice against possible reprisals from others related to the crimes in question and their physical safety is provided by the Central Protection Service. They often live under lifelong protection, such as the famous journalist Roberto Saviano since 2006, since he published his famous book "Gomorra" about the Camorra in Naples.

## **5. NEW MANAGEMENT CHALLENGES: CRISIS MANAGEMENT AND CYBER SECURITY**

The turbulent events of recent years (cyber pandemics, wars, the digital explosion, the dramatic increase in cyber threats) have shaken SMEs to their core. The European Family Business Barometer and CSV's international surveys have shown for years that the same dilemmas and challenges are faced in all countries. There are few things more worrying in the life of a business than when strangers try to hack into the company or owner's bank account and drain the funds held there, or make the entire digital company database, complete with servers, inaccessible. Cybercrime is already a growing threat to small and medium-sized businesses. As well as being the backbone of the Italian economy, providing more than ten million jobs, SMEs often lack adequate cybersecurity protection, while hackers are constantly developing new ways to steal or destroy company property or extort money. In addition to the financial damage they can cause, they can also seriously damage the reputation and competitiveness of SMEs. And a more serious case, if not handled properly, could even lead to the bankruptcy of the company concerned. In the EU, there have already been more cybersecurity incidents in 2020 than in the previous 15 years combined. With the entry into force of the EU-wide cybersecurity directive NIS2, compliance will now be mandatory for many mid-sized companies. Cybersecurity challenges make it even more difficult for SMEs to compete in an increasingly complex marketplace, with growing labor shortages and increasingly expensive and slow supply chains. Strategic planning focuses on managing interactions with environmental forces: a previously slower and more predictable environment has become a rapidly changing and uncertain business environment since the spring of 2020. Proactive rather than reactive leadership is the key to survival, or at least the ability to adapt at lightning speed. Italians, in terms of educational attainment (which can be an important reference point for assessing the dangers of the digital world, of "conscious online consumption"), out of 23.613.000 people in work, 6.431.000 did not even have a secondary school education when they started working, and of these less than 1 million were foreigners, according to ISTAT data. Another 11.2 million Italians and 1 million foreign workers have a secondary education, and 5,968,000 Italians and 312,000 foreign workers have at least a university degree. Italy is also one of the worst performers in terms of language learning, with 19.7% of students and middle-aged graduates speaking English at intermediate level, according to the Italian National Statistics Institute (ISTAT), while 43.5% of students and middle-aged graduates report speaking English at B2 level.

As we all know, it is very difficult to develop a serious international cyber defense without training professionals to bridge the language gap in a country with such a large population. Also according to ISTAT data, in October 2023 there were 22.850.000 workers aged 15-64 (of which 120.300 were in the 15-24 age group) and one million workers aged 64 and over. In total, therefore, there are 23.613.000 people working part-time or full-time in Italy. This means that this is the number of people in Italy who have a bank account, a credit card (both of which have been compulsory for pensioners for several years!), are likely to bank online, have an email address and a smart phone. 2.436.000 of them are not Italian citizens (almost a third of the population of Hungary, just for comparison), which means that they have a different mother tongue and are in constant contact with another country, even online. The above figures represent foreigners who are officially registered and have at least temporary residence and a residence permit. The most numerous immigrant group is Romanian, followed by Albanians, Moroccans and Chinese, and then Ukrainians (the latter having jumped so much due to the events of 2022). A table of ISTAT census and demographic data shows that only 47% of the immigrant population is geographically European. 23% come from Asia, 22% from Africa, just under 8% from the Americas and less than 1% from Oceania. This means that with 127 million foreign tourists expected to visit Italy every year by 2022, according to ISTAT, in addition to European languages, hundreds of languages are used in Italy every day, which could easily be encountered by the authorities during an investigation, and this alone poses a serious challenge to national cyber defense. The international Meltwater survey "Digital 23" (Statistics Meltwater, 2023) on the Italian dimension of cyber incidents has published some surprising data. Italy has a total population of just under 59 million (0-100+ years!), which corresponds to 78.2 million mobile phone users (SIM card holders), i.e. 132.6% of the population have a mobile phone subscription/sim card. In practice, this could mean a doubling of the number of private and business mobile phones, and a doubling of the number of mobile phones and tablets or "pens" for mobile Internet, due to the use of SIM cards. 86.1% of the population (i.e. roughly everyone under 12 and over 90) 50.78 million inhabitants are internet users and 43.9 million, 74.5% of the total population, have an active social media account (Facebook, Instagram, Tik Tok, Pinterest, Whatsapp, Messenger). Users (as individuals) access the virtual space for similar reasons as in the international survey: to get information, to keep in touch with loved ones/friends, to spend leisure time, to find inspiration for things to do or products to buy (including online shopping), or to search for specific content such as videos. More than a third of Italian users manage their finances online. According to the survey, the most used social platform in Italy is WhatsApp, used by 89% of the Italian population aged 16-64, while Facebook and Instagram are in second and third place with 78% and 73% respectively, ahead of Messenger and Telegram. TikTok is used by 38% of 16-64 year olds. In the survey summary, the average consumption/usage statistics are "frightening": Italians continue to spend a lot of time online, both on search engines and social media, on average at least 6 hours a day per person, every day, since the Covid years, which generated a major consumer boom in Italy due to strict curfews. This represents a huge potential not only for online sales, but also for cybercriminals. The digital explosion of recent years has not been followed, accompanied or even preceded by the development of digital consumer awareness in Italy. At the end of 2023, the Italian IT Security Association, based at the Department of Computer Science of the University of Milan, published an important summary on Italian cybersecurity. In his comments, Gabriele Faggioli, the association's president, finds the dismal results discouraging and makes two suggestions for consideration. It is fair to say that the stakes are high for a country of nearly 60 million people facing serious demographic, educational and economic challenges.

Here are his key questions after analyzing the current situation in Italy:

- „realistically, the Italian State should focus on the real possibility of increasing cyber-culture among citizens of all ages and professions, and
- to create a public and private structure capable of providing properly maintained and protected technologies, from large central and multinational public administrations to the smallest companies and professional firms, and capable of investing the necessary resources.” (Rapporto Clusit, 2023)

According to the data processed in the report, last year Italy experienced about 22 major cyber attacks per month, an increase of +40% compared to the previous year. From 2018 to June 2023, 505 particularly serious attacks against Italian interests occurred, of which no less than 132 (26%) occurred in the first six months of 2023 alone, according to the Clusit survey. This rate of increase is a serious cause for concern, according to the report, since the 188 attacks detected in the whole of 2022 is already a negative record with an increase of 169% compared to 2021, while the average increase worldwide was 21%. In the classification of Italian attacks, the number of hacker attacks reached 30% in the first half of 2023 (compared to only 6.9% in 2022), of which 69% were cybercrime attacks, while 1% were in the category of espionage-sabotage, according to experts. The increase in hacking attacks could also be interpreted as a consequence of the Russian-Ukrainian war conflict, but there is no concrete or conclusive evidence for this, the study notes. As for the 1% of attacks that fall into the category of "espionage/sabotage", it should be noted that this is the first time since 2020 that incidents in Italy have been classified in this category. The Clusit research results also clearly show that government (23%) and manufacturing (17%) were the sectors most affected by incidents in the first half of 2023 in Italy. This distribution differs significantly from the global pattern, where these two categories account for 12% and 5% of attacks, respectively. An even more striking indicator is that incidents detected in Italy "against the manufacturing sector" account for 34% of attacks against this sector worldwide.

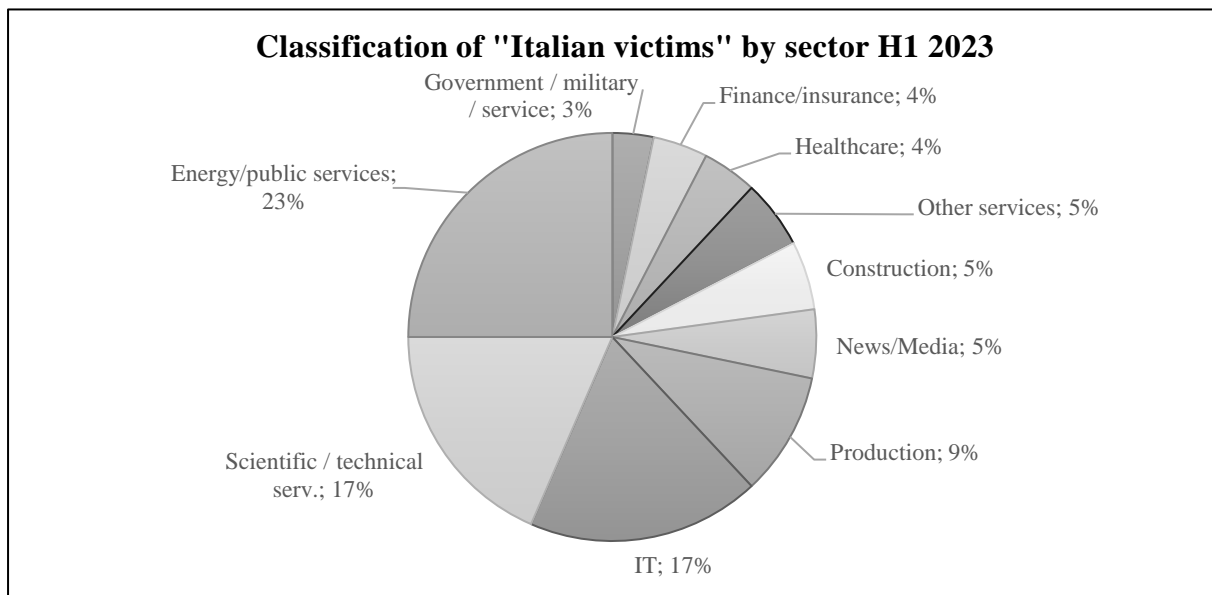


Table 5: Classification of "Italian victims" by sector H1 2023 (Rapporto Clusit, 2023)

The researchers (Rapporto Clusit, 2023) also analyzed the main attack techniques used by cybercriminals. Malware remained the main attack technique used by criminals (31%), but much less consistently than the previous year (53% in 2022).

In absolute terms, the number of malware attacks has not decreased significantly, but the lower percentage indicates that, for the first time since the ransomware phenomenon broke out, Italy has seen a significant change in the way attackers achieve their goals, with attackers apparently using other techniques to achieve their goals more effectively. According to the researchers, this fact is evidenced by the significant increase in DDoS attacks, as shown in the graph above, which rose from 4% in 2022 to a frightening 30% in the first half of 2023, a fivefold increase. The incidence of this type of attack in Italy is alarmingly high. DDoS attacks are one of the most common techniques used by hackers to achieve their goals, aiming to make an online service unavailable/unusable by overloading its resources (network, processing, storage, ...). Hackers can use this technique to disrupt the activities of a company or institution with the aim of drawing media attention to a political or social issue, thereby putting pressure on the victim and highlighting its lack of defenses. The results of the Clusit 2023 survey highlight that phishing and social engineering attacks are also on the rise in Italy, with a higher incidence rate in the first half of 2023 than in the rest of the world (14% in Italy vs. 8.6% globally), unlike in 2022, indicating a strong need for awareness and education on cyber threats among users who deal with information systems on a daily basis. The Clusit study includes a section on SMEs. Between November 2022 and July 2023, a cybersecurity survey was conducted in the provinces of Varese and Como in the Lombardy region, in collaboration with Reti S.p.A. 150 companies, mostly SMEs, responded to the questions posed. The data show a heterogeneous situation among the companies surveyed in terms of size and turnover. There is a wide range in the size of the participating companies, with some having a significant number of employees and others much smaller in terms of number of employees. The size of the participating companies was predominantly small, with 37% employing fewer than 10 people; the average number of employees across all companies surveyed was 18. Revenue also showed a very mixed picture, but the result of the correlation between size and revenue seems realistic. 97% of respondents have their own website, but only 18% have a web shop. However, given the small sample size, this is not particularly indicative of the broader reality, and no cross-analysis was conducted. In terms of email, cloud-based systems are now predominant, but overall only 31% of respondents said they use a dedicated, in-house system for email. There is some concern about the large number of SMEs using "consumer" level services (free mail systems such as "gmail.com", etc.), which does not speak well of the technological maturity of these companies, even if they are often small or very small. When talking about SMEs, it cannot be stressed enough how important it would be to use a professional level mail service, as it is usually equipped with security features that a personal (often free) mail system does not have. The IT and cybersecurity architecture of the companies surveyed clearly shows the different levels of maturity of the companies in this area. In most cases, IT tasks are partially performed by internal staff, and only about one-fifth of companies rely exclusively on external service providers. This is understandable given the small average size of the companies in the sample. However, when it comes to cybersecurity, only just over 20 percent of companies have dedicated internal staff, while more than a third of the sample has no identified staff, not even external. In these cases, we have to assume that people with other responsibilities take on cybersecurity tasks when needed; with what skills and preparation is unknown. In 22% of respondents, cybersecurity is handled by an internal team and in 27% by a mixed team of internal and external people. 16% have an external provider, while 35% have none. Typically, in these cases, there is not even a reference to an external team, according to the researchers, meaning that we are led to believe that the company has not even identified in advance a potential supplier to turn to if necessary, when the trivial fact is that the difficult moments following the discovery of a data breach, for example, are not the best time to choose a supplier with such a sensitive issue in a calm and prudent manner.

Among the respondents, less than 30% of Italian SMEs with less than 20 employees have a written IT tools policy, while 75 out of 150 companies - regardless of size - do not have such a written policy. This could be a serious risk factor, as inappropriate use of a company laptop or smartphone poses huge risks from a cybersecurity perspective. Security is a question of whether or not there is a policy for the use of IT equipment provided by the company to its employees. This regulation is part of the measures strongly recommended by the Italian Data Protection Authority and is therefore generally part of the "minimum security preparedness" in the area of data protection. All companies, even small ones, that provide their employees (even one) with IT tools should have a written policy that is duly explained to the employees, explaining the risks, the reasons and the possible consequences. 9% of respondents have internal IT training only on privacy, 4% only on cybersecurity, 56% have neither and only 29% have training on both. 2% of respondents do not know if their company has any IT training at all. Yet IT training for employees is critical, as they are the first and often last line of defense for a small business. One employee's carelessness (e.g., clicking on a phishing link) or inappropriate, non-compliant behavior, one wrong action (e.g., connecting a suspected infected external drive to a company system in violation of a policy) can put the entire company at risk. And if, in such an unfortunate event, there is no qualified person in the organization (internal or external) who can respond immediately, the length of the response time and the extent of the damage will increase in direct proportion. 87% of respondents have a firewall to protect their internal network, 1% do not have a firewall and 12% do not know if their company has a firewall. Only 31% of respondents have no way to connect a personal device to the network. As for authentication, another major problem is its underestimation from a cybersecurity perspective. A crucial and very simple step in cyber protection would be to have regular centralized backups and to use so-called antivirus software, in addition to having a firewall, encrypting data and creating administrative rights on company digital devices, even for SMEs. In other words, no one can install or download anything from anywhere at any time, putting at risk the company's data, its operations and all jobs, the livelihood of the entrepreneur's family and employees, and in the worst case, even that of his suppliers. Italy, too, has its own national cybersecurity strategy, as the Cybersecurity Interministerial Committee (CIC - Comitato Interministeriale sulla Cybersecurity), chaired by former Prime Minister Mario Draghi, approved on May 18 the cybersecurity strategy developed by the National Cybersecurity Agency (ACN - Agenzia per la Cybersicurezza Nazionale). In Italy, the press reports almost daily on cyber-attacks against the country and Italian economic interests in the context of the hybrid war, exacerbated by the Ukrainian-Russian invasion, which have resulted in economic and reputational damage to companies, the blocking of energy infrastructures, the disruption of information systems used by hospitals and healthcare companies, and even the dissemination of personal data of public figures, journalists and political activists. The Italian National Program Strategy for the period 2022-2026 (PNRR - Piano Nazionale di Ripresa e Resilienza per il digitale e la sicurezza informatica) consists of a serious and detailed technical package. By defining the cyber strategy and its implementation plan, the Italian government has sought/is seeking to address a wide range of challenges specific to the articulated dimension of cyberspace.

The ACN reports show that the Italian National Cyber Security Strategy focuses on four main areas:

- 1) „strengthening the resilience of the digital transformation of the country's system (cybersecurity).
- 2) achieving strategic autonomy in the cyber dimension - prevention of cybercrime;
- 3) anticipating the evolution of the cyber threat - defense and military security of the country;
- 4) cyber crisis management - research and information processing.” (PNRR, 2024.)



## 6.CONCLUSION

Italian companies, especially SMEs, still tend to act as "beginners" in important cybersecurity issues, much less able to respond to the new challenges of the world, to the rapid changes and threats of recent years, due to their historical legacy and infrastructural capabilities. There are points where public intervention, targeted financial programs (infrastructure development, education development) and, last but not least, the Italian national central strategy, could help to overcome cybersecurity immaturity by promoting a cyber-risk culture. Entrepreneurs should be empowered to know how to manage the risks arising from cyber incidents. The myth that there are no companies that are not attractive to hackers and therefore immune to cybercrime must be dispelled. A culture of cybersecurity at the individual level is also very important, as users come from a very wide age range: from 6 years old to 90+. In addition to the technological knowledge and practice expected from age, education is a nuanced factor. Therefore, a large proportion of cybercriminals target SMEs and individuals because they are generally uninformed and unprepared for the immediate consequences of a data breach. The Italian professional leaders stated that it is the responsibility of the Italian State to define appropriate cybersecurity strategies in order to design, coordinate and implement measures that will make the country secure and resilient in the digital space, while ensuring citizens' confidence in the possibility of exploiting competitive advantages and fully protecting fundamental rights and freedoms. It has been emphasized that cybersecurity, which has become a strategic issue, should support the country's digitization process as an essential element of the digital transformation, also to achieve strategic national autonomy in this sector, and should not be considered as a cost, but as an investment and a factor for the development of the national economy and industry, in order to increase the country's competitiveness at the global level. The three main objectives of the Italian National Cybersecurity Strategy are: to protect, to respond. This includes the development of a national crisis management plan and support for R&D activities. We hope that these programs will be implemented quickly, with funding, because after the effects of the pandemic and the war, it would be a huge and in some cases insurmountable task for Italian SMEs, especially those in Southern Italy, to prepare and defend themselves against the increasingly sophisticated and "clever" cyber-attacks that are developing at an enormous rate every day. Every day, every hour counts in the life of a small SME. The acceleration brought about by PNR and the increased focus on data protection issues related to the European General Data Protection Regulation (GDPR) have led to an increase in the ratio of cybersecurity spending to GDP (Gross Domestic Product) from 0.08% in 2021 to 0.10% in 2022. Unfortunately, this is still far below the average of other G7 countries (Rapporto Clusit,2023). As long as the world economy was organized into local production systems that traded with each other, Italy did very well, albeit with ups and downs. But when globalization took hold from the 1980s onward, and big business was able to reap enormous economic benefits by moving to cheaper places in the world, Italy suffered. But if Italy's small and medium-sized enterprises continue to grow, as seems likely, even in the South, with a serious national plan for equal opportunities in social and public services, including infrastructure, things could change from the bottom up. Supporting these realities and consolidating the few existing large companies is certainly a priority of the country's industrial policy. Italy, as a civil market economy (Bruni, Zamagni,2015) that does not allow territories to lose their identity, invests in community infrastructure, believes in the reinterpretation of local traditions and cultivates family and associative relations, producing social cohesion and inclusion, this yes that has its roots in Italy. If Italy can show that its model of development based on territories and communities is able to cope with globalization, it will be able, together with other European countries moving in the same direction, to demonstrate the validity of this alternative to unbridled globalization, making the economy once again a useful tool for the production of public happiness and not for the concentration of the world's wealth in the hands of a few.

The Mezzogiorno is not just the diseconomical backwardness of the Mafia. There are numerous realities of entrepreneurial excellence that have been created thanks to the determination and inventiveness of honest and capable people who need targeted support interventions. I cheer for the South, for its beauty and uniqueness, about which clichés continue to make opinions more than the reality, even if contradictory.

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# HOW DO SPANISH FAMILY BUSINESSES AND NON-FAMILY BUSINESSES MSMES PERCEIVE BUSINESS SUSTAINABILITY?

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## ABSTRACT

*The literature on 'family businesses' has many references that examine whether there are differences in the characteristics that identify these businesses compared to those that are not family businesses. These characteristics imply differences in their structural conditions (size and sector, for instance) and differences in values; in addition, it is explored whether these particularities imply differences in how strategy is implemented, how management is exercised, or how current challenges such as innovation, globalisation, digitalisation and sustainability are tackled. The literature has mainly focused on large, established family businesses, but there needs to be more research on whether these differences also occur in small family businesses. This research focuses on the study of a group of Spanish micro, small and medium-sized businesses, both 'family' and 'non-family', to analyse whether or not being a 'family business' implies differences in the perception of the benefits derived from implementing a sustainability strategy, in the decisions to address a new strategic challenge such as the implementation of sustainability policies and in the perceived obstacles to its implementation, which should result in better competitive positioning of these businesses. For this purpose, the database of the MIPYME 2022 Report on Digitalisation and Sustainable Development in SMEs - Spain is used. It is separated into 307 family businesses and 407 non-family businesses, and the topics mentioned above are studied. After performing the relevant statistical analyses (Mann-Whitney U test for difference of means for non-parametric samples), the results allow us to infer, following the specialised literature, that there are significant differences between micro, small and medium-sized family businesses and non-family businesses studied in the perception of the benefits of sustainability, its implementation and the perceived obstacles.*

**Keywords:** *Family Business, Micro, Small and Medium-sized Entreprises, Sustainability*

## 1. INTRODUCTION

The MIPYME 2022 Report on Digitalization and Sustainable Development in SMEs - Spain (FAEDPYME, 2022) analyses how these businesses approach digitalisation and sustainability strategies. This paper, for the case of Spain, studies whether being family businesses and presenting a series of specific business values and circumstances (*Family Business Report 2021, Recovery and Growth*) has made them perceive sustainability for the necessary adaptation of their businesses to the new regulatory frameworks and environmental awareness, to a greater or lesser degree than non-family businesses (*Observatorio de la Empresa Familiar 2021*). The results show differences between the two groups. Paper starts from the categorisation of "family business" based on the work of John L. Ward (2004) and developed by essential authors such as Astrachan, Chrisman, Chua, Neubauer and Lank, Nordqvist or Sharma (Christman; Chua & Sharma, 1999). Subsequently, the literature on family businesses studies, among other topics of interest, whether there are differences in management and results between family and non-family businesses (Gimeno, 2005; Pereira, 2006; Mendoza, Hernández and Salazar Hernández, 2010; Omaña and Briceño, 2013), either focusing on SMEs or comparing large companies, and

even in listed companies (de Nadal, 2013). At the same time, periodic longitudinal reports are made on the situation of SMEs in different areas (World Bank, Fundación Observatorio PyME, etc.). Moreover, research on family SMEs is generated. Complementarily, in recent years a multitude of research has appeared on different topics concerning the adaptation to new regulatory standards on environmental preservation, the adoption of measures for business sustainability and its results in small and medium enterprises (Loucks et al, 2010; Jansson, J. et al, 2017; Yacob, P. et al. 2019; Cantele & Zardini, A., 2020; De Sousa, A.B.L. et al., 2020), but no relevant references regarding sustainability awareness and measures in small family businesses have been found. In this paper, the topics of MSMEs, family and non-family businesses and sustainability are brought together to find out the self-perception that these businesses have about their degree of environmental awareness, its advantages and disadvantages and the implementation of measures for the sustainability of their businesses.

## 2. METHODOLOGY

This paper aims to compare the perception of Spanish family and non-family MSMEs of their degree of environmental awareness and the adoption of measures for the sustainability of their businesses, using data for Spain from the Ibero-American Observatory of MSMEs. The purpose is to analyse whether or not the fact of being family and non-family businesses generates differences in the perception of advantages and disadvantages and the adoption of sustainability measures in their businesses and, if there were differences -positive or negative-, whether they could be associated with the fact of being considered family businesses and link it to the typical characteristics of family businesses (Gallo, 2004; Tapies, 2011; Santos Martos, 2015). The result will allow the formulation of future research questions. The unit of analysis is made up of the Spanish companies that participated in the *MIPYME 2022 Report on Digitalization and Sustainable Development in SMEs - Spain*, based on stratified sampling, according to official statistics, and in each stratum, by simple random sampling, according to the criteria of sector and size, with the participation of companies from the different Spanish regions. The format, structure and methodology of the *Observatorio Iberoamericano de la Mipyme* was followed. Given the nature of the study, based on self-perception questions, no objective variables were asked or used. The *report* uses a questionnaire structured in 20 questions (choice, scale, dichotomous and open-ended) on the sector, employment, seniority, management, performance and innovation indicators, the use and degree of use of environmental criteria for decision making, and the advantages and disadvantages of complying with environmental and sustainability criteria. The questionnaire was addressed to a representative sample of Spanish MSMEs, stratified by sector (Industry, Commerce and Services) and size (micro, small and medium-sized enterprises). The information was collected through an online form, with telephone follow-up sent to the managers of the selected companies. It took place during the first half of 2022. Respecting statistical confidentiality, the main variables are analysed using the corresponding statistics. Contingency table analysis is employed by applying Pearson's Chi-square test ( $X^2$ ) for percentage differences and analysis of variance (ANOVA) for the difference of means of quantitative variables. As indicated, taking the data from the 1,044 Spanish companies participating in the study, two groups are established depending on whether they answered affirmatively or negatively to whether they consider themselves a 'family business' and how many years the company has been in business. We obtain a group of companies that are not considered family businesses -NonFB- (307) and, therefore, are not considered as such (non-family businesses), and a second group of companies that are considered family businesses -FB-. This group includes those that are 30 years old or older (407) since, in this case, there is a very high probability that they are family businesses (regardless of whether or not there has already been a generational change in the ownership and/or management of the company) so that the youngest companies in this group will be at least first-generation family

businesses in the transition to the second generation or second or successive generations of family businesses. To analyse the results of both groups, we applied the Mann-Whitney U test to determine the difference in means for non-parametric samples using SPSS ver. 28.0.

### 3. RESULTS

The data on size and sector show more micro and small family businesses (85.0%) than non-family businesses (80.7%), i.e., there are 4.3 percentage points fewer medium-sized family businesses, which confirms the literature on the smaller size of family businesses. In terms of sectoral distribution, there is a lower presence of family businesses in the Services sector (47.3%), followed by Manufacturing (36.0%) and Commerce (16.7%), compared to non-family businesses, present in Services (58.8%) and Manufacturing (24.8%) and Commerce (16.3%), i.e. there is a more significant presence of family businesses in the Industrial sector (11.2 percentage points), which confirms the literature on the more significant presence of family businesses in Industry. Regarding company management, there is a lower presence of men in management positions in family businesses (80.1%) than in non-family businesses (90.5%), 10.4 percentage points less, i.e., in the opposite direction, family businesses have a more significant presence of female managers. Concerning academic training, 52.9% of the managers in the case of FFs have university studies, compared to 69.8% in the case of non-family companies, 16.9 percentage points more. Concerning this data, the higher percentage of academic training of female managers stands out (non-family: 89.7%; family companies: 63.8%). However, although there are more female managers in family businesses, they have less university education than their counterparts in non-family businesses. Let's analyse the use of environmental criteria in decision-making by the Spanish MSMEs participating in the study. On average, 55.0% of family businesses indicate that they use them, compared to 56.6% of non-family businesses, i.e., a difference of 1.6 percentage points. However, the results vary according to the different items considered. The percentage of use, from highest to lowest, corresponds to "waste management" (90.7%), "packaging management" (71.4%), "energy management" (59.7%), "water management" (47.2%), "supplier selection" (43.5%), "process design" (39.5%) and use of "environmental certifications" (38.0%), with the following differences between each group. When asked whether "environmental criteria are used for waste management in the company", 90.1% of family businesses indicate that they are used, compared to 91.5% of non-family businesses, i.e., 1.4 percentage points more in favour of non-family businesses. When asked whether "environmental criteria are used for the management of packaging, plastics and derivatives", 72.1% of family businesses indicate that they use such criteria, compared to 70.4% of non-family businesses, i.e., a difference of 1.7 percentage points in favour of family businesses. When asked whether "environmental criteria are used for energy management in the company", 60.0% of family businesses indicate that such criteria are used, compared to 59.3% of non-family businesses, i.e., 0.7 percentage points difference in favour of the FFs. This is the item for which the two groups have the most agreement. When asked whether "environmental criteria are used for water management in the company", 47.8% of family businesses indicate that these criteria are used, compared to 46.5% of non-family businesses, i.e., a difference of 1.2 percentage points in favour of family businesses. When asked whether "environmental criteria are used in the selection of the company's suppliers", 42.4% of family businesses indicated that they are used, compared to 44.9% of non-family businesses, i.e., 2.6 percentage points more favouring non-family businesses. When asked whether "environmental criteria are used for the design of processes in the company", 37.0% of family businesses indicate that they are used, compared to 42.7% of non-family businesses, i.e., 5.6 percentage points more in favour of non-family businesses. This is the item in which the two groups have the most significant difference.

When asked whether "environmental certifications have been implemented in the company", 35.7% of family businesses indicate that they are used, compared to 41.0% of non-family businesses, i.e., 5.3 percentage points more in favour of non-family businesses. If we compare the relative importance attributed to the use of each of these criteria in the management of the company, according to the scale used (1: not very important, 5: very important), the results indicate that family businesses give an average value of 2.19, compared to 2.24 for non-family businesses, i.e., in both cases, below the average value (2.5). However, there are differences for each item. The relative importance for company management attributed to each item, ordered from highest to lowest, is "waste management" (4.17), "packaging management" (2.74), "energy management" (2.17), "water management" (1.73), "environmental certifications" (1.68), "supplier selection" (1.59), "process design" (1.40), with the differences noted below between each group. When asked about the relative importance attributed by the company to the use of "environmental criteria for waste management in the company", the value given by family businesses is 4.16, compared to 4.18 for non-family businesses, that is, only 0.02 points difference in favour of non-family businesses. This is the item in which the greatest coincidence of valuation between the two groups is found. When asked about the relative importance attributed by the company to the use of "environmental criteria for the management of plastic packaging and derivatives", the value given by family businesses is 2.77, compared to 2.70 for non-family businesses, i.e. only 0.07 points difference in favour of family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for energy management in the company", the value given by family businesses is 2.19, compared to 2.14 for non-family businesses, i.e. only 0.05 points difference in favour of family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for water management in the company", the value given by family businesses is 1.75, compared to 1.70 for non-family businesses, i.e., only 0.05 points difference in favour of family businesses. When asked about the relative importance attributed by the company to the use of "environmental certifications in the company", the value given by family businesses is 1.60, compared to 1.79 for non-family businesses, i.e. 0.19 points difference in favour of non-family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for the selection of the company's suppliers", the value given by family businesses is 1.53, compared to 1.66 for non-family businesses, i.e. 0.13 points difference in favour of non-family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for the design of processes in the company", the value given by family businesses is 1.31, compared to 1.52 for non-family businesses, i.e. 0.21 points difference in favour of non-family businesses. This is the item in which the two groups have the greatest difference in valuation. This is the item in which the two groups have the greatest difference in evaluation. As can be seen, the direct relationship between the most significant use of environmental criteria and the relative importance given to this use is maintained in the items "waste management", "packaging management", "energy management", and "water management", although only in the case of the first three are they used in more than half of the businesses, but only in the first two is the relative importance above the average value (2.5). The lowest uses are in "environmental certifications", "supplier selection", and "process design", although the order of relative importance varies: "supplier selection", "process design", and "environmental certifications". A new element of analysis that is of interest is to establish the same comparisons in the degree of relative importance, but only for the case of businesses in both groups that state that they do use these criteria in the management of their businesses, i.e. 55.0% of family businesses and 56.6% of non-family businesses. For this assumption, the results indicate that family businesses give an average value of 3.34 (1: not very important, 5: very important) compared to 3.32 for non-family businesses, i.e., in both cases, above the average value (2.5).

However, there are differences for each item. The relative importance for company management attributed to each item, in order from highest to lowest, is "waste management" (4.55), "packaging management" (3.68), "supplier selection" (3.65), which moves to third place, in order of relative importance, compared to the result obtained when both the businesses that used this criterion and those that did not use it were analysed, "energy management" (3.35), "water management" (2.93), "environmental certifications" (2.61), "process design" (2.54) - these two items are also in last place in both comparisons - with the differences between each group shown below. When asked about the relative importance attributed by the company to the use of "environmental criteria for waste management in the company", the value given by family businesses is 4.58, compared to 4.50 for non-family businesses, i.e. 0.08 points difference in favour of family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for the management of plastic packaging and derivatives", the value given by family businesses is 3.76, compared to 3.58 for non-family businesses, i.e. 0.18 points difference in favour of family businesses. This is one of the two items with the greatest difference in value between the two groups. When asked about the relative importance attributed by the company to the use of "environmental criteria for the selection of the company's suppliers", the value given by family businesses is 3.62, compared to 3.69 for non-family businesses, i.e. 0.07 points difference in favour of non-family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for energy management in the company", the value given by family businesses is 3.41, compared to 3.27 for non-family businesses, i.e. 0.14 points difference in favour of family businesses. When asked about the relative importance attributed by the company to the use of "environmental criteria for water management in the company", the value given by family businesses is 3.01, compared to 2.82 for non-family businesses, i.e., only 0.18 points difference in favour of family businesses. When asked about the relative importance attributed by the company to the use of "environmental certifications in the company", the value given by family businesses is 2.61 and 2.61 by non-family businesses. This is the item in which there is a coincidence of valuation between the two groups. When asked about the relative importance attributed by the company to the use of "environmental criteria for the design of processes in the company", the value given by family businesses is 2.37, compared to 2.76 for non-family businesses, i.e. 0.39 points difference in favour of non-family businesses. This is the item in which the two groups have the greatest difference in value. The businesses that use environmental criteria in their management give greater relative importance to the items "waste management" and "packaging management", as occurs when the results of all the participating businesses are considered. However, the third item is "supplier selection" in businesses that use these environmental criteria in their management, in penultimate place in the case of all the businesses. The lowest relative importance in both cases coincides with the item "process design". Regarding the perception that businesses have of the advantages or benefits derived from applying criteria and measures for business sustainability, 52.6% of family businesses consider that applying sustainability criteria is 'very important' for the management of the company, compared to 56.8% of non-family businesses, that is, 4.2 percentage points more in favour of non-family businesses. However, the results vary according to the different items considered. The percentage of businesses that consider it 'very important' to apply sustainability criteria, from highest to lowest, corresponds to "improves the company's reputation" (83.5%), "increases customer satisfaction" (72.0%), "generates competitive advantages over competitors" (49.2%), "increases employee motivation" (35.2%) and "increases the company's profitability" (31.9%), with the differences noted below between each group. When asked whether applying sustainability criteria "improves the company's reputation", 81.1% of family businesses indicate that they 'totally agree', compared to 86.6% of non-family businesses, i.e. a difference of 5.5 percentage points in favour of non-family businesses.

When asked whether applying sustainability criteria "increases customer satisfaction", 71.6% of family businesses indicate that they 'totally agree', compared to 72.6% of non-family businesses, i.e. a difference of 1.0 percentage points in favour of non-family businesses. This is the item with the most agreement between the two groups. When asked whether applying sustainability criteria "generates competitive advantages over competitors", 46.7% of the FFs indicate that they 'totally agree', compared to 52.4% of non-family businesses, i.e., a difference of 5.7 percentage points in favour of non-family businesses. When asked whether applying sustainability criteria "increases employee motivation", 34.6% of family businesses indicate that they 'totally agree', compared to 35.9% of non-family businesses, i.e., a difference of 1.3 percentage points in favour of non-family businesses. When asked whether applying sustainability criteria "increases the company's profitability", 28.7% of family businesses indicate that they 'totally agree', compared to 36.2% of non-family businesses, i.e., a difference of 7.4 percentage points in favour of non-family businesses. This is the item in which the two groups have the greatest difference. Non-family businesses consider it more favourable that applying sustainability criteria in the company's management brings more advantages or benefits in all items. The results indicate that family businesses give an average value of 3.30 (1: not very important, 5: very important), compared to 3.43 for non-family businesses. However, there are differences for each item. The relative importance for company management attributed to each item, ordered from highest to lowest, is "improves the company's reputation" (4.08), "increases customer satisfaction" (3.81), "generates competitive advantages over competitors" (3.14), "increases the company's profitability" (3.03) and "increases employee motivation" (2.72), with the differences noted below between each group. When asked about the relative importance attributed by the company to whether applying sustainability criteria "improves the company's reputation", the value given by family businesses is 4.02, compared to 4.16 for non-family businesses, i.e. 0.14 points difference in favour of non-family businesses. When asked about the relative importance attributed by the company to whether applying sustainability criteria "increases customer satisfaction", the value given by family businesses is 3.78, compared to 3.85 for non-family businesses, i.e. 0.07 points difference in favour of non-family businesses. When asked about the relative importance attributed by the company to whether applying sustainability criteria "generates competitive advantages over competitors", the value given by family businesses is 3.08, compared to 3.22 for non-family businesses, i.e. 0.14 points difference in favour of non-family businesses. When asked about the relative importance attributed by the company to whether applying sustainability criteria "increases the company's profitability", the value given by family businesses is 2.91, compared to 3.19 for non-family businesses, i.e. 0.28 points difference in favour of non-family businesses. This is the item in which the two groups have the greatest difference in value. When asked about the relative importance attributed by the company to whether applying sustainability criteria "increases employee motivation", the value given by family businesses is 2.70 compared to 2.75 for non-family businesses, i.e. 0.05 points difference in favour of non-family businesses. This is the item in which the greatest coincidence of assessment between the two groups is found. As can be seen, non-family businesses attribute more relative importance to applying sustainability criteria in the company's management, bringing more advantages or benefits in all items. There is a direct relationship between the use of sustainability criteria and the importance attributed to "improves the company's reputation", "increases customer satisfaction", and "generates competitive advantages over competitors", but the perception varies in the case of "increases employee motivation" and "increases the company's profitability", where more businesses say "increases employee motivation" than "increases company profitability"; however, more importance is attributed to "increases company profitability" than to "increases employee motivation".



Regarding the perception that businesses have of the disadvantages, obstacles or inconveniences derived from applying criteria and measures for business sustainability, 27.0% of family businesses consider that applying sustainability criteria is 'very negative' for the management of the company, compared to 23.6% of non-family businesses, i.e., 3.3 percentage points more in favour of non-family businesses. However, the results vary according to the different items considered. The percentage of businesses that consider it 'very negative' to apply sustainability criteria, from highest to lowest, corresponds to "it is very costly to apply sustainability measures" (53.4%), "environmental regulations are very complex to apply" (37.9%), "company personnel do not have adequate training in sustainability" (22.4%), "financing problems for sustainability projects" (20.2%), "sustainability requires a lot of time" (11.4%) and "sustainability measures can lead to loss of competitiveness" (7.9%), with the following differences between each group. When asked whether "it is very costly to implement sustainability measures", 58.9% of family businesses indicate that they 'totally agree', compared to 46.1% of non-family businesses, i.e. a difference of 12.8 percentage points in favour of non-family businesses. This is the item in which the two groups have the greatest difference. When asked whether "environmental regulations are very complex to apply", 38.8% of family businesses indicated that they 'totally agree', compared to 36.6% of non-family businesses, i.e. a difference of 2.2 percentage points in favour of non-family businesses. When asked whether "the company's personnel do not have adequate training in sustainability", 23.0% of family businesses indicate that they 'totally agree', compared to 21.6% of non-family businesses, i.e., a difference of 1.4 percentage points in favour of non-family businesses. Regarding whether there are "financing problems for sustainability projects", 20.4% of family businesses indicate that they 'totally agree', compared to 19.9% of non-family businesses, that is, only 0.5 percentage points difference in favour of non-family businesses. This is the item in which the two groups have the greatest coincidence of opinion. When asked whether "sustainability requires dedicating a lot of time", 11.3% of family businesses indicate that they 'totally agree', compared to 11.5% of non-family businesses, i.e. 0.2 percentage points difference in favour of family businesses. This is the item with the most agreement between the two groups. When asked whether "sustainability measures can lead to a loss of competitiveness", 9.3% of family businesses indicate that they 'totally agree', compared to 5.9% of non-family businesses, i.e., a difference of 3.5 percentage points in favour of non-family businesses. As can be seen, family businesses consider it unfavourable that applying sustainability criteria in the company's management brings more disadvantages, obstacles, or inconveniences. The results indicate that family businesses give an average value of 2.64 (1: slightly negative, 5: very negative), compared to 2.52 for non-family businesses. However, there are differences for each item. The relative importance for company management attributed to each item, ordered from highest to lowest, is "it is very costly to implement sustainability measures" (3.39), "environmental regulations are very complex to implement" (3.23), "financing problems for sustainability projects" (2.79), "company personnel do not have adequate training in sustainability" (2.45), "sustainability measures can lead to loss of competitiveness" (1.86) and "sustainability requires a lot of time" (1.79), with the differences noted below between each group. When asked whether applying sustainability criteria "it is very costly to apply sustainability measures", the value given by family businesses is 3.48, compared to 3.27 for non-family businesses, i.e. 0.21 points difference in favour of non-family businesses. When asked about the effects because "environmental regulations are very complex to apply", the value given by family businesses is 3.26, compared to 3.19 for non-family businesses, i.e. 0.08 points difference in favour of non-family businesses. When asked about the effects of "financing problems for sustainability projects", the value given by family businesses is 2.80, compared to 2.78 for non-family businesses, i.e. 0.02 points difference in favour of non-family businesses.

This is the item in which the greatest coincidence of valuation between the two groups is found. Regarding the effects of "the company's personnel not having adequate training in sustainability," the value given by family businesses is 2.50, compared to 2.39 for non-family businesses, i.e. 0.11 points difference in favour of non-family businesses. Regarding the effects of "sustainability measures may cause loss of competitiveness", the value given by family businesses is 1.96 compared to 1.76 for non-family businesses, i.e. 0.23 points difference in favour of non-family businesses. This is the item in which the two groups have the greatest difference in value. When asked about the effects because "sustainability requires dedicating a lot of time", the value given by family businesses is 1.82, compared to 1.76 for non-family businesses, i.e. 0.06 points difference in favour of non-family businesses. As can be seen, family businesses rate the disadvantages, obstacles, or drawbacks of applying sustainability criteria and measures in the company's management more negatively. There is a direct relationship between the conditions for applying sustainability criteria and the perception of adverse effects attributed to "it is very costly to apply sustainability measures" and "environmental regulations are very complex to apply". However, the order varies in the rest of the items. However, they agree in an intermediate position that "company personnel do not have adequate training in sustainability" and "financing problems for sustainability projects", and in the last places "sustainability requires dedicating a lot of time" and "sustainability measures can lead to loss of competitiveness". The statistical analyses applied indicate statistically significant differences between both groups of businesses for the variables: (a) sector of activity, seniority, gender and training of managers; (b) use of environmental criteria in process design, energy management, water management and waste management; (c) advantages or benefits due to improved employee motivation, increased company profitability and increased customer satisfaction; (d) disadvantages, obstacles or drawbacks due to lack of time, loss of competitiveness, difficulties in financing projects, lack of environmental training of employees and environmental regulations that are complex to apply, and no statistically significant differences are given for the remaining variables. The variable "family business" correlates positively at a significance level of 0.01 (bilateral) with the age of the company. The variable "family business" correlates negatively at a significance level of 0.01 (bilateral) with a) sector of activity, gender and training of managers; b) use of environmental criteria in energy, water and waste management; c) advantages or benefits in increasing customer satisfaction; c) disadvantages, obstacles or disadvantages due to lack of time, loss of competitiveness, difficulties in financing projects, lack of employee training, complex environmental regulations. The variable "family business" correlates negatively at a significance level of 0.05 (bilateral) with a) use of environmental criteria in process design and b) advantages or benefits in increased employee motivation and increased company profitability. The variable "family business" does not correlate with a) size; b) use of environmental criteria in packaging management, supplier selection and environmental certifications; c) advantages or benefits over competitors and improvement of the company's reputation; d) disadvantages, obstacles or drawbacks because it is very costly to implement.

#### 4. CONCLUSIONS

On the one hand, family businesses are more numerous in the smallest size category, 'microenterprises'; on the other hand, although we have taken family businesses that, on average, are older than non-family businesses, and, therefore, family businesses are more consolidated, family businesses have smaller average relative size than non-family businesses in the categories of 'small business' and 'medium-sized business'. As noted, this result aligns with the literature, which indicates that family businesses attain smaller size than non-family businesses over time.

In the case of sectoral distribution, there is a greater presence of family businesses studied in the industrial sector, specifically in traditional and mature industrial subsectors, which is in line with the permanence of family businesses in the same activities in which the business was created. Given the technological complexity of production in the industrial sector, This could explain more significant problems of management and modernisation for the digitisation of processes. The family businesses in the study have mostly men in management but to a lesser extent than non-family businesses, which can be explained by the fact that there is a greater presence of female managers in family businesses, predictably because they are family members who are incorporated into management positions. The managers of family businesses have a lower level of university qualifications than those of non-family businesses; this fact could also explain the lower professional capacity of family businesses to compete, aggravated by another significant fact, which is the lower university education of female managers of family businesses, who, although they are more numerous than female managers of non-family businesses, have much lower professional qualifications. Concerning the use of environmental criteria in the decision-making process of the MSMEs that participated in the study, fewer family businesses indicate that they use these criteria than non-family businesses. However, there are differences depending on the item considered, with the greatest difference between family and non-family businesses in the use of "environmental criteria for the design of processes in the company", which is again related to the lower training of the managers of family businesses and the greater complexity due to their greater presence in the Industrial Sector. Regarding the relative importance attributed to the use of the above criteria, family businesses give less relative importance to the different items compared to non-family businesses, coinciding with the fact that the lowest value is given to "process design", again registering the greatest relative difference between family and non-family businesses. In this case, it is negative for family businesses, but the lower relative importance recognised with the lower use of this criterion is consistent. However, among family businesses that do apply these criteria, the relative importance attributed is greater than that given by non-family businesses, recognising a similar but greater importance than that attributed by non-family businesses that also use these criteria, except, once again, in the case of "environmental criteria for the design of processes in the company". In general, family businesses consider that applying these environmental sustainability criteria in the management of the company brings fewer advantages or benefits. Regarding the disadvantages, obstacles, or inconveniences derived from applying criteria for the sustainability of the company, family businesses are more negative in terms of the consequences on the company's management. It can be concluded that, in general, family businesses use fewer environmental sustainability criteria than non-family businesses, giving less relative importance to the advantages that their use brings to the company and greater relative importance to the adverse effects of their use. We can venture that these results are in line with the lower training of family business managers and the greater presence in the Industrial Sector, which implies more significant difficulties for the application of environmental criteria, as shown by the fact of the results obtained in the use and importance of "environmental criteria for the design of processes in the company", together with other elements that could help to develop a more efficient sustainability strategy and greater competitive capacity.

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# ANALYSIS OF THE MARKET OF POSTAL AND COURIER SERVICES IN THE EUROPEAN UNION

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## **ABSTRACT**

*Postal services significantly impact the daily lives of the citizens in European Union, especially in today's modern times. Postal and courier services must be reliable and efficient to meet demand, despite the complex relationship between services and demand. These services have evolved with society, continuing to play a crucial role in delivering letters and parcels, providing employment, and fostering societal connection. This market has been under increasing pressure from consumer expectations in recent years (due to both the COVID-19 pandemic and technological advancements). The focus of this paper is on analysis of the postal and courier services market in the European Union, highlighting their development and importance for functioning of the modern society. The paper extensively uses previous research to analyze employees, companies, and services, along with assessing the success of companies in the postal and courier services market.*

**Keywords:** *postal services, courier services, business performance, e-commerce*

## **1. INTRODUCTION**

Postal services have been affecting everyday life of all the citizens in the EU, especially in these supermodern times. Therefore, it is crucial they be as reliable and efficient as possible in order to meet the demand (European Commission, n.d.), but one should not forget the complexity this services-demand relationship entails (Grgurović and Štrbac, 2006). Postal services have been developing alongside the modern society and they still play a crucial role in the activities of EU citizens and businesses. They ensure that letters and parcels are delivered, but also provide employment and a sense of connection in the society (European Parliament, September 2016). Digitization has been causing many changes at many different levels of economy, postal services included. Additionally, consumer expectations and demands have been constantly evolving, too, forcing postal services practices to change and adapt. Their operational costs are rising and the market share dwindling, so transformation is inevitable (Kardinal, 29.05.2023). It is because of this continual rise in e-commerce that this market is becoming the key driver of the trade and the economy in general (Čačić, Ninović and Šarac, 2023). Following that, the focus of this paper is the analysis of the postal and courier services market in the European Union. To achieve the objective of this paper, an extensive secondary research was conducted. The review of the literature in the second section of the paper analyses the development of this market, or more precisely, first it places the focus on the employees and the enterprises, and then on the services. The third section analyses the success level of the companies on this market, while the concluding observations are presented in the fourth section.

## **2. DEVELOPMENT OF THE MARKET OF POSTAL AND COURIER SERVICES IN THE EUROPEAN UNION**

Postal and courier services market in the European Union has been continuously developing due to the growing pressure exerted by the consumers. They are placing ever bigger demands and the service providers on this market have to respond in order to keep their customers, continue to develop and remain competitive. Despite the growing pressure they are under, still, most national postal and courier service markets in the EU have not yet developed into liberalized markets.

The biggest problem lies exactly in the state ownership of essential postal economic units. Being owned and managed by the state means that economic progress is often slow and profitability can rarely be maximized. Moreover, in most countries in and outside the EU, postal services operate as a natural monopoly (Buko, 2023). Considering the importance the businesses on this market represent for the successful functioning of the economic system, in the following part of this section, the focus is placed on the analysis of the number of the employees and companies on this market, followed by the analysis of the services they provide to the end consumers.

### **2.1. Employees and companies on the postal and courier services market in the European Union**

The number of companies on the postal and courier services market together with the number of their employees in each member state of the Union in 2020 is presented in Table 1. There, it can be seen that in 2020 this market was occupied by 2,237 companies with 1.63 million employees. Those numbers are confirming that this sector is an important source of employment in the European Union (European Commission, 2022). If data from this table is compared with the data from 1995, when 1.56 million people were employed in these companies (PLS Ramboll Management, October 2002: 7), then it can be concluded that in 25 years the growth of 4.5% was achieved. If we are comparing the number of companies from 2010, when there were 49.097 companies (European Commission, 2013:25) on this market, it is obvious how strong an impact liberalisation has made on some markets. The impact of e-commerce should also be taken into consideration. Postal and delivery industries offer opportunities for many different companies to enter the market in the EU. There are many renowned companies dealing in letter delivery, logistics and express delivery (like UPS and FedEx), as well as companies that handle alternative delivery activities (like Amazon) (Mordor Intelligence, 2024).

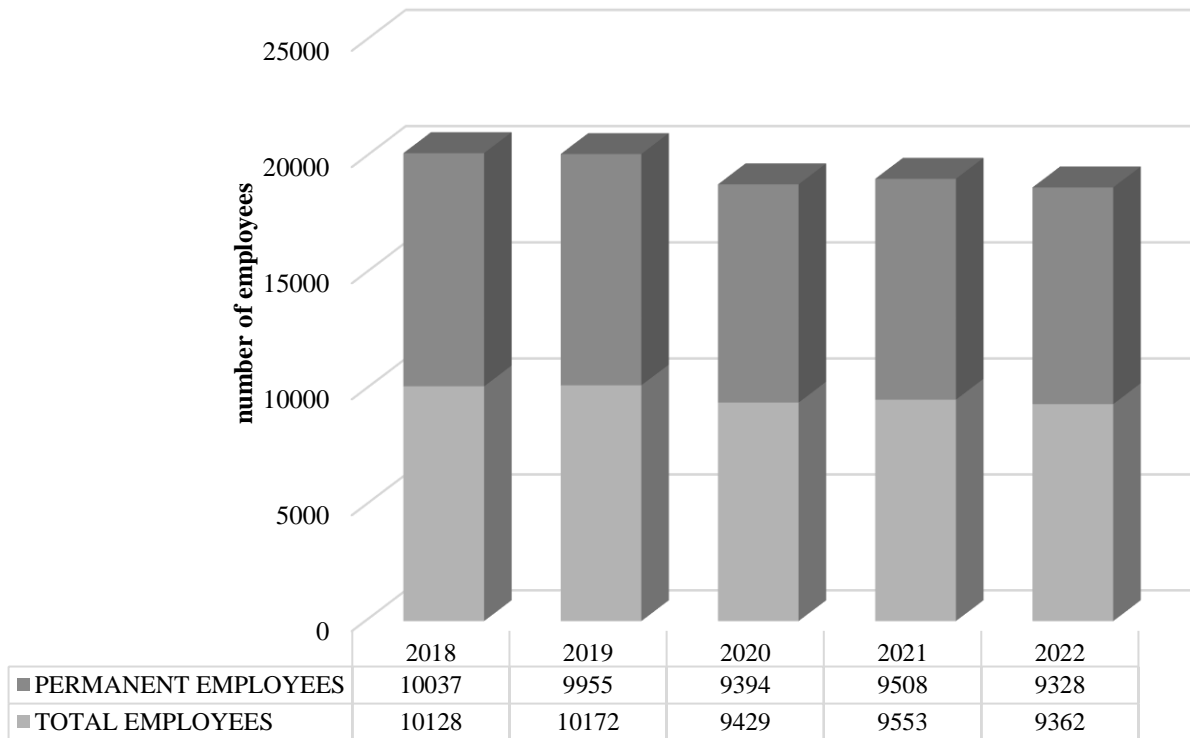
*Table following on the next page*

	<b>Number of companies</b>	<b>Number of employees (000)</b>
Belgium	2.237	37.1
Bulgaria	991	20.1
Czech Republic	305	35.4
Denmark	1.304	29.6
Germany	13.926	<b>560.2</b>
Estonia	199	3.4
Ireland	2.804	19.1
Greece	1.231	16.8
Spain	31.045	98.1
France	<b>48.544</b>	262.3
<b>Croatia</b>	<b>114</b>	<b>10.8</b>
Italy	2.929	142.4
Cyprus	254	2.1
Latvia	1.151	5.4
Lithuania	4.565	7.7
Luxembourg	90	3.4
Hungary	5.456	37.2
Malta	60	1.1
Netherlands	9.630	67.6
Austria	645	26.4
Poland	5.741	100.3
Portugal	4.702	19.9
Romania	2.783	45.0
Slovenia	504	7.2
Slovakia	2.303	17.6
Finland	772	18.7
Sweden	819	34.3
<b>EU-27</b>	<b>145.104</b>	<b>1629.2</b>

*Table 1: Number of companies and employees on the market of postal and courier services in the Member states of the European Union in 2020*

*(Source: author-compiled according to data from European Commission (2023). Statistical Pocketbook 2023. EU transport in figures. Luxembourg: Publications Office of the European Union, pp. 24 & 25)*

In Croatia, in 2020, 114 companies were registered as providers of postal and courier services, employing 10.8 thousand people. It is also evident from Table 1 that the largest number of companies was registered in the territory of France, more precisely 48.544 companies or one third of all companies registered for this activity in the territory of the Union. However, the largest number of employees was not recorded in France, but in Germany, which in 2020 had 560.2 thousand employees in companies registered to provide postal and courier services. If the number of employees in these companies is compared with the rest of the transport and storage services market, then it is concluded that 15% of the total employees of this market were employed precisely in companies registered to provide postal and courier services on the territory of the Union. On Graph 1 it can be seen that on Croatian market the number of permanent employees is all almost equal to the number of total employees.



*Graph 1: The number of permanent employees in companies registered to provide postal and courier services in the Republic of Croatia, 2018-2022*

*(Source: Universal Postal Union (October 2023). State of the Postal Sector 2023. A Hyper-Collaborative Path to Postal Development, Berne: Universal Postal Union, p. 380)*

There are many companies on e-commerce markets whose main business is parcel delivery and those markets are becoming increasingly saturated and the competition is fierce (Kardinal, 29.05.2023). In the EU, the postal services market is characterized by few major players that lead the way and consolidate the market. Those multinational, big companies prevent small and medium-sized local businesses from being competitive (Mordor Intelligence, 2024).

## **2.2. Analysis of postal services in the European Union**

On the EU market, companies that provide postal and courier services are crucial for the economic functioning of other companies and the citizens of the EU (European Commission, 2022). This market differentiates letter delivery services, parcel delivery services, express and courier services, and universal and alternative postal services. "Postal services" imply the four phases of dealing with postal items, but a postal service does not necessarily include all the phases of the postal process: clearance, sorting, transport and distribution of postal items (BIPT, n.d.). These services are performed on the postal services market which can be defined as a complex supply and demand relationship with the possibility of providing services in domestic and international traffic through a large number of sales channels (Grgurović and Štrbac, 2006). In modern days, the universal postal services on the territory of the EU has been developing successfully, but the competition has been slowing down. This trend is especially present on the letter delivery market. The reason for this can be found in the fact that the volume of letters being sent is decreasing due to the rapid development of e-communication and e-commerce. It is evident that the role and purpose of the postal services are changing and they have been adapting to the new world where customers and technologies change rapidly and bring about new demands and possibilities (European Parliament, September 2016).



The postal market is set up of the following (European Parliament, September 2016):

- the letter post market: all correspondence with an addressee; transactional mail (invoices or bank statements); direct mail (addressed advertising); books and publications (newspapers, magazines and catalogues);
- the courier, express and parcel markets: in courier service, postal items are always handled by the same provider; express services offer speedier delivery; the parcel market delivers parcels and packages containing merchandise with or without commercial value and delivery time and it can also include correspondence.

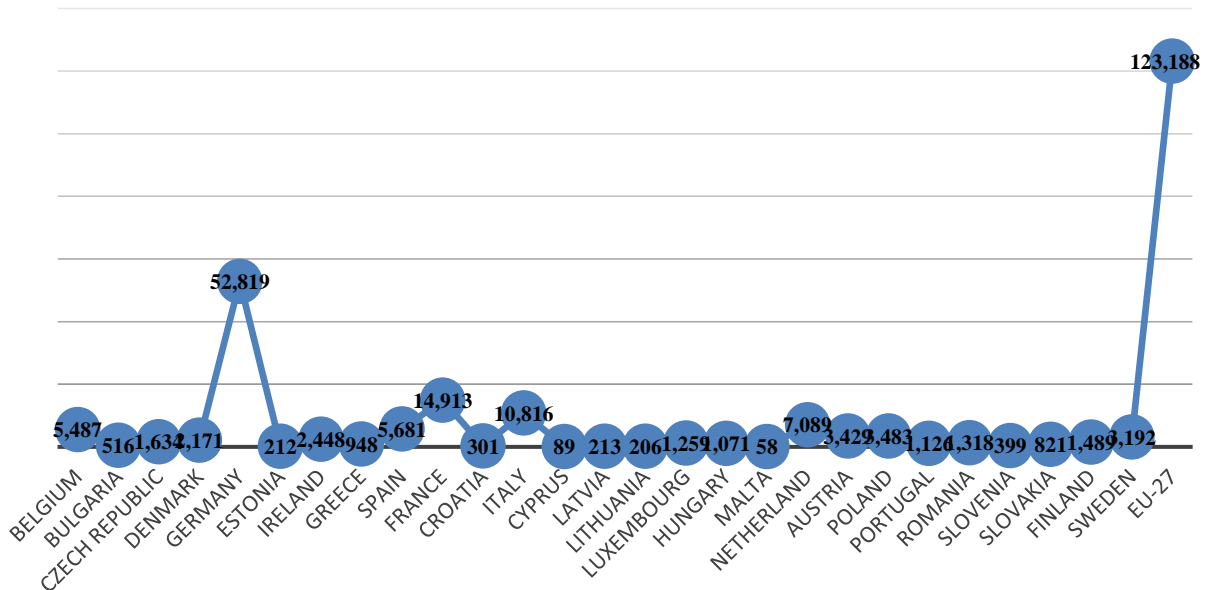
It is no surprise that modern times have been forcing great changes on the postal markets, mainly due to the decline in mail volumes (Kardinal, 29.05.2023). There are many other challenges companies on this market need to meet in order to stay competitive, and two reactions to these challenges are presented as follows (Cerpickis et al, 2023):

- 1) Postal operators are forced to push up the prices of universal services and introduce cost reductions because the number of deliveries is decreasing. Many are trying to reduce the operating costs by closing post offices and reducing the frequency of delivery. From the year 2017 to 2021, letter mail volumes declined by on average 6.1 percent per year, compared to 4.3 percent per year for the years 2013 to 2017.
- 2) As e-commerce flourishes, the number of parcel deliveries is sky-rocketing. Many have continued using online services rather than shopping in actual stores after the COVID-19 pandemic. New companies have been emerging due the attractiveness of the delivery sector. Many new operators are introducing modern business practices. Last-mile delivery has become especially interesting, where more parcels are now delivered to parcel lockers, other pick-up and drop-off (PUDO) locations and the doorstep of consumers by non-universal service providers.

It is no surprise that the COVID-19 crisis has brought about crucial changes in all the sectors of economy and society in general. Many have continued working from home or started their own businesses from the comforts of their homes. Many others have picked up the habit of shopping online. These changes in our behaviour have prompted the increase of the volume of parcel delivery, which now represents more than half of the revenues of Royal Mail, for example (Kardinal, 29.05.2023). Between 2017 and 2021, domestic parcel volumes increased by 14.6 percent annually, up from an annual increase of 6.4 percent in 2013-2017 (Cerpickis et al., 2023). It is important to point out that if the focus is placed only on companies engaged in the provision of postal services, that in 2021 there were only 25 of them on the market of the Republic of Croatia, while only one company provided universal service, 9 companies were authorized for alternative postal services and 19 for other postal services (Hrvatska pošta d.d., 2023:36).

### **3. BUSINESS PERFORMANCE OF COMPANIES ON THE MARKET OF THE POSTAL AND COURRIER SERVICES**

The following Graph presents the data on the realized income of companies that are registered for the provision of postal and courier services in the member states of the Union in 2020. The Graph shows that the mentioned companies earned a total of 123.188 million Euros. If it is compared with the revenue from 2010, 100.799 million Euros (European Commission, 2013:26) than the growth of 22.22% in the period of ten years is evident. This means that Croatian companies generated revenue of 301 million euros, which represents only 0.24% of the total revenue generated at the level of the Union. The largest income was generated by the German companies, which is not surprising if we take into account the fact that they employ a third of the total number of employees on this market in the Union.



*Graph 2: Revenue of companies registered to provide postal and courier services in the member states of the Union in 2020 (million EUR) (mil Eur)*

*(Source: author-compiled according to data from European Commission (2023). Statistical Pocketbook 2023. EU transport in figures. Luxembourg: Publications Office of the European Union, p. 26.)*

Considering the business performance on the market of postal and courier services, it is important to note the way countries are classified according to the criteria of excellence used by the Universal Postal Union. Thus, the Universal Postal Union distinguishes 10 levels of postal development (PDL).

COUNTRY	IPD
Austria	96,7
France	88,3
Germany	95,7
Japan	91,5
Switzerland	100,0

*Table 2: The member states of the Universal Postal Union with the highest level of development of postal services in 2022*

*(Source: Universal Postal Union (October 2023). State of the Postal Sector 2023. A Hyper-Collaborative Path to Postal Development, Berne: Universal Postal Union, p. 21)*

In 2022, as can be seen in Table 2, these countries reached the highest level of development. A particularly positive element is that out of the 5 states mentioned, three are members of the Union (Austria, France and Germany). The Integrated Index for Postal Development (IPD) is an indispensable tool for understanding the complexity of global postal development. The findings of some previous research (Strenitzerová and Achimský, 2019; Nyaga, 2017; Mwanzia, 2011) have highlighted that well-trained employees can be a factor that has great contributions to business performance of the companies on the market of postal and courier services.

If companies on this market are recognizing the need for investment in the training of their employees, than it will be useful for both sides. In addition, in today's dynamic environment, it is crucial to follow the technological improvements, as the investments in information technology (Poljak, Ivanović and Aržek, 2023; Budziewicz-Guźlecka and Drab-Kurowska, 2020; Otsetova and Dudin, 2018) can provide a significant improvement of quality of services on this market. The advancements in technology influence the changes in consumer behaviour and their expectations regarding the quality and speed of the service. Therefore, in the last years, e-commerce has been expanding, causing hits to the letter delivery market and boosting the parcel market activities (Naletina, Vuletić and Meštrović, 2019). Postal companies have been facing the environment that is flooded with fast-changing demands. Entrepreneurs have to face rapid changes that emerge as a consequence of the exponential technology progress. The companies can use these changes to their advantage if they are open for innovations. Technology progress also brings changes in consumer behaviour and their expectations regarding the quality and the speed of the service (Accenture Consulting, 2017). Due to digitization, the volume of mail has been decreased, and the postal companies, in order to survive on the market and prevent further decline of profit, have to adjust to the rapid changes in its environment. This has led to the development of the e-postal services, i.e. the services supported by the adequate online infrastructure and a combination of the hardware and software activities (Kollara, 2017). The companies involved in postal services are therefore forced to rethink their business activities and use digitization as a tool for success in the modern economy. It can help improve their business practices and customer experience, and develop new business models (Kardinal, 29.05.2023). Not only that investments in the information technology will be useful for employees, it will as well enable companies to ensure higher quality of their service which will impact of the satisfaction of consumer. The postal services market and the companies involved in the activities on this market have been facing crucial and continual changes, mainly due to the COVID-19 pandemic. Customer demands are also rapidly changing and the companies need to respond by introducing new services and following the technological changes (Čačić, Ninović and Šarac, 2023).

#### **4. CONCLUSION**

Postal services play a crucial role in the daily lives of EU citizens, especially in today's technologically advanced era. It is essential for these services to be reliable and efficient to meet growing demands, despite the complexities of the service-demand relationship. As postal services evolve alongside modern society, they remain vital to the functioning of both individuals and businesses in the EU. The postal and courier services market in the EU is a significant source of employment and has seen steady growth in the number of employees over the past 25 years. Results of previous research have confirmed that well-trained employees significantly enhance business performance on the postal and courier services market. Due to that companies that invest in training benefit from improved service quality and operational efficiency. Market liberalisation, the growth of e-commerce and the COVID-19 pandemic has reshaped the postal services market, reducing the volume of traditional mail and increasing parcel deliveries. It caused changes in consumer behavior, demanding that postal companies continuously introduce new services and adopt technological advancements to meet these evolving demands. Postal companies need to adapt to these changes to remain competitive. Companies must be open to innovation and willing to adapt their business models to leverage the benefits of digitization, which includes developing e-postal services and using technology to improve customer experience and operational practices.

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# WESTERN BALKANS' ENVIRONMENTAL PERFORMANCE TOWARD EU INTEGRATION AND SUSTAINABLE DEVELOPMENT: A COMPARATIVE ANALYSIS

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## **ABSTRACT**

*This comparative analysis highlights the environmental performance of the Western Balkans region in its path of EU integration and sustainable development. In the framework of European integration, all WB countries have made progress in their policies designed in the direction of environmental protection and climate change. However, due to the complex regional dynamics and the transition process, the environmental performance is far from the average of the countries of the European Union. As a result, Western Balkan countries, which intend to integrate into the European Union, must increase their efforts to approximate their environmental legislation with European standards as soon as possible not only theoretically but also practically. This research paper highlights the achievements and challenges of the countries in improving environmental performance, ensuring their integration into the European Union and promoting sustainable development in the long term.*

**Keywords:** *Analysis, Environmental, EU, Integration, Performance, Western Balkan*

## **1. INTRODUCTION**

Global environmental changes are one of the most important issues for countries around the world, and they are all trying to do something about it through different policies and laws. The priority of the EU for environmental issues began after 1970, since the Treaty of Rome (signed in 1957) did not include any provision for environmental policies, and as a result, over the years, the need to draft policies related to these issues arose. However, starting in 1973, the European Council began adopting five-year Environment Action Programmes to address pollution and develop preventive strategies for safeguarding the environment and natural resources. Meanwhile, in 1986, the Single European Act decided that the three main goals of environmental actions are the preservation and improvement of the environment, the protection of human health and ensuring the careful use of resources. (Lea, 2004; European Parliament, 2024). Only in the 1990s, environmental policy evolved to emphasize sustainable development and its integration with economic policy. The importance of environmental protection policies as an essential component of sustainable development was highlighted at the United Nations Conference on Environment and Development which took place in 1992, where principle 4 emphasized that: “*In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.*” (United Nations, 1992, pp.2). Later, the establishment of the European Environment Agency in 1990 and the Maastricht Treaty (in 1993) expanded EU competence in environmental issues. (Kapios, P., 2002; Lea, 2004).

Furthermore, the Treaty of Amsterdam (in 1999) required to EU to integrate environmental protection across all its policies to foster sustainable development, and later the Treaty of Lisbon (2009) added 'Combating climate change' as a specific goal to achieve. These advancements strengthened the role of EU as a key actor on the environmental issues, following with the initiatives such as European Green Deal and EU Climate Law. (European Parliament,2024). And nowadays each country has its own set of policies that are designed and implemented to address environmental issues in the framework of SDG 13 'Climate Action'. However, as the EU expands, all candidate countries must align their legal framework with EU requirements. Given that currently the countries of the Western Balkans are in the process of European integration and are aligning their legislation according to the relevant chapters with the European legislation, the environmental chapter is considered important to analyze, especially for the region. The Western Balkans region has been identified as the most exposed areas to climate change in Europe, which may exacerbate current challenges, causing significant damage not only to the economy but also to habitats and people. (IUCN,2020). So, evaluating environmental policy effectiveness is crucial for enhancing quality of life of the region citizens. Thus, main goal of this research paper is to assess the environmental performance of Western Balkans countries, as a crucial component of their European integration path and their sustainable development. In order to fulfill this goal, the environmental performance index will be analyzed for all the countries of the Western Balkans region, highlighting in which categories the countries need improvement. In the following, the importance of environmental performance in the context of European integration will be analyzed, highlighting the achievements and challenges of the countries in the process of approximation of environmental protection legislation towards EU standards.

## **2. METHODOLOGY**

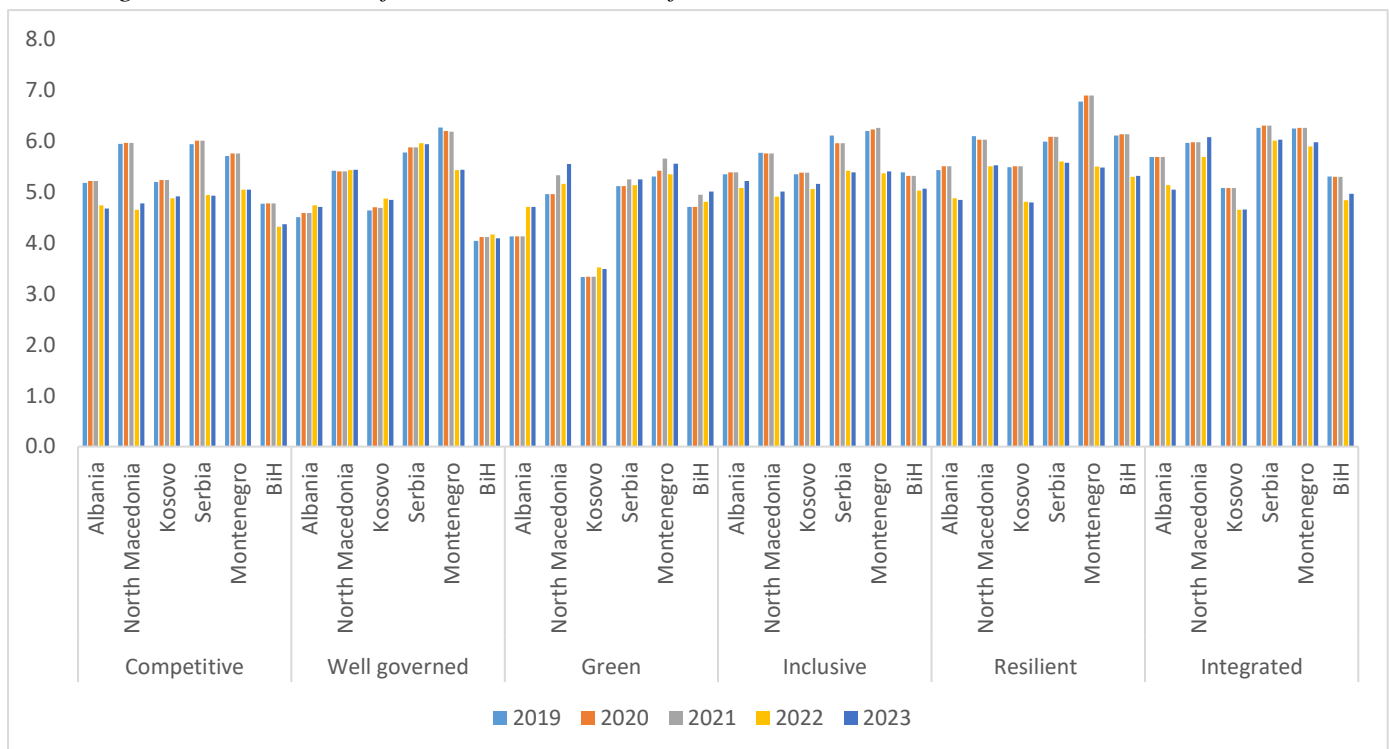
To conduct the comparative analysis between Western Balkan' countries, reports, studies, and data published by international institutions were reviewed. The main indicator of environmental performance is the index created by Yale University in 2006, called the 'Environmental Performance Index'. This index evaluates the environmental performance of all countries thus, providing a basis for measuring and comparing national environmental policies. It uses 40 performance indicators in 11 categories related to climate change performance, environmental health (air quality, wastewater management, drinking water quality, presence of heavy metals and ecosystem vitality (biodiversity, ecosystem, fisheries, acid rain, agriculture, water resources). (Wolf et al, 2022). These indicators enable governments to identify issues, monitor progress, assess outcomes, and find effective policies to achieve sustainable development goals and progress towards a more sustainable future. Through this index, it is presented how close the states are to achieving the set objectives of the environmental policies. Furthermore, to assess the level of harmonization of environmental legislation or what Western Balkan countries can do to better access the European requirements, the European Commission reports on progress of countries in this direction has been analyzed.

## **3. WESTERN BALKANS EU INTEGRATION AND ENVIRONMENTAL REQUIREMENTS**

Membership in the European Union is one of the most important strategic objectives for the countries of the Western Balkans, serving as one of the main motivators for the reforms undertaken in the candidate countries. Montenegro and Serbia started negotiations for EU membership in 2012 and 2014 respectively. By the end of 2022, Montenegro has opened 33 negotiation chapters, with three chapters temporarily closed (science, education, and culture), while Serbia opened 22 of the 33 negotiation chapters and temporarily closed two chapters. (European Commission, 2023a, 2023b).

Meanwhile, Albania received the candidate status in 2014 and in 2022 it was decided to open the beginning of the negotiations. North Macedonia has been a candidate country since 2005, and like Albania, it opened negotiations for membership in 2022. (European Commission, 2023c). Bosnia and Herzegovina Stabilization and Association Agreement which entered into force in June 2015. (European Commission, 2023d). While the Stabilization Agreement for the Association of Kosovo entered into force in April 2016 and for Bosnia and Herzegovina it entered into force in June 2015. (European Commission, 2023e, 2023f). According to the EBRD's reports over the years on countries in transition, the Western Balkan countries, currently considered EU candidate, have had a constant progress over the years. (Sanfey and Milatovic, 2018). Figure 1 presents the transition indicators for Western Balkan EU candidate countries, across six essential qualities of a sustainable market economy. These indicators assess whether the economies are competitive, well-governed, inclusive, green, resilient, and integrated.<sup>1</sup>

*Figure 1: Evaluation of transition indicators for Western Balkan EU candidate countries*



*Source: EBRD Transition Reports*

As it is shown in figure, during the years the competitiveness score have worsened for all the WB countries. In 2023, only North Macedonia and Kosovo have seen a slightly increase in the competitiveness score respectively the score for North Macedonia are 4.78 in 2023 (4.65 in 2022) and the score for Kosovo are 4.92 in 2023 (4.88 in 2022). Montenegro remains a more competitive economy and it has shown a better progress over time. For Albania, this score has worsened since 2020, with a decrease by 0.54 in 2023 comparing to 2020. While in Serbia, Montenegro and Bosnia and Herzegovina, this indicator has remained mostly the same. Related to the well governed indicator except of Montenegro and North Macedonia, all the other countries have experienced a decrease in score. Bosnia and Herzegovina were the weakest performer for 2023 (4.09 point), following by Albania (4.71 point).

<sup>1</sup> Progress for each quality is measured on a scale from 1 to 10. 1 represent the lowest level of performance and 10 represent the highest level, aligning with the benchmark of a sustainable market economy.



Meanwhile, over the period 2019-2023, the green economy scores improved in almost all the economies in the WB region, except Kosovo that has had a slight decrease. According to the EBRD report (2023), this improvement has come as a result of the policies followed by countries to reach the target set by the Paris Agreement, for climate change. As well as the inclusion points, during the year 2023 there was an improvement in the points compared to the previous year, which shows the importance of the policies followed by the states to build and develop an inclusive economy. Even in the sustainability indicator, countries have had very small fluctuations over the years. Serbia appears as the country with the highest performance in this regard (with 5.58 points), followed by North Macedonia, while Kosovo is the weakest performer for 2023 (with 4.8 points). In terms of building an integrated economy, Serbia and North Macedonia have had the best progress over the years, while Kosovo is weaker compared to other countries in the region.

### 3.1. Western Balkan' countries Environmental Performance

As mentioned above, the green economy scores have increased in almost all the economies in the WB region. Countries are drafting and following environmental policies to reach the target set by the Paris Agreement, for climate change. However, these countries still need improvements in legal and institutional framework. This is noted by the environmental performance index in the countries of the region.<sup>2</sup> Specifically, the best environmental performance was achieved by North Macedonia, which for 2022 was evaluated with 54.3 points (out of 100), ranking 34 out of 180 countries in the world. Despite the fact that North Macedonia had the highest scores, in fact the change in 10 years was the lowest compared to other countries in the region. Albania is the second country in the region with the best environmental performance, occupying the 62<sup>nd</sup> place in the world, with 47.1 points. Bosnia and Herzegovina is the lowest weighted country in the region with 39.4 EPI points and ranking 102<sup>nd</sup> in the world. However, Bosnia and Herzegovina have had the highest growth in the last 10 years with 10 points, followed by Albania with 9.9 points.

*Table 1: Environmental performance of Western Balkans countries, 2022*

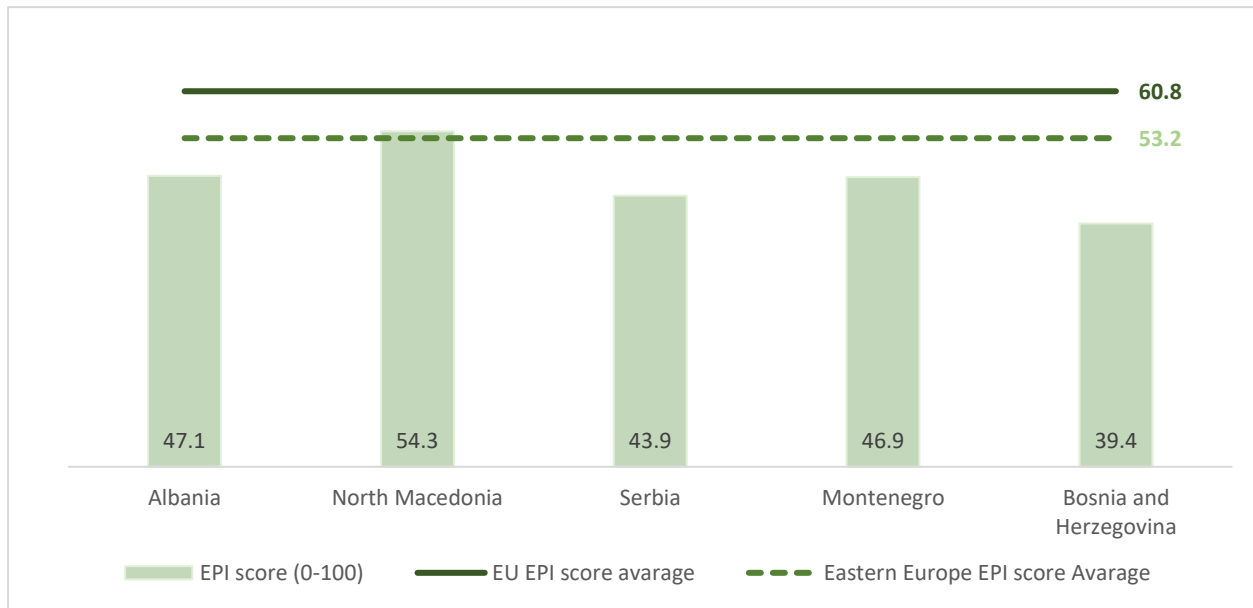
	<b>EPI score (0-100)</b>	<b>EPI Global rank (out of 180)</b>	<b>10-year change</b>
Albania	47.1	62	9.9
North Macedonia	54.3	34	3.6
Serbia	43.9	79	8.5
Montenegro	46.9	63	8.5
Bosnia and Herzegovina	39.4	102	10

*Source: Environmental Performance Index(2023)*

Compared to other countries of the Eastern European region, the countries of the Western Balkans region rank among the last in the region in terms of environmental performance. According to the data, the countries of the Western Balkans have the lowest index compared to the countries of the Eastern European region, where Macedonia is the best performer ranked in 12 out of 19 countries in analysis, followed by Albania, which is ranked 15 out of 19, Montenegro (16 out of 19), Serbia (17 out of 19) and Bosnia Herzegovina (18 out 19). The weakest performer in Eastern Europe is Turkey. Also, the environmental performance of the countries of the region remains at the average of the countries of the European Union (around 60.8 points according to authors calculations).

<sup>2</sup> Kosovo is not included in analysis. There is no data about environmental performance for Kosovo.

*Figure 2: Environmental Performance Index Western Balkans, Eastern Europe, and EU countries 2022*



*Source: Environmental Performance Index(2023)*

But in which categories have the countries of the region performed better?

North Macedonia is better weighted in the indicators related to the category of environmental health (48.7 points) and in climate policies (69.8 points). While Serbia scores better in the indicators related to the category of environmental health (47 points) and ecosystem vitality (41.6 points). Montenegro has the best performance in the region in climate policies (52.3 points) and environmental health indicators (44.7 points). Albania has the best performance compared to the region in the ecosystem vitality category (45.5 points) and has a good performance in the climate policy category (52.5 points). Bosnia and Herzegovina ranks lower compared to other countries in the region. These evaluations point out the effectiveness of the environmental policies that the states have drawn up and follow, therefore it is considered essential to develop sustainable environmental policies for each of the states, in order to improve their performance but also progress towards the objectives of sustainable development.

*Table 2: Environmental performance of Western Balkans countries according to categories, 2022*

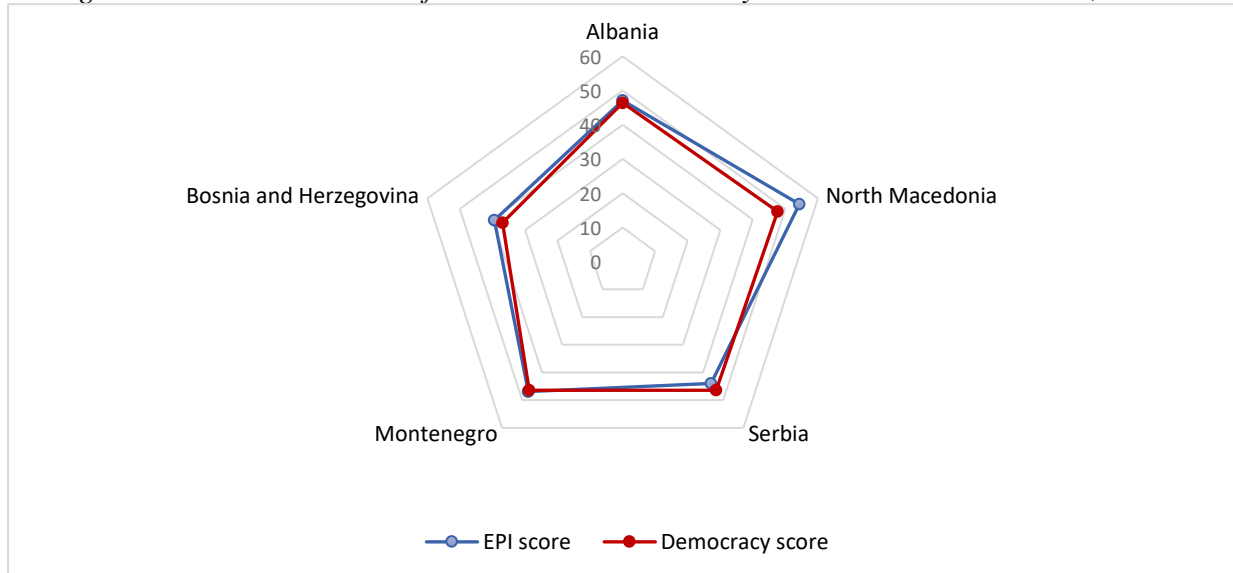
	Environmental health		Ecosystem vitality		Climate policy	
	EPI score (0-100)	EPI Global rank (out of 180)	EPI score (0-100)	EPI Global rank (out of 180)	EPI score (0-100)	EPI Global rank (out of 180)
Albania	40	90	45.5	86	52.5	40
North Macedonia	48.7	71	36.5	99	69.8	8
Serbia	47	76	41.6	86	41.7	79
Montenegro	44.7	89	41.3	87	52.3	41
Bosnia and Herzegovina	38	95	34.8	142	45.1	67

*Source: Environmental Performance Index(2023)*

The development of these policies and their effectiveness is directly related to the development of the country's democracy. Many authors such as Eckersley (2019), Pickering et al(2020), Averchenkova et al (2022), Vukadinovic (2023) have found positive links between democracy and the efficiency of environmental policies.

According to them, the more democratic a state is, the greater the possibility of community involvement in environmental policies undertaken by the government, which is essential for making sure that decisions about environmental issues consider the interests and concerns of citizens. This relationship is shown in the figure below.

*Figure 3: Environmental Performance and Democracy score in Western Balkans, 2022*



*Source: Environmental Performance Index(2023), Freedom House (2023)*

Macedonia has the highest level of democracy in the region, and it also has the highest environmental performance index. On the other hand, Bosnia and Herzegovina has the lowest level of democracy in the region and as a result is the country with the lowest level of environmental performance index.

### **3.2. Role of environmental performance in EU Accession of Western Balkan' countries. What are the main achievement and challenges?**

The role of environmental performance is central to the European Union integration for candidate countries. Since the EU places significant emphasis on environmental sustainability and democratic principles as foundational aspect of its legal and policy framework, the candidate countries should demonstrate a commitment to environmental protection policies. In this way, the countries not only will make the accession process easier, but also will ensure the sustainable development and well-being of future EU member states. Thus, one of the requirements for integration into EU is that candidate countries should approximate their environmental legislation to that of the environmental *acquis Communautaire*. It refers to the body of environmental legislation and standards set forth by the European Union (EU) that candidate countries must adopt as part of their EU accession process. This collection of rules and regulations encompasses various aspects of environmental protection, including climate change, air and water quality, waste management, nature protection, industrial pollution control and risk management, genetically modified organisms, noise, and forestry.(WECOOP,2024). Candidate countries must align their environmental law with those of the EU, but this process is challenging and requires substantial improvements and investments in these countries and the aim is to achieve full compliance with the EU *acquis*, both in theory and practice.(Korosec,2013). The same is true for the Western Balkan countries, which are candidates for membership in the EU. Based on their progress on the path of integration of the European Union, the countries of the EU region have also focused on environmental policies, as one of the requirements of the process.

The EU enlargement process has facilitated environmental reforms in the context of negotiations on the *acquis Communautaire*, along with the implementation of the “Green Deal for the Western Balkans”<sup>3</sup>. This initiative focuses on five main areas of the European Green Deal: decarbonization; pollution control for air, water, and soil; circular economy practices; sustainable agriculture and food production; and biodiversity protection. The main goal of the region is carbon neutrality by 2050, guided by the principles of the European Green Deal and implementing the Western Balkans Action Plan.(RCC,2023). EU integration affects environmental issues through projects and negotiations for chapter 27 related to the environment protection and climate mitigation. At the same time, EU influences the drafting of public policies that strengthen environmental protection and environmental democracy in the region. (Vukadinovic,2023). Although there are most of things that countries have to do in the EU integration framework. Below it is presented the actual situation and the challenges that each WB country has in the environmental area and legal framework transposition. All the countries of the Western Balkans have made progress in environmental matters, however, for all this, progress is needed towards the harmonization of legislation with European standards. Albania has made some progress in the environment issues. Since joining the EU civil protection mechanism in 2022, Albania has advanced in civil protection and has developed a national disaster risk reduction strategy and action plan for 2023-2030<sup>4</sup>. According to the 2023 Progress Report, Albania needs to improve its approximation and implementation of EU environmental directives in several areas as in waste management, water and air quality and climate change. Challenges include the lack of a comprehensive monitoring system for air quality, non-compliant landfills, promoting recycling, water resources and marine waters legislation. Also, the government should enhance implementation of the EU directive on environmental protection through criminal law. As per climate change issues, Albania has some level of preparation, but approximation with the EU *acquis* still remains limited. The national strategy on climate change needs to be updated with the new climate targets set by the EU. (European Commission, 2023c). Even that North Macedonia has the best environmental performance in Western Balkan region, the country needs to enhance its efforts to align with EU environmental standards, particularly in areas like Environmental Impact Assessment and Strategic Environmental Assessment. This affects other environmental sectors and infrastructure projects by impacting public participation. The country's main concerns are air pollution, waste management, industrial emissions, and water quality standards. North Macedonia should continue harmonizing national legislation with EU standards in these areas. Although the country introduced a ban on heavy and polluting industries near settlements and protected areas, it still needs to adopt and harmonize directives on environmental liability and crime (European Commission, 2023d). As the other Western Balkan countries, Montenegro needs to intensify its efforts to align with EU environmental standards across various areas. Although some progress was made in water quality, industrial pollution, and chemicals, there was limited progress in air quality, noise, and climate change. The country completed strategic and environmental impact assessments but must address the lack of administrative capacity and coordination. Also, Montenegro's alignment with EU climate change policy remains limited, thus the country needs to adopt the national energy and climate plan in line with EU's 2050 zero emission target and also the Green Agenda for the Western Balkan (European Commission, 2023a) Bosnia and Herzegovina was the weakest performer of the Western Balkan region in the environmental performance. It has made some progress in environment and climate change, but it still needs to improve in many areas to align with EU standards.

<sup>3</sup> See more in: [https://neighbourhood-enlargement.ec.europa.eu/document/download/56db6af6-92c2-4ff7-a1ba-7e8893d8e7a8\\_en?filename=green\\_agenda\\_for\\_the\\_western\\_balkans\\_en.pdf](https://neighbourhood-enlargement.ec.europa.eu/document/download/56db6af6-92c2-4ff7-a1ba-7e8893d8e7a8_en?filename=green_agenda_for_the_western_balkans_en.pdf)

<sup>4</sup> See more in: [https://www.undp.org/sites/g/files/zskgke326/files/2024-01/national\\_drr\\_strategy.pdf](https://www.undp.org/sites/g/files/zskgke326/files/2024-01/national_drr_strategy.pdf)

The country has adopted a national adaptation plan and strategy but must strengthen administrative capacity and strategic planning across various sectors, including air quality, water and waste management, and climate change. Also, significant work is required to align with EU climate policies, including adopting a country climate strategy and also preparing for the EU emissions trading system. Furthermore, the country needs to develop a national energy and climate plan and reinforce the capabilities (European Commission, 2023f). Serbia has made some progress in the areas of environment and climate change, notably with the adoption of the Low Carbon Development Strategy 2023-2030 and the drafting of its national energy and climate plan (NECP). The country also increased environmental funding and investment, particularly in waste management and water quality. Serbia has a high level of alignment with the EU acquis in horizontal legislation, but needs to improve implementation, strengthening administrative capacities and improving efficiency. There is a need for greater transparency in public participation and environmental effects. Related to the climate change, Serbia has adopted implementing legislation and the Low Carbon Development Strategy but needs to strengthen implementation and integrate climate action in other sectors (European Commission, 2023b). Regardless of the fact that currently the environmental performance index for Kosovo is not measured, the European Commission, through annual progress reports, presents the country's situation and progress in harmonizing legislation according to EU standards. According to the progress report for 2023, Kosovo is still in the early stages of dealing with environmental protection and climate change. The country needs to improve its political commitment and administrative capacity to address environmental issues and climate change. These efforts must be aligned with the Green Agenda for the Western Balkans. Kosovo should strengthen its environmental authorities at the central and local level, including increasing inspection capacities and public awareness. In climate change, Kosovo should implement the climate change strategy and the action plan on climate change, should prepare and adopt national energy and climate plan and prepare for alignment with EU emissions trading system (European Commission, 2023e). So, in general, all the countries of the Western Balkans should improve not only the legal framework by aligning it with EU standards, but also the strengthening of the institutional framework and capacities related to environmental issues and climate change is necessary.

#### **4. CONCLUSION**

The comparative analysis about the environmental performance of Western Balkans countries which are candidate countries for European union integration, pointed out that the countries still have a lot to do in terms of environmental protection policies. Based on the data, Western Balkan countries have the lowest index compared to Eastern European countries and European Union countries. North Macedonia leads the Western Balkans, ranking 12th out of 19 countries analyzed, followed by Albania (15th), Montenegro (16th), Serbia (17th), and Bosnia Herzegovina (18th). The environmental performance of the region is below the EU average of about 60.8 points. But the environmental policy effectiveness is directly related to the development of the country's democracy. It seems like this relationship is proved for Western Balkan' countries since North Macedonia have the highest level of democracy in the region, and it also has the highest environmental performance index. On the other hand, Bosnia and Herzegovina has the lowest level of democracy in the region and as a result is the country with the lowest level of environmental performance index. Based on EPI results, Western Balkans countries should intensify their efforts to apply EU environmental directives and standards on their national environmental legislation, focusing on crucial issues like air and water quality, waste management, ecosystem health and climate change mitigation.

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# THE SECRET SOCIETY, RELATIONS WITH THE ENTERPRISE AND ITS REGULATION IN NATIONAL LEGISLATION

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## ABSTRACT

*A secret society is a company in which one person - a secret partner, invests, that is, participates with a monetary and non-monetary contribution in the company of another person, an entrepreneur - a public partner, and on the basis of the contribution acquires the right to participate in the profit and loss of the company. The secret society is established by the conclusion of an agreement between the secret and the public partner. The secret society is not a trading company according to the Law on Trading Companies and it has no legal personality, no company and does not participate in legal transactions with third parties. This company exists only in the relations between the secret partner and the entrepreneur - the public partner, it is not registered in the register of commercial companies which is maintained by a competent authority. Exclusively, the entrepreneur is the entity that performs in the legal transaction and is the holder of all rights and obligations from the operation. The reasons for the creation of the secret company is the fact that this type of company is used for the realization of business ventures that one does not want to know about, that is, to find out which entity is behind them. The secret society due to the simplicity in its creation, the wide flexibility in arranging the relations between the public and the secret partner, the possibility of finding an easier way of financing the enterprise, the possibility of securing profit through secret investment, makes this society one of the best forms for successful realization of the entrepreneur's business venture, on the one hand, and on the other hand, this company also serves to satisfy the interest of the secret investor, in a way that his investment will be further away from the general public.*

**Keywords:** *Secret society, trading company, entrepreneur, enterprise, secret partner, public partner, profit, loss*

## 1. INTRODUCTION

The secret society is established by the conclusion of an agreement between the secret and the public partner. The general legal rules apply to the conclusion of the contract for its establishment, as well as to the conclusion of any other legal act. When talking about this kind of societies, it cannot be said that they are completely secret societies. Basically, a more appropriate expression would be to name these companies as silent companies or undisclosed partnerships. With secret societies, in the essential sense of the word, it is about investing capital on a contractual basis without open participation in membership in a trading company, hence its name. We find the secret society in the modern legislations of many countries. In continental Europe, there are two dominant models: the German and the French. English law does not recognize the secret society as a special form of company or as a legal relationship with an independent legal arrangement, but allows any enterprise, whether it is owned by an individual or a trading company, to have its own secret partner ("sleeping partner"). In short, the essence of the secret society is that it does not act as such in external relations, i.e. relations with third parties and that the secret partner invests his own capital in another's enterprise in order to acquire a corresponding share in the profits.



It is common to all the continental legislatures which sometimes differ in regulating the secret society as permanent or single or combined. The solutions that existed in the legislation of the Republic of Macedonia basically did not differ from the solutions that refer to the secret society in the legislation of Germany, the Republic of Croatia, the Republic of Slovenia (where this society existed, but with amendments to the law from 2012 it was deleted). In the immediate environment of the Republic of Macedonia, in the legislation of the Republic of Serbia, the Republic of Montenegro, the Federation of Bosnia and Herzegovina, there are no solutions for the secret society, that is, this society does not exist in these countries. Unfortunately, with the Law on Amendments and Supplements to the Law on Commercial Companies ("Official Gazette of the Republic of Moldova" No. 120/18 of July 29, 2018), which has been in force since August 6, 2018, the Republic of Macedonia has abolished the existence of this company. The secret society was not part of the group of commercial companies according to the Law on Commercial Companies of the Republic of Macedonia. According to the legal solutions in this Law, it can be said that the secret society represented a special form of agreement for collusion, the basic framework of which regulates mutual relations was prescribed by the Law on Commercial Companies. That it is a special form of partnership agreement can be concluded from the provisions of the Law on Commercial Companies, which stipulated that the provisions will be applied to the relations between the entrepreneur and the secret partner that are not governed by the contract and the provisions of the Law on Commercial Companies from the Law on Obligation Relations. Very little is known and little is said about secret societies in the Republic of Macedonia. Of course, there were a number of reasons for this, such as of an economic, social, entrepreneurial or other nature. The lack of necessary information, the lack of true knowledge about its meaning are certainly one of the main reasons for the lack of interest in establishing this type of company. Additionally, its abolition with the adoption of the Law on Amendments and Supplements to the Law on Commercial Companies ("Official Gazette of the Republic of Moldova" No. 120/18 of July 29, 2018) is also in this direction.

## **2. CONCEPT OF A SECRET SOCIETY**

A secret society is a company in which one person (secret partner) invests, i.e. participates with a monetary and non-monetary contribution in the company of another person - entrepreneur - general partner and based on the contribution acquires the right to participate in the profit and loss of the company. The secret society in the legal order of the Republic of Macedonia was introduced by the Law on Commercial Companies from 1996. The law on commercial companies from 2004, which is in force in the Republic of Macedonia, regulated the secret society until recently. Basically, on the legal arrangement of this company, there was no essential difference between the provisions of the Law on Commercial Companies from 1996 and the Law on Commercial Companies from 2004. With the Law on Amendments and Supplements to the Law on Commercial Companies ("Official Gazette of the Republic of Macedonia" No. 120/18 of July 29, 2018), the Republic of Macedonia abolished the secret society and it no longer exists in the legal system of our country. The law on commercial companies from 2004, with the provisions that regulated the issue of the secret company, is served with an approach according to which it is stated the way in which this type of company is created. Thus, according to this law, the secret society was created by an agreement with which one person (secret partner) invests, that is, participates with a monetary and non-monetary contribution in the company of another person - an entrepreneur - a public partner, and on the basis of the contribution, he acquired the right to participate in the profit and in the loss of the enterprise. For clarification, an entrepreneur is understood as any natural or legal person who organizes the performance of commercial activities, who invests his funds, knowledge and abilities for that purpose and who accepts the risk of possible negative or positive consequences of the performance of commercial activities. The stake invested by the

secret partner entered the property of the entrepreneur - the public partner. Characteristic of this company is the fact that it did not have its own legal personality and did not have its own company, that is, it did not represent a merchant according to the Law on Commercial Companies. This company existed only in the relations between the secret partner and the entrepreneur - the public partner and did not act in the relations with third parties. In relations with third parties, the entrepreneur was the person who performed in the legal transaction and who was the exclusive holder of all rights and obligations from the operation. The relations between the secret and the public partner were governed by an agreement, and to the relations that were not governed by the agreement on the establishment of the company, a subsidiary application of the provisions of the Law on Obligation Relations, which governs the partnership agreement, was foreseen. In the arrangement of mutual relations, the secret and the public partner had complete freedom regarding the goals, forms, scales and conditions of the operation of the secret society. Despite the fact that the secret society was regulated by the Law on Trading Companies, it could not be considered a trading company, i.e. it did not represent a trader, did not have the status of a legal entity and was not registered in the register of trading companies which was kept at the Central registry of the Republic of Macedonia in accordance with the Law on a one-stop shop system and on keeping the commercial registry and the registry of other legal entities.

According to the Companies Act of 2004, a secret society had the following general legal characteristics:

- the secret society was a society of persons;
- the secret society represented a special form of partnership agreement whose basic framework for regulating mutual relations was prescribed by the Law on Commercial Companies;
- the secret society was an internal society and it existed only between its members;
- the legal basis for the creation of this company was an agreement and it determined the purpose of its creation;
- the company was not a legal entity, had no legal capacity, nor was it a trading company in accordance with the Law on Trading Companies;
- the company did not have its own company;
- the company existed only in the relations between the secret partner and the entrepreneur - the public partner and did not act in relations with third parties;
- the entrepreneur (public partner) was the entity that performed in the legal transaction and was the exclusive holder of all rights and obligations from the operation;
- the secret partner could not have greater rights than those prescribed by the Law on Commercial Companies;
- the company did not have its own property;
- the company had no common property, on the contrary, the invested property of the secret partner became the property of the entrepreneur (the public partner)

### **3. ADVANTAGES AND WEAKNESSES OF THE SECRET SOCIETY**

The secret society undoubtedly has advantages that should be highlighted:

- 1) The secret society is very simple. Deprived of legal subjectivity, its creation does not represent a burden in the least, does not last long and does not go through complex procedures, as is the case with the creation of a trading company. It all boils down to the conclusion of the contract for the secret society, which does not even have to be concluded in writing.

This advantage is not to be neglected at a time when entrepreneurs often complain about the great rigidity in the creation and low efficiency in the functioning of trading companies in connection with certain business ventures.

- 2) Secret societies are a discrete form of realization of business ventures. The discretion regarding the creation and functioning of the secret society is based on the fact that it is exempt from the obligation of publicity: it is not entered in the commercial register and the facts of its existence are not published. However, this discretion does not exist for the public revenue authorities, because the existence of the secret society must be reported to them. This secret character is nevertheless the reason for the bad reputation that secret societies enjoy in the realm of eliminating competition.
- 3) Secret societies possess great elasticity. With the creation of the secret company, the partners avoid the numerous rules that are imposed on commercial companies even in the most elastic forms, such as the case of the public commercial company. When it comes to the secret society, the law prescribes very few restrictions; it is safe to say that anything or almost anything is possible. The partners freely agree on the goals, forms and dimensions of the interests and conditions. You see the work of the secret society. Hence, the secret society is much closer to the contractual techniques and in principle to the autonomy of the will than to the techniques of creation and functioning of commercial companies (societal techniques) which, as is known, are very coercive.

In addition to the listed advantages of the secret society, it also has its own weaknesses. Weaknesses are expressed primarily in the limited effectiveness of the secret society. Usually, third parties only know the entrepreneur (the public partner) and do not know that he is acting in the name and on behalf of the secret society. The public partner has to demonstrate indisputable solvency in order to gain the trust of third parties. The secret society therefore functions more difficult if the realization of the business venture is prolonged or has to be realized over a longer period of time. In such a case, it becomes necessary to approach the creation of a trading company that has the capacity of a legal entity, as well as its own property and representative bodies.

#### **4. PURPOSE OF CREATING THE SECRET SOCIETY**

The company represented a legal community. The common goal of the partners was determined by the agreement by which the company was founded. According to the Law on Commercial Companies, the partners freely agreed on the goals, forms and scales of the interests and conditions of the operation of the secret society. This means that the partners with the contract for the establishment of the secret society also agreed on its purpose. It could be any permissible purpose, but the same purpose could not be contrary to coercive regulations, the Constitution and the morals of society. The main purpose of the establishment of the secret society was prescribed by the Law on commercial companies and it was to participate in the profit and loss of the enterprise of the public partner. The secret and the public partner as members of the company had a common goal to participate in the profit or loss of the secret society, with the business venture being realized by the public partner. The main reason for its creation was the economic interests of the partners, in which the secret partner, for specific economic reasons, invested funds or money with the public partner, and the public partner received funds or money with the investment that he could not get, or that he could get under much worse banking conditions. Investments of the secret partner are brought into the enterprise of the entrepreneur and become property owned by the enterprise. In return for his investment, the secret partner received the agreed profit from the part that would have belonged to the public partner according to the agreement for the creation of the secret society.

## **5. RESPONSIBILITY IN PERFORMING THE AGREED DUTIES**

According to the Law on Commercial Companies, for the entrepreneur or for one or more secret partners, in the performance of the duties of the secret company, an obligation was foreseen for them to act with the attention that they devote to their affairs. This means that he started from his own attention as a measure, which is the behavior of a certain person in relation to certain other people's things, when that person, in relation to them, would show the same attention that he has when dealing with his own things. The partners were responsible for the resulting damage in accordance with the provisions of the Law on Obligation Relations.

## **6. FUNCTIONING OF THE SECRET SOCIETY**

When we talk about the functioning of the secret society, it referred to the mutual functioning of the members and the functioning of the society in relations with third parties. The relations between partners were governed by an agreement. The relations between the entrepreneur and the secret partner that were not governed by the agreement with the provisions of the Law on Commercial Companies in the section of the secret society, were applied by the provisions of the Law on Obligation Relations that govern the partnership agreement. Considering the fact that the secret society was created by concluding a contract, the same rules were applied to its conclusion as for any other legal matter. The members of the company with their own will had the freedom to determine the content of the contract and in the arrangement of mutual relations, in which case, but they had to take into account the uniqueness and content of this company prescribed by the Law on Commercial Companies, which is that they are works for a special form of partnership agreement, with the obligation that existed for the secret partner to invest his stake in the property of the entrepreneur, as well as the obligation to regulate the issue of profit and loss for the secret partner. Given the fact that it was a contract and to regulate the mutual rights and obligations of the partners, we will present their rights and obligations. The basic obligation of the secret partner according to the concluded contract was to make the agreed non-monetary or monetary contribution to the enterprise of the entrepreneur - the public partner, as well as to participate in covering the loss of the entrepreneur, of course if this matter was not otherwise regulated by the contract of establishment of the secret society, that is, if the parties have agreed, the secret partner is not obliged to participate in covering the losses of the entrepreneur. In order to protect his rights and interests, the secret partner had the right to request a copy and inspect the books and records of the entrepreneur's company, among which he had the right to request a copy of the annual accounts, to examine their correctness and orderliness by comparison with books and writings. At the request of the secret partner, the court, in an extrajudicial procedure, at any time, could order the entrepreneur - the public partner, to give the secret partner annual accounts or other explanations, as well as to inspect the books and records. These rights of the secret partner, with the contract establishing the secret society, could neither be excluded nor limited. The entrepreneur had both the right and the obligation to act in the legal transaction and he was the exclusive holder of all rights and obligations from the operation. The entrepreneur had the obligation at the end of each business year to calculate the profit, that is, the loss of the secret company and to pay the secret partner the profit that belonged to him. Considering the fact that it was a secret society, the secret partner is the entity that basically determined this kind of character of the society. His aim was to keep the investment secret, not to be known about it, and because of this fact he was excluded from dealings with third parties. The name of the secret partner was not allowed to be registered in the company of the entrepreneur. In the event that the name of the secret partner was entered in the entrepreneur's company, there was a possibility of liability of the secret partner towards the creditors of the company, in which case the secret partner was responsible for the obligations of the entrepreneur towards the creditors, if he knew it or should have known it.

The obligation of the secret partner towards the creditors for the obligations of the operation of the secret society was unlimited and joint and several with the entrepreneur.

## **7. TERMINATION OF THE SECRET SOCIETY**

The law on trading companies of 2004 prescribed the conditions for the termination of the secret company. Thus, according to the Law on Commercial Companies, the secret society ceased with:

- 1) the expiration of the time for which the contract for the secret society was concluded;
- 2) conclusion of an agreement between the entrepreneur and the secret partner;
- 3) achievement of the goals for which the contract for the secret society was concluded or, if the achievement of the goals became impossible, regardless of whether the contract was concluded for a fixed or indefinite period;
- 4) death of the entrepreneur, i.e. with the cessation of work of the entrepreneur and
- 5) opening bankruptcy proceedings against the company in which the entrepreneur is a public partner or over the secret partner.

In all the mentioned cases, the secret society was terminated by force of law. Also, with the death of the secret partner, the partnership ended, unless otherwise determined by the contract. The Law on Amendments and Supplements to the Law on Commercial Companies of 2018 abolished the existence of this company in the Macedonian legislation. The secret society is no longer subject to regulation in the Companies Act and this law no longer applies to this company. With these amendments and additions, the provisions of the law governing the Secret Society were completely deleted, and as of August 6, 2018, the Law on Commercial Companies no longer regulates this issue. A legal consequence of the entry into force of the Law on Amendments and Supplements to the Law on Commercial Companies (08.06.2018), was the termination of the legal possibility for the creation of secret companies in accordance with the Law on Commercial Companies, as well as the termination by force of the law on secret companies for which an agreement was previously concluded for their establishment. According to this law, the application of the agreements that were concluded with a secret partner, that is, with the secret society, could be continued exclusively in accordance with the provisions of the Law on Obligation Relations. In the rationale of the proposal for the Law on Amendments and Supplements to the Law on Commercial Companies submitted to the Assembly of the Republic of Macedonia, it is stated that the reasons for this proposal were the need to increase transparency, reduce tax evasion, the need for availability of information about the true owner of the legal entities. so that they can serve for tax purposes. The secret society was a company that did not have a form of legal entity and was not registered in the commercial register, as well as the identity of the secret partner was not known to third parties. In addition to this, according to the proposer of the law, if this company had remained in legal circulation, all this could have affected the reduction of the assessment of the Republic of Macedonia for the exchange of information for tax purposes at the request of the OECD. Despite the adopted legal decision to abolish the secret society, the question remains open whether the legislator fully answered the basic question, which is whether the uniqueness of the secret society naturally dictates the need for this society to be part of the Law on Commercial Companies or not. and whether, for tax reasons, it was not necessary to approach solutions related to tax legislation, and not to carry out its complete abolition in the Law on Commercial Companies. The creation of the secret society was aimed at facilitating the realization of business ventures. In this direction were also the relations that were created between the public and the secret partner, and these were relations of investment of property, which property in the last case according to the law became part of the property of the enterprise. Relations in the secret society logically followed the logic of the law of societies.

The realization of the tax and other objectives specified in the proposal of the Law on Amendments and Supplements to the Law on Commercial Companies could be achieved with interventions and with solutions that will refer to the regulations in the tax area and with them ensure the objectives that were intended to be achieved, achieved, and not by its complete abolition. The provision of Article 5 paragraph 2 of the Law on Amendments and Supplements to the Law on Commercial Companies, according to which all agreements that were concluded with a secret partner, i.e. with a secret company, could continue and the provisions of the Law on bond relations does not solve the question as a whole. The fact that the relations of this company, in the absence of rules for the regulation of relations, was provided for by subsidiary application of the provisions of the Ortaklak Agreement from the Law on Obligation Relations, cannot mean a complete replacement or equalization of the object of regulation of relations in terms of specificity of the secret society according to the Law on commercial companies. The legal nature of a secret society according to the Law on Commercial Companies and the legal nature of a joint venture agreement according to the Law on Obligations are different things. Between these two categories of contracts, there are essential differences that refer to the relations of the partners in terms of stakes, their legal fate, the right to conduct the partnership, and so on. For example, in the classic partnership agreement, the right to manage the affairs belongs to all the partners, while in the secret society, the entrepreneur - the public partner has both the right and the obligation to act in the legal transaction and he is the bearer of all the rights and obligations of the operation, while the secret partner is excluded from any right to conduct the affairs.

## **8. TAXATION AT THE LEVEL OF A SECRET PARTNER**

The secret society was a partnership of persons, it was not a legal entity and it was not a trader under the Companies Act. For these reasons, the question arises as to whether the income based on the participation in the capital of the secret partner in the property of the public partner could have been subject to taxation. If a natural person appeared as a secret partner, the answer should have been sought in the Law on personal income tax, which regulates the issue of income that is subject to taxation. According to this law, income from capital gains is also subject to taxation. By capital gain is meant the income that the obligor realizes from the sale of securities, participation in the capital and real estate. Otherwise, according to the law, the capital gain is the difference between the sale price of the securities, participation in the capital and real estate and the purchase price. The person liable for income tax from capital gains is the natural person who realizes the capital gain. The basic question is what kind of profit was made by the secret partner, a natural person, in accordance with the Agreement on the secret society, so that, subsequently, a basis for tax liability can be claimed according to the Law on personal income tax. In this direction, the secret partner received profit on the basis of participation in the capital of the enterprise through the public partner. The profit of the secret partner was paid from the share of the profit of the public partner in accordance with the contract for the establishment of a secret society and in accordance with the law. This means that both the public and the private partner were subject to the obligation to tax and to pay personal tax on income earned by participation in capital. For legal entities, secret partners, the regulations regulating the issue of profit sharing of legal entities would be applied.

## **9. CONCLUSION**

The secret society in the Republic of Macedonia was defined as a company in which one person (secret partner) invested, i.e. participated with a monetary and non-monetary contribution in the company of another person - entrepreneur - public partner and based on the contribution acquired the right to participate in the profit and in the loss of the enterprise. This company was established by the conclusion of an agreement between the secret and the public partner.

It was about investing capital on a contractual basis and without open participation in membership in a trading company. This company was regulated by the Law on Trading Companies, it was not considered a trading company and did not represent a trader, which is why it was not registered in the register of trading companies maintained by the Central Registry. From a content point of view, the solutions in the legislation of the Republic of Macedonia that refer to the determination of the secret society, the entities that can conclude it, the relations of the contracting parties, the contract and its conclusion, the objectives, the relations between the parties to the contract and the relations of the company with third parties, as well as the termination of the secret company and the like, basically do not differ from the solutions that are accepted in the modern legislations of Europe and that have accepted the German model of this type of companies. The provisions in the Law on Trade Companies for the secret society, in fact, as in other legislation, were quite broad and allowed its flexibility, both in terms of its establishment, the regulation of mutual relations, etc., all with the aim of realizing the agreed profit. Unfortunately, with the adoption of the Law on Amendments and Supplements to the Law on Commercial Companies ("Official Gazette of the Republic of Moldova" No. 120/18 of July 29, 2018), the secret society has been abolished and is no longer part of the legal system of our country. The decision to abolish the secret society in order to achieve the tax goals is not complete and it cannot justify the decision to abolish the secret society in the Macedonian legislation. A secret society is not a completely secret category, not for the IRS. To increase the reliability of the control of the origin of money or property invested in secret societies, a possible solution would be to establish a register of these societies before a competent authority, and not to abolish them. This register would be introduced by law and with it would be regulated the questions about the way of keeping the register, access to this register, the entities that will be able to access it, in which something would have to be careful not to violate the basic concept of the essence and the legal nature of the secret society and with those decisions to be careful not to lose the meaning of the specialness of the secret society. The special nature of the contract for the establishment of a secret company is the reason why this company was established in accordance with the Law on Commercial Companies. The realization of the business venture was financed with the secret society in accordance with the rules of company law. The advantages of its continued existence in the Law on Commercial Companies are greater than its weaknesses. Following this, there is a need for accession for consideration and for the return of the secret society in the Law on Commercial Companies of the Republic of North Macedonia

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15. Zakon o privrednim društvima u Federacija BiH (“Službene novine“ br.81/15 и 75/21);
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# IMPACT OF INSTAGRAM INFLUENCERS ON YOUNG MOTHERS IN CROATIA

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## ABSTRACT

*Modern society is characterized by the growing popularity of social networks, which are becoming an irreplaceable part of human communication. They form new ways of transmitting knowledge and experience in different life situations. One of the specific situations is certainly parenthood, when a new/young parent has many doubts and challenges. Since Instagram is the favorite social network of the young population due to its colorful content, we investigated how influencers have an impact on users, that is, we prepared a case study of how instamoms influence young mothers. The objective of this paper is the study of the impact of influencers on young mothers on the Instagram social network. It was important to examine precisely this group, as they directly influence the most vulnerable human group: newborn children. With their instructions, instamoms not only influence the consumers of their content, but also their children. In addition to analyzing the current situation, we will also present the history of influencers, the state of the influencer business in the Republic of Croatia and how much influence do they have on decision-making. In order to get a three-dimensional picture, we investigated this phenomenon from several aspects. The followers of parenting-related content were surveyed in order to find out their expectations and level of trust, using semi-structured interviews we obtained information on the motivation of mom-influencers, and we also included in the survey a businessman who, through cooperation with mom-influencers, successfully advertises products intended for children. The survey answered the question of whether users trust instamoms and whether instamoms are aware of their influence on their followers. The survey also includes an analysis of recent literature, as well as the economic/financial framework of this phenomenon. With the emergence of influencers, marketing has gained a new dimension, which is becoming an increasingly widespread phenomenon. That is why such research is becoming a necessity, which will also open up the issue of ethics in advertising.*

**Keywords:** *young mothers, influencers, Instagram, impact*

## 1. INTRODUCTION

As a result of social media interactions that occur between influencers and their audience, the audience will create a sense of connection with the influencer. Not much research has been done in the Republic of Croatia on the topic of influencers up to 2024, but their work has been noticed.

Some influencers in Croatia are followed by hundreds of thousands of people and they have made a serious business from their social networks. In the world, including in Croatia, there is no clearly defined law that would regulate the work of influencers. They use covert brand advertising, and it is difficult to distinguish whether it is paid content or not.

## **2. RESEARCH METHODOLOGY**

The aim of this paper is to find out what kind of influence instamoms have on young mothers. Furthermore, the paper aims to find out how often instamoms post content on their Instagram profile, whether the content is sponsored or not and what kind of posts get the most likes and/or comments. In addition to the empirical method and the established theoretical framework, for which recent literature and already published scientific papers in the field of media were used, a survey, content analysis and empirical research were also conducted. The subject research was carried out in three phases. The first one was the analysis of the content of earlier research, the second one was the implementation and analysis of a survey questionnaire, and the third phase included semi-structured interviews: two with mom influencers and one with a businesswoman who uses their services. After the research, the analysis of the results and drawing conclusions followed. Three hypotheses were formulated:

- H1: By listening to the advice of influencers, young mothers feel manipulated and part of the group.
- H2: Besides conducting regular advertising, influencers use product placement that they deny
- H3: Influencers present a new advertising channel for entrepreneurs.

We will try to confirm all three hypotheses through conducted research. The results obtained after the conducted research will be used to confirm or reject the set hypotheses.

## **3. LITERATURE REVIEW**

Influencers who act on social networks are a group of digital content creators who have many followers online, they are recognizable and have good relations with commercial sponsors. With the goal of making profit, influencers advertise goods and services to their followers, and this form of communication is characterized by informativeness, giving advice and inspiration. In promotional communication, influencers use visual, textual and narrative content and their communication is perceived as more authentic than the traditional paid advertising (Duffy, 2020). Influencers, who are followed today by many users of social networks, began to develop from ordinary consumers who showed increased interest in certain products and brands. Some of the influencers today have millions of followers, so they act as professional media entrepreneurs, and they gained fame mostly on YouTube or Instagram (Kolo, Haumer, 2018). Back in 2017, Merkaš Jelavić noticed that the profession of influencer is increasingly desirable among young people and that the three most interesting professions for today's young people are a You Tuber, a blogger or some other form of an influencer. Not all influencers are the same, so they are categorized into mega-influencers, macro-influencers and micro-influencers. Mega-influencers are stars with whom the general public is familiar, and they are the highest rank in the categorization of influencers. Macro-influencers deal with one specific topic and work professionally on content that is followed by 10 000 to 100 000 followers. Micro-influencers are influencers whom the audience trusts the most due to their intimate relationship with the audience and are followed by up to 10 000 followers (Biloš, Budimir, Jaška, 2021). Industries in which influencers are inactive probably no longer exist, and Appypie (2020) advocates the view that influencers bring the most benefits to five industries (Biloš, Budimir, Jaška, 2021): Health, Entertainment, Fashion and cosmetics, Food and beverages and Tourism.

Law does not yet recognize the work of influencers, so there is no clearly defined act in Croatia that would regulate the work of influencers. The content that influencers present because they are paid for it and are part of influencer marketing should be separated and clearly indicated as paid content, but in Croatia, as in some other countries, this is a rare practice. Influencers use covert brand advertising, and it is difficult to distinguish whether it is paid content or not (Antolović, Fraculj, 2019).

### **3.1. Impact of influencers on decision-making**

Influencer marketing has experienced growth in the last ten years, and it is a strategy that companies have used in digital business to transmit brand messages from the perspective of influencers. Marketing research using influencers has been carried out since 2008, and to this day, researchers all over the world deal with influencers as a phenomenon of the digital age (Singh Tanwar, Chaudhry, Kumar Srivastava, 2022). In the modern market, new generations of consumers have appeared to whom communication activities are adapted, and modern marketing communication can use influential people on social networks (influencers) and create a special relationship with end users. With influential persons, organizations achieve higher sales and better brand positioning (Kostić Stanković, Bijakšić, Ćorić, 2020). The use of influencer services for organizations is a novelty, and according to research, "business entities have recognized influencers as a communication channel with significant potential that they can use in their strategic efforts to approach the new generation of consumers" (Kostić Stanković, Bijakšić, Ćorić, 2020, p. 156). As a result of social media interactions that occur between influencers and their audience, the audience will create a sense of connection with the influencer. The audience experiences the illusion of having a personal relationship with the influencer and they become more sensitive to his/her posts on social networks to the world (Singh Tanwar, Chaudhry, Kumar Srivastava, 2022). The consequence of this illusion of personal relationship is the increased trust of followers in the influencer's posts and experiences. Communication between an influencer and his/her audience is a special form of marketing communication, different from the classic one-way communication that occurs in classic, traditional marketing activities. Mommy blogging was initiated around 2000 by moms who wanted to make motherhood easier for each other, and moms are popular influencers on Instagram. Moms do not use only Instagram as a platform for influencer activities, they also use other social networks. Some of the influencers deal with the topic of motherhood as a secondary topic or have started to deal with this topic since they became mothers, while before motherhood they dealt primarily with other topics.

## **4. IMPACT OF INFLUENCERS ON YOUNG MOTHERS - FINDINGS AND DISCUSSION**

The area that was investigated was the impact of influencers on young mothers. The goal of the survey was to collect certain information using a questionnaire, more specifically, to collect information about young mothers' perception of influencers and how much they trust them.

The survey was shared via our own Facebook profiles and in groups such as "One bez cenzure" and "Mamine tajne anonimne i javne". It was public and women/mothers could fill out in the period from 2 to 13 May 2023. Furthermore, the respondents were informed that the survey was anonymous and that it was conducted for the purposes of scientific research. The survey was closed on 13 May 2023, when 179 responses were recorded.

Results and analysis (179 answers)

Question 1: Age

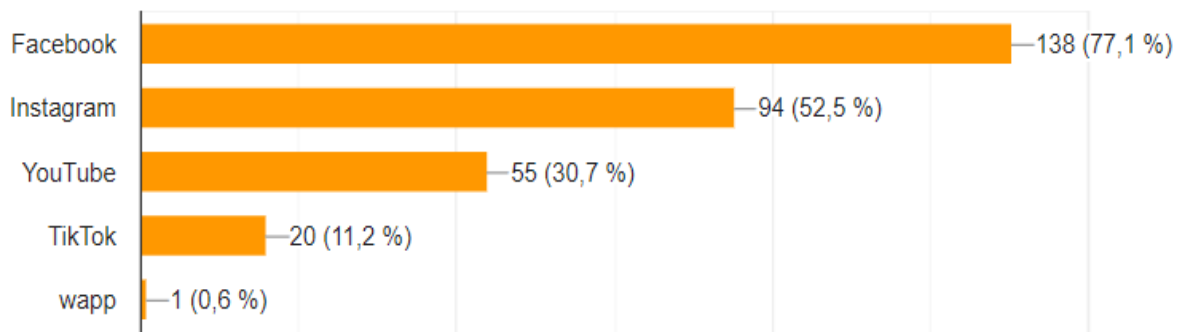
The largest share of respondents (29.6%) belongs to the 30 – 35 age group. They are followed by mothers aged between 18 and 25, with the share of 27.4%.

A total of 18.4% of respondents belong to the 18 – 25 age group. Mothers aged between 40 and 45 follow, with the share of 7.8%, while 5.6% of mothers are older than 45.

#### Question 2: Education:

As for education, the largest number of respondents completed high school, 58.7% (105 persons), followed by 22.3% (40 persons) of respondents who completed graduate studies. Undergraduate studies were completed by 16.3% of respondents, or 29 persons, while 2.8% of respondents (five persons) completed elementary school. None of the surveyed mothers has a doctoral degree.

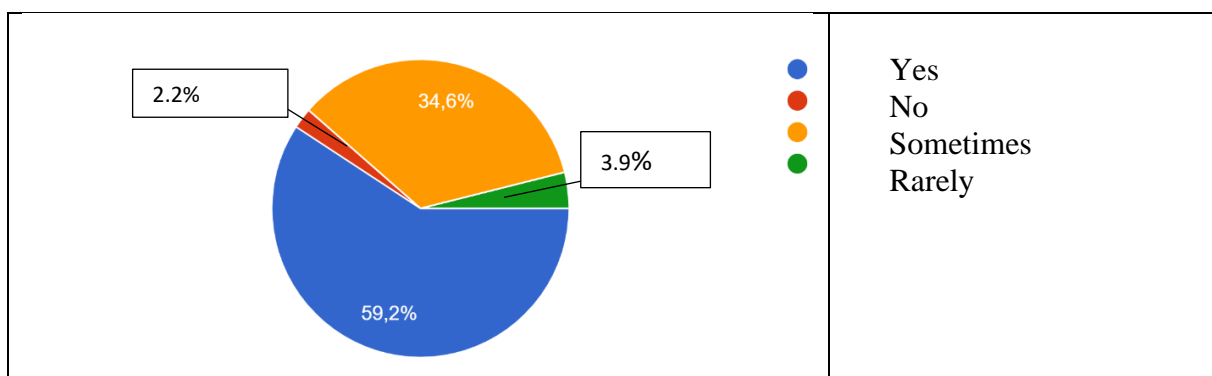
#### Question 3: On the internet, I mostly visit



*Graph 1: On the internet, I mostly visit:*

Most of the surveyed young mothers answered the question "On the internet, I mostly visit:" with "Facebook", as many as 77.1% (138 mothers). Instagram was chosen by 94 mothers, which is 52.8%, and 30.7% chose YouTube. Furthermore, 11.2% of respondents answered TikTok. Other answers accounted for 0.6% each, and these answers were, for example: "WhatsApp", "What I'm interested in" and "Classifieds".

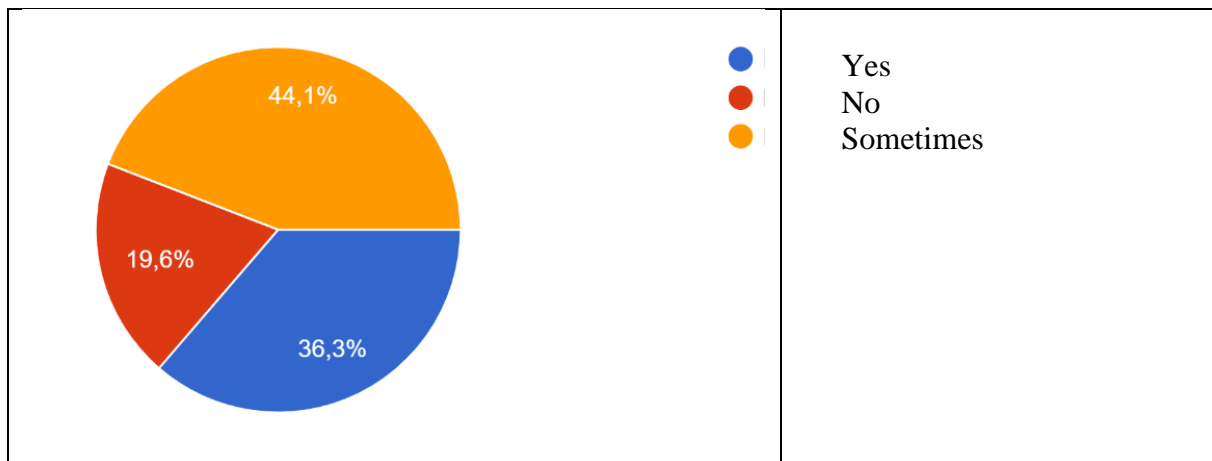
#### Question 4: Do you visit social networks/portals intended for children and mothers?



*Graph 2: Do you visit social networks/portals intended for children and mothers?*

The question "Do you visit social networks/portals intended for children and mothers?" was answered affirmatively by 59.2% (106) of respondents, 62 mothers (34.6%) responded "Sometimes", while seven mothers (3.9%) responded "Rarely", and four mothers responded "No".

## Question 5: Do you follow instamoms?

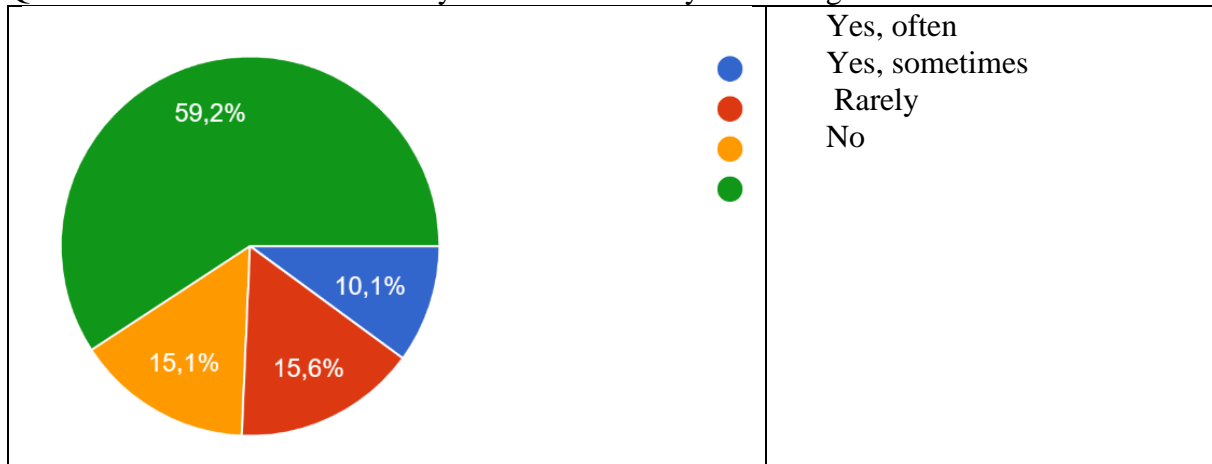
*Graph 3: Do you follow instamoms?*

Regarding this question, 44.1% of respondents answered “Sometimes” (79 mothers) and 65 mothers (35.5%) answered affirmatively. The smallest number of respondents answered “No” to this question, i.e. 35 mothers, or 19.6%.

## Question 7: Why do you follow instamoms?

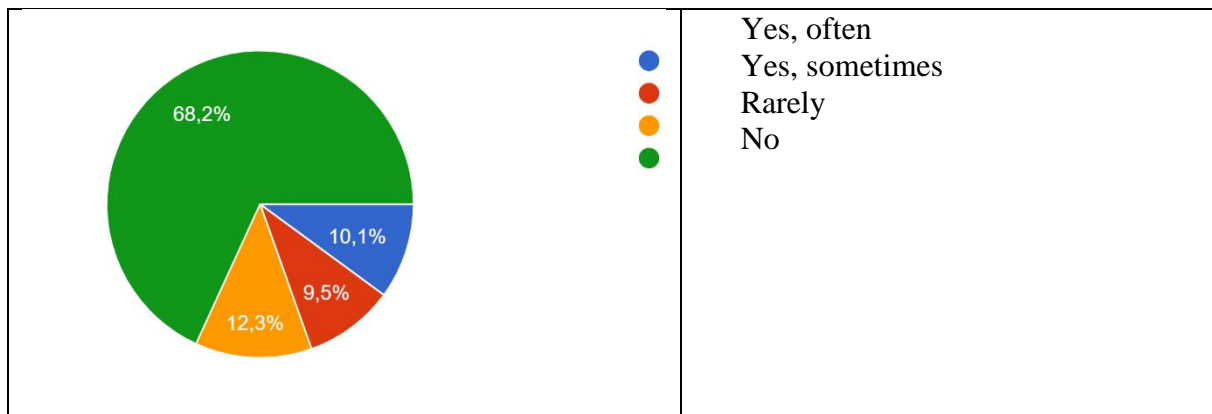
Most of the surveyed mothers have a similar view of this question, 57.5% of them responded that they follow instamoms for entertainment. Thirty mothers (16.8%) responded that they follow them because of interesting topics, while 15.1% of them (27) mothers follow them for good advice. Seven mothers, which account for 3.9%, do not follow instamoms. The lowest percentage of respondents answered “No reason”, “It’s stupid”, “All of the listed”.

## Question 8: Do instamoms affect your decision to buy something?

*Graph 4: Do instamoms affect your decision to buy something?*

Since we have established that the surveyed mothers follow instamoms, we wanted to find out whether they affect respondents’ decision to buy something. The largest number of mothers answered “No” to this question, namely 59.2% of them (106 respondents), while 28 mothers responded “Yes, sometimes”. Furthermore, 15.1% of respondents (27 mothers) answered “Rarely”, while 18 mothers responded “Yes, often”.

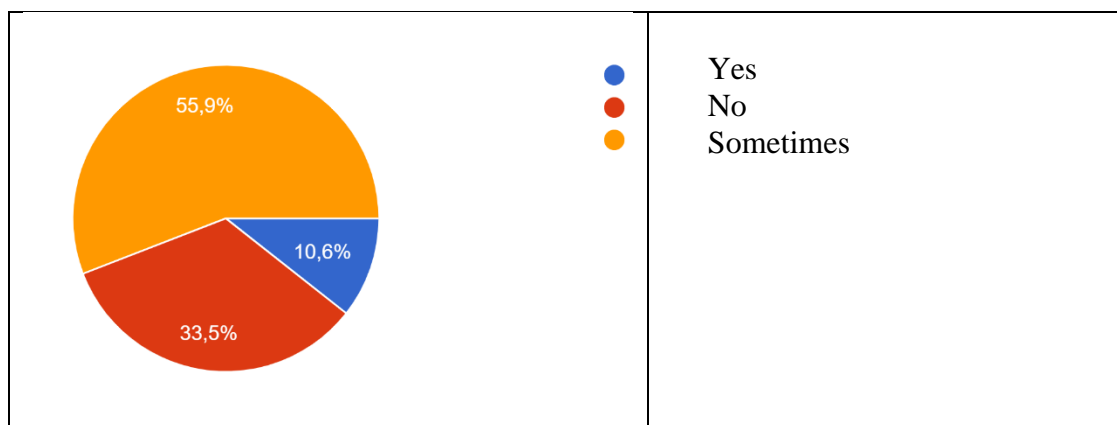
Question 9: Will you buy a certain product just because an instamom recommended it?



Graph 5: Will you buy a certain product just because an instamom recommended it?

Regarding the question “Will you buy a certain product just because an instamom recommended it?”, 68.2% (122) of respondents answered “No”, while 22 respondents (12.3%) answered “Rarely”. Eighteen mothers, or 10.1%, answered “Yes, often”. The answer “Yes, sometimes” was given by 9.5% of the surveyed young mothers.

Question 10: Do you trust instamoms?



Graph 6: Do you trust instamoms?

Nineteen mothers, or 10.6%, responded affirmatively to the question of whether they trust instamoms. Negative answer was given by 33.5% (60) of mothers, while 100 respondents answered “Sometimes”.

Question 11: If your answer to the previous question is “Yes”, please explain why.

This question is related to the previous one, to which most of the respondents answered that they sometimes trust instamoms. In this question, the respondents had the opportunity to write their own answers as to why they trust instamoms. Some of the answers are the following: “They were right so far, I have no bad experiences”, “The women I follow are experts in the topics they talk about, so in addition to being mothers, they have also completed studies and additional education on the topics they talk about”, “If an instamom has a positive experience with certain products, and I need something like that - I will buy it”, “Interesting and sometimes very useful posts”, “I trust them sometimes, but I still follow my instinct”, “They are paid to advertise products”, etc.

Question 12: Consulting influencers' advice makes you feel...

Given that the topic of our research is the impact of influencers on young mothers, one of the goals was to find out how they feel after consulting influencers' advice. A total of 32.4% of them (58 mothers) feel manipulated, while 38 respondents, or 21.2%, feel part of the group, and 17.3% feel like they are a part of the trend. Only 5% of the respondents feel safer. The respondents also had the opportunity to write their own answers. Most of them answered that they do not consult influencers' advice, that they feel indifferent, pathetic, good, informed or amused.

The survey shows that most of the surveyed young mothers are 30 and 35 years old. An equal number of surveyed mothers stated that their educational attainment was high school and faculty. Most of the respondents stated that they follow instamoms, while 19.6% do not follow them. As for the reasons for following instamoms, 57.5% of the respondents follow them for entertainment, while 16.8% follow them because of interesting topics. The question of whether instamoms affect their decision to buy something was answered negatively by 106 surveyed mothers, while 10.1% of the respondents answered affirmatively to this question.

Opinions regarding how they feel after consulting influencers' advice are different. A total of 32.4% of the respondents feel manipulated, while 21.2% feel part of the group.

## **5. QUALITATIVE RESEARCH – SEMI-STRUCTURED INTERVIEW WITH INFLUENCERS AND A BUSINESSWOMAN WHO USES THEIR POSTS FOR PROMOTION**

The respondents who participated in the research are Sonja Švajhler, one of the founders of the *Supermama.hr* portal, Slavica De Jong, YouTuber and mother of four children, and Marijana Džoić-Vrabec, founder of her own company Veseli šivopis from Zaprešić, who markets its products exclusively through social networks. We wanted to find out influencers' way of thinking about what they do, what their goals are, and whether they are aware of their influence on mothers. Both interviewees were asked the same questions, and we were also interested in the point of view of the "third party", i.e. a businesswoman who uses the services of influencers, and these questions were specially prepared after talking to the influencers. The last respondent got to see the answers of the previous two respondents.

### **5.1. Sonja Švajhler**

How often do you create sponsored content on the topic of parenting and children?

I would say that 3 – 4 posts per month are sponsored. I have been cooperating with a few brands for years, so I hardly perceive these collaborations as sponsored. I truly believe in what I promote.

What are your goals?

Definitely an honest talk about taboos. Changing the perception of a woman as a reproductive organ, humble and weak. Speaking up about maternal mental health. Speaking up about the crises we go through in relations with our partners and how to survive them. Unfortunately, considering that I experienced the suicide of a close person, breaking that stigma and talking about how to deal with it and how to prevent it, who to turn to, is also one of the goals I strive for.

Are you aware of your influence on your followers, i.e. mothers in this case?

Yes. I became aware of this during the moments I spoke about my own struggle with anxiety depression and the feedback of women whom I helped by opening my intimacy to seek help themselves.

According to the survey we conducted among mothers, 58 of them feel manipulated, 38 feel part of the group, and 31 feel part of the trend. The other 52 interviewed mothers wrote their own answers and the majority stated that they do not follow such content. Can you give us your own comment on the survey results?

I definitely understand that they feel manipulated, but I would say that the reason is that they have no perception of how much is being shared on social networks. This is only a small spectrum of the lives of those of us who have decided to act publicly. Someone decided to show only the best parts of their life or motherhood. Others decided to show the hard part. Some of us try to balance these two extremes. Of course, each of us has the freedom to choose which content to consume. I hope they choose carefully.

Sonja Švajhler posts sponsored content from brands three to four times a month, but she notes that she does not perceive them as sponsored, because of their long-term cooperation and her trust in them. She understands that young mothers feel manipulated, and the reason for this is that they have no perception of how much is being shared on social networks and that it is a small spectrum of life that she decided to share publicly.

## 5.2. Slavica De Jong

How often do you create sponsored content on the topic of parenting and children?

I don't create sponsored content on the topic of parenting and children because I'm not competent to create such content because I'm not a pedagogue / psychologist... I create content in which I share my experiences, and sometimes it's sponsored content, but it's not content in which I give advice, for example, about upbringing.

What are your goals?

Both in my personal life and in my business life, I have some goals that I want to fulfill. I think that it is certainly not something that I can generalize like this, but these are goals related to growth and development on a private and business level.

Are you aware of your influence on your followers, i.e. mothers in this case?

I am aware that by creating content for social networks I have an influence on mothers. They are my main audience, and they are always the audience I address in the content I create. In addition, the basic motivation for starting a YouTube channel and later an Instagram profile was to create a community of women who can understand each other in terms of the experiences they are going through together.

According to the survey we conducted among mothers, 58 of them feel manipulated, 38 feel part of the group, and 31 feel part of the trend. The other 52 interviewed mothers wrote their own answers and the majority stated that they do not follow such content. Can you give us your own comment on the survey results?

I do not find surprising the results of this kind of a survey because there is really a lot of everything on social networks. I don't know who exactly these mothers sought advice from, but I would recommend that they seek advice about upbringing, motherhood, etc. exclusively from professionals. A lifestyle influencer is not a person who should be expected to give such advice, nor should anyone seek important advice on parenting or upbringing from an influencer. I think that there is a lot of confusion here and I really try to explain to the person who approaches me with such a question that they still have to look elsewhere for such advice.

Slavica De Jong said that she does not create sponsored content on the topic of parenting and children because she is not competent to create such content. This is why she creates content in which she shares her experiences, and in this regard, there is some sponsored content, but not on the topic of upbringing. She replied that she knows her content affects young mothers and



that they are her main audience, and she started the YouTube channel precisely because of them. She emphasizes that her content is exclusively based on her own experiences and is more of an entertaining nature. She believes that, for advice related to parenting and children, it is best to turn to people who are experts in these areas.

### 5.3. Marijana Džoić Vrabec

You started your own business making creative fabric books for children and the company "Veseli Šivopis" (Happy Sewriting). Can you present your company and products to us in a few sentences?

I started the company "Veseli šivopis" at the end of 2017, and for the seventh year, we have been producing didactic toys made of fabric. We market our products exclusively via the internet, mostly through social networks.

How did you reach customers and how did you advertise?

We have our own web shop, but social networks have proved to be the best way of advertising. "Veseli šivopis" has its profile on all social networks, but we mostly find our potential customers on Instagram and somewhat less often on Facebook. Ninety-five percent of our customers are women (moms) aged 30-40 who mostly use Instagram as their main social network.

What proved to be the best way of advertising? Why?

In order to succeed as a business (company) through social networks, you must be present on them 24 hours a day. Being present on social networks means constant posts, which means recording videos and photos, editing, writing texts. As promotion, we use paid ads and advertising using influencers, which has proven to be the best option for us so far.

You were a guest twice and in one of the most watched shows of the Croatian national television (HRT1) *Good morning, Croatia*. Has it increased the sales?

I was a guest in *Good morning, Croatia* in 2018 and 2023. Honestly, I expected a lot, but I can't say that it significantly affected our sales. Just as we look for our "niche" on Instagram and the best way to reach our customers are influencer moms, it should probably be the same on TV, and I believe that people who are interested in my product are not really consumers of this show.

Our interviewees De Long and Švajhler also promoted your products. How did this cooperation happen?

Yes, Sonja and Slavica promoted our books. The cooperation happened because I followed them on Instagram, and I contacted them with a proposal for cooperation and they gladly accepted it. These collaborations have brought us a lot of followers on social networks and thus a significant increase in sales. I had several collaborations with Slavica de Jong and they all turned out to be perfect.

Have you cooperated with other influencers as well?

Yes, I have cooperated with a lot of influencers and such collaborations contribute the most to the growth of my business.

How would you rate promotion via social media? Have you tried promoting yourself that way? What were the results compared to working with influencers?

We promote ourselves via social networks as much as we can organically (meaning the most economically profitable, but it is the most difficult way), paid ads (Instagram and Facebook) and collaborations with influencers. The latter method proved to be the best for me and my craft. I believe it's because I choose well the influencers I will work with (moms who have small

children and who show their maternal "problems" on social networks; then moms who try to show their life as honestly as possible, so people trust them more).

On social networks, the reviews of users who leave comments, send messages and opinions about the product and publish it are also important.

What are the advantages and disadvantages of advertising through Instagram and influencers? Honestly, I don't see any big disadvantages. Perhaps the fact that such collaborations (this means that I offer my product to the influencer in exchange for promotion, without additional payment) imply promotion through "stories" on Instagram, and the duration of the story is 24 hours. This means that the advertisement lasts 24 hours. On the other hand, I stay in contact with my influencers, and they are really satisfied with our product and often repeat the promotion, make a "story" about how their children play with our product and tag my company. Businesswoman Marijana Džoić-Vrabec emphasizes the positive aspects of cooperation with influencers. She cooperated with instamoms and with both influencers who participated in our research. Cooperation with influencers increases her sales and facilitates product placement, unlike guest appearances on national television and independent advertising via social networks.

## **6. CONCLUSION AND FURTHER RESEARCH**

The aim of this paper was to find out what kind of impact influencers have on young mothers. By examining available sources and earlier research, we come to a general conclusion that influencers are influential people who develop their qualities: credibility, trust, originality and charisma. A trustworthy influencer gives a recommendation only for a product that he/she has tried himself/herself and uses it in his/her daily life. With influencers, expertise about products or services is valued, and trustworthiness is gained through influencers' passion for what they are promoting or if they are experts or famous persons. With the influence and presence of social networks in life, more and more women have started to look for advice on social networks as they became mothers. As many as 59.2% of the surveyed mothers visit social networks/portals intended for children and mothers. On social networks, information about motherhood are shared from different perceptions, so some influencer mothers share realistic portrayals of motherhood, and some, of course, do not. The first hypotheses "By listening to the advice of influencers, young mothers feel manipulated and part of the group" was confirmed. As many as 54.1% of mothers feel manipulated and part of the group when consulting the content of influencers' posts. The obtained results were presented to influencer mothers, who are aware of this feeling of the audience, but emphasize that everyone has the right to choose what content they will consume. The following two hypotheses: "Besides conducting regular advertising, influencers use product placement that they deny" and "Influencers present a new advertising channel for entrepreneurs" were also confirmed. Furthermore, the research on the ways of promoting new products intended for children showed that sales increased the most after an individual recommendation (advertisement) by an instamom, and that even an individual advertisement on the most influential (and most expensive for promotion) medium, television, does not have such an impact on the decision of young mothers to buy a product. Therefore, according to the conducted research among young mothers, and based on the obtained results, we can conclude that instamoms are really present in the lives of young mothers. It was important to include this particular group in the research, since it directly affects the most vulnerable human group with its decisions - the new-borns and the youngest. With their instructions, instamoms not only influence the consumers of their content, but also their children. In a semi-structured interview, instamoms point out that their followers should turn to experts for advice, and on the other hand, they share advice, experiences and recommendations in their posts.

Instamoms deny that they post sponsored content, that is, they point out that it is extremely rare, while through a conversation with a businesswoman, we discovered the common practice of giving influencers products as gifts, after which they advertise them. Moreover, the businesswoman contacted the influencers interviewed in this research in such a way, the same ones who denied this practice, after which the collaboration was realised, and sales increased. These findings lead to a lot of directions for future research. One direction would be towards discovering the difference between rational and impulsive behavior of Instagram audience, as well as discovering its cause. The second direction would be to investigate media manipulations on Instagram, with a focus on financial benefit. The third direction would certainly have to go towards the formation of ethical norms and recommendations, that is, media literacy on Instagram.

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## OWNED OR RENTED LIVING?

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### **ABSTRACT**

*Decent housing is a basic life need, but at the same time a costly one, which very often exceeds the residents' ability to obtain it without the need to go into debt. Therefore, it is necessary to create conditions for housing through housing policy. The aim of the housing policy is to increase the overall level of housing for residents, to create a framework for the involvement of all subjects in the housing development process and to strengthen the partnership between the public, private and non-governmental sectors. Dwellings affect the quality of life of households in various ways: they provide shelter, security, privacy and space for rest, education and life. They can also be seen in relation to the local environment, in terms of seamless access to childcare, educational facilities, employment, leisure opportunities, shops, public services and the like. Within Europe, there are large differences in housing. More than two-thirds of people in the EU live in households that own their own house or flat. Being an owner or a tenant is something that varies greatly between Member States. Current problems in the world have affected the real estate market, the availability of housing. Housing financing, whether owned or rented, is a major problem for many households and is often related to the quality of housing. Most countries are experiencing declining home ownership among young adults. In some countries this has led to an increase in private renting, while in others there has been a more pronounced shift towards a growing proportion of young adults living with their parents, which has implications for overcrowding rates. In the contribution, we focus on the investigation of the current situation in the field of housing. We will focus on problems arising from the ownership of residential real estate in the countries of the European Union and Slovakia.*

**Keywords:** *housing, owners, prices, quality of housing*

### **1. INTRODUCTION**

Housing is considered a basic human need. The level of its satisfaction is a kind of social status, especially when it comes to its ownership. Apart from necessity, housing gradually became an expression of social status as well as the degree of socio-economic development of society. Households focused on securing housing. Depending on the socio-economic orientation, there were states that allowed some households to live in apartments they owned. Other states supported residents in the acquisition of housing for ownership and with the possibility of using various supports. Property ownership, as we have already mentioned, has material, social and psychological advantages that increase the share of the owner in society and situate households in a wider social whole. At the same time, it is a means of economic security in retirement (Forrest and Hirayama, 2015; Doling and Ronald, 2010).

### **2. HOUSING AND ITS OWNERSHIP**

After various social changes, we encounter different attitudes towards housing, especially regarding its ownership. Many authors focus on the positives, or negatives resulting from property ownership (Saunders, 1990; Kohl, 2018). Recently, however, we have been encountering obstacles in the housing market that arise precisely from the ownership of real estate. This mainly concerns the increase of inequality in housing (Picketty, 2014), the concentration of housing wealth (Arundel, 2017).

Thanks to the expansion of access to credit, the share of owner-occupied housing has increased in individual European economies. The global financial crisis has accelerated the dynamics of job insecurity and ended up compensating for these dynamics by expanding access to credit, while the likelihood of a return to an era of large-scale growth in home ownership has plummeted. Arundel and Doling (2017). Access to the labor market is also limited. A high share of owner-occupied housing in Slovakia can have a negative impact on labor force mobility and increase the unemployment rate in the medium term (Shiller, 2013). In Europe, there are big differences in how we live, from whether we live in our own or sublet to the price we pay for this housing. More than two thirds of people in the EU live in households that own their own house or flat. Being an owner or a tenant is something that varies greatly between Member States. According to the latest data in the EU, 69.1% of the population lived in households that own their housing, the remaining 30.9% lived in rented accommodation. The highest share of ownership was recorded in Romania (95.6%), Slovakia (93.6%), Croatia (91.2%) and Hungary (90.5%). In all Member States, except Germany, ownership was more common. In Germany, renters make up 52.2% of the population, followed by Austria (45.7%) and Denmark (40%). Based on the data, we can observe the effects of property ownership. Figure 1 shows the shares of owners with no outstanding mortgage or home loan and owners with a mortgage or loan. Despite the fact that in countries with a high share of owner-occupied housing, there are also higher shares of owners without a mortgage. These are countries where central planning prevailed until 1990. We can use the example of Czechoslovakia, where apartments for living were owned by the state, and after the system was changed, most of the housing stock was sold to tenants at a reduced price. As a result, they became owners of apartments, and many acquired apartments due to the need for credit.

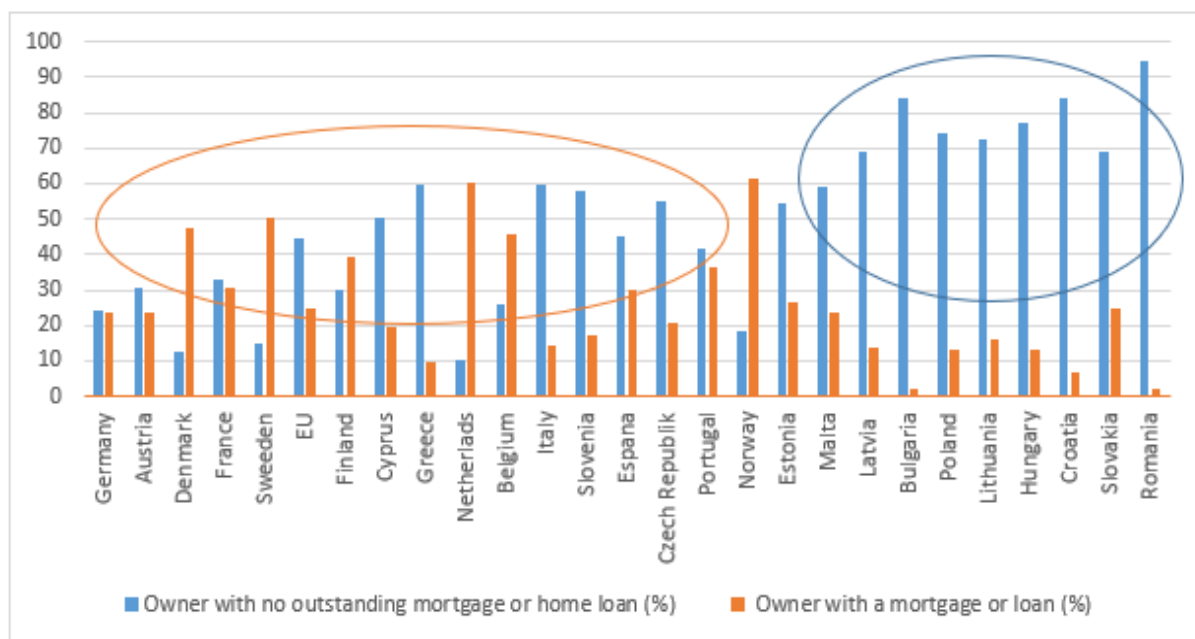


Figure 1: Owners with no outstanding mortgage or home loan and owners with a mortgage or loan (%)  
(Source: Eurostat)

Most countries are experiencing declining home ownership among young adults. In some countries this has led to an increase in private renting, while in others there has been a more pronounced shift towards a growing proportion of young adults living with their parents (Lennartz et al., 2016), which has implications for overcrowding rates.

In the European Union in 2019, there were an average of 2.3 persons per household. Among the Member States, this number varied from 2.9 persons in Slovakia, 2.8 in Poland and 2.7 in Cyprus and Croatia, to 2.0 persons in Germany, Denmark, Finland and Sweden. While the proportion of the population living in overcrowded dwellings is lower in the countries of Western Europe, it is much higher in the former post-socialist countries. This fact is caused by the specificity of construction and direction of housing policy in former socialist countries.

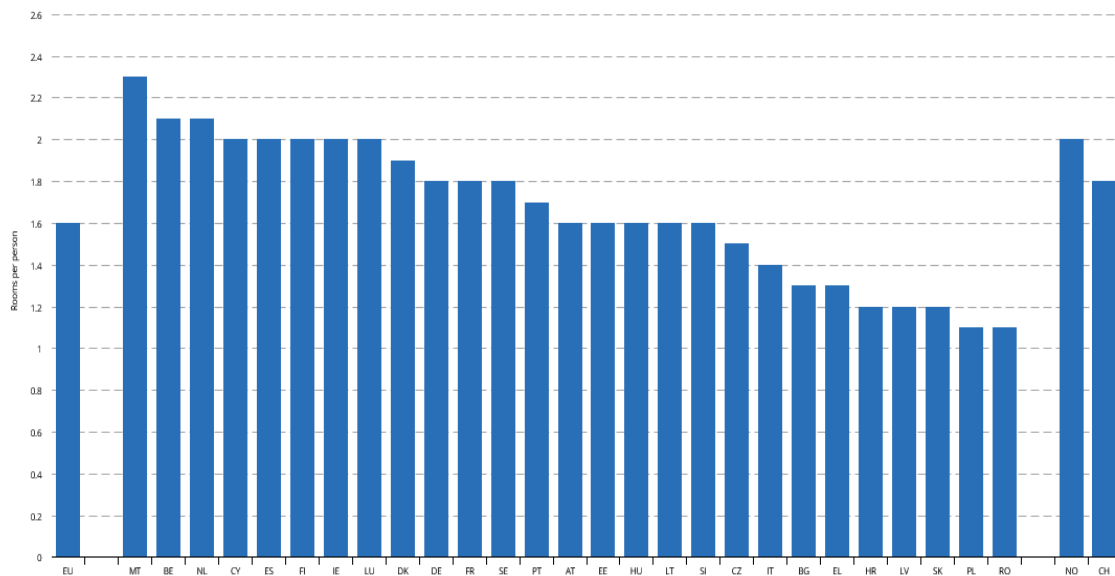


Figure 2: Average number of rooms per person (2021)

(Source: <https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-1b.html?lang=en>)

In 2023, an average of 16.7% of the population lives in overcrowded dwellings in EU countries. The highest overcrowding rates among EU Member States were recorded in Romania (49.7%) and Poland (43.4%), while rates above 50% were recorded in Serbia (53.4%) and the former Yugoslav Republic of Macedonia ( 51.1%), while Turkey also recorded a relatively high rate of housing overcrowding (45.9%, data for 2013). Conversely, the lowest rate of overcrowding was recorded in Cyprus (1.4%), Belgium (1.6%), the Netherlands (3.3%), Ireland (3.4%) and Malta (3.5%). In Slovakia it is up to 31.8%. At the same time, Slovakia also has the highest average number of persons in a household among EU countries (3.1), the Union average is 2.1. At the same time, it has almost the lowest number of rooms per person (1.1), the EU average is 1.6. Slovak households' housing expenses make up 15.2% of disposable income, while the EU average is 19.6%. The share of those who spend more than 40% of their disposable income on housing is 2.3% in cities and 2.8% in rural areas, while the EU average is 10.6% in cities and 4.7% in rural areas. Real estate ownership depends on the level of household income, the level of interest rates on loans and the development of the real estate market. In EU countries between 2013 and 2022, real estate prices increased significantly thanks to favorable interest rates on loans. Between 2009 and 2020, we saw a significant drop in interest rates. This decline was most pronounced in the period after 2013 until 2020, when interest rates reached historic lows. However, we have seen interest rates rise since 2020, indicating a possible return to higher interest rates after a long period of low rates. The European Central Bank's decision to raise interest rates had a direct impact on the increase in interest rates and the growth of interest rates on housing loans. The increase in interest rates negatively affected the development of the real estate market in 2024. The global rating agency Fitch Ratings expects mortgage rates to stabilize at slightly lower levels than in 2023.

A small increase can only be observed in countries with a significant number of variable rate mortgages (Denmark, Italy and Spain) or mortgages with fixed short periods, such as in the United Kingdom. According to the results of Eurostat, the prices of apartments and houses grew faster than average wages in most countries of the European Union, which, however, worsened the availability of housing in many countries. In Slovakia, residential real estate prices increased by 88% between 2013 and 2022, while the average wage only increased by 48%. In the 1Q of 2024, they increased to the level of the 1Q of 2022, but the availability of housing decreased due to the restriction of the supply of apartments and the increase in interest rates on mortgage loans.

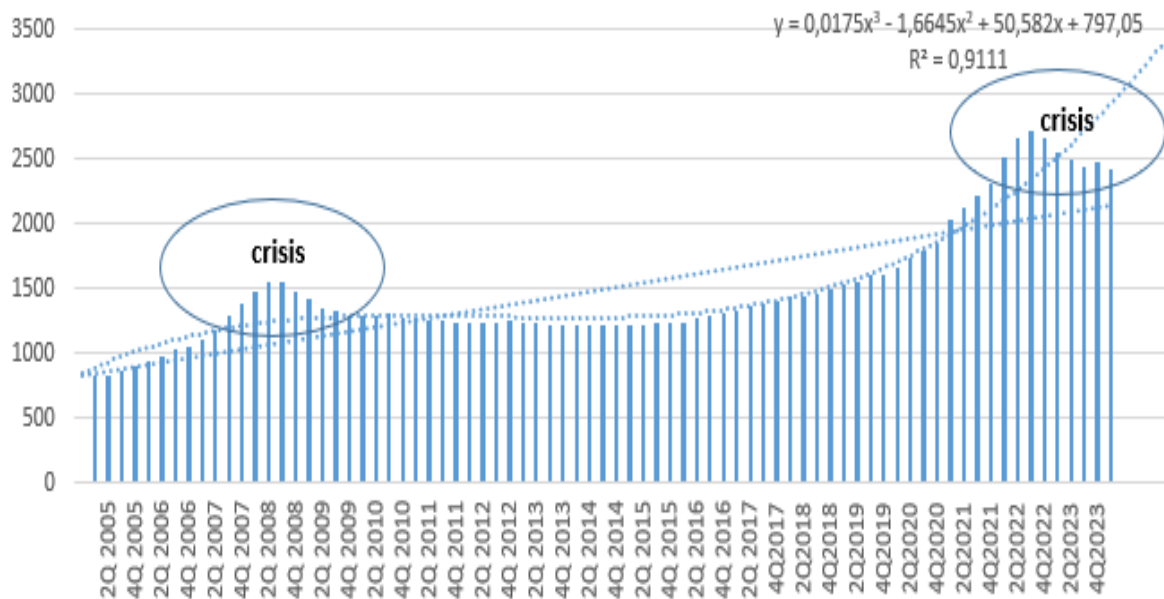


Figure 3: Development of real estate prices in Slovakia (€/m<sup>2</sup>)  
(Source: processed from NBS SR data)

Hungary had the highest negative ratio between average wage growth and real estate price growth. Real estate prices here increased by 200% between 2013 and 2022, while the average salary increased by 38%. The best ratio was in Romania, where residential real estate prices increased by 45% and gross wages by up to 120%. Italy was the only country within the EU where prices even fell slightly. In the last two years, increased home loan costs, income requirements and the need for high down payments have made it impossible to buy a home, pushing many Europeans into renting. The factors that influence the price of housing in individual European cities differ. We can find out whether the current prices are overvalued or undervalued by comparing the ratio of rent to income.

### 3. RENTAL HOUSING AS A POSSIBLE SOLUTION TO THE UNAVAILABILITY OF HOUSING

Rents in European cities such as London, Paris and Berlin are at record highs. As more middle-class buyers are forced to stay in their sublet for longer, this increased pressure increases costs for low-income groups. Rents in Europe are rising due to tight supply and strong demand from domestic renters, international renters moving to work and study, and potential buyers who have had to move into the rental market at high interest rates. The median of European countries, or in half of the countries, rents have increased by more than 38% since 2010. The fastest growths were recorded in the last two years, when there was a sharp increase in inflation in all European countries.

The rate of rent growth in Slovakia is significantly above the European median. However, this growth is significantly slower in Slovakia. Since 2010 in Slovakia, they have grown by only 20.5% with an average annual growth of 1.21%. The leader in rent growth was Estonia, where rents have increased by 210% since 2010, but the ratio of rent to disposable income in Tallinn remains relatively low, at 29.7%.

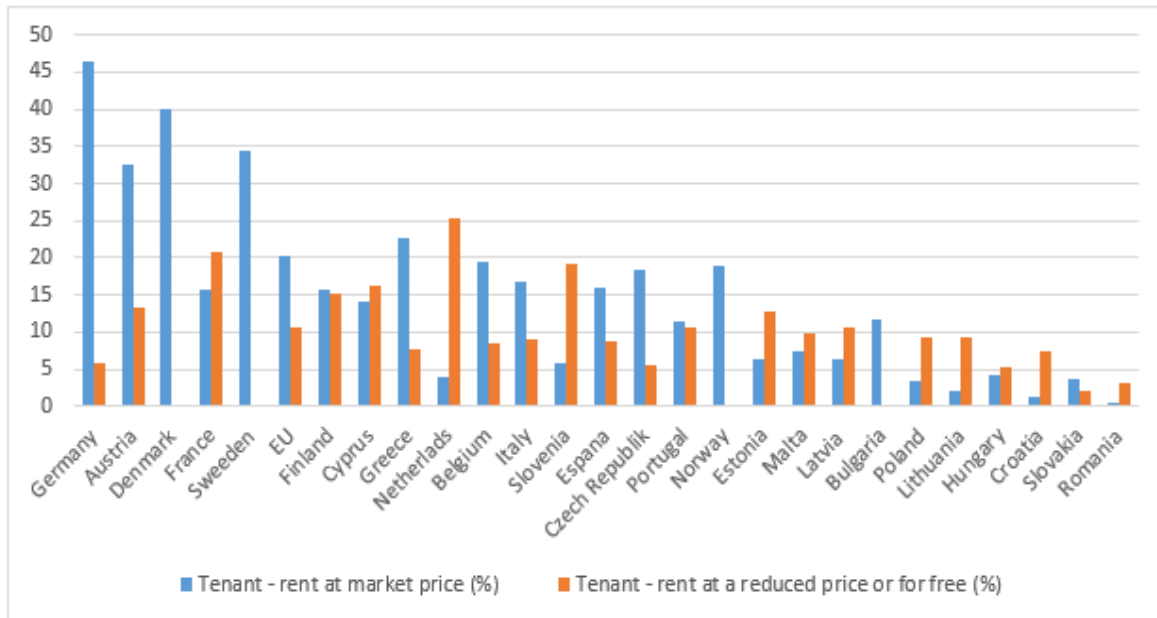


Figure 4: Tenant - rent at market price (%) and Tenant - rent at a reduced price or for free (%)  
(Source: Eurostat)

### 3.1. Share of rent to disposable income

Local housing markets across Europe are fundamentally different, making them difficult to compare. Rents are rising for various reasons in all European countries, but in some cities, rents have risen so high that it is difficult for the middle class to maintain such housing, and it is almost impossible for a low-income person. In general, the increase in rents in the last two years is due to increased demand due to the increased cost of financing the purchase of housing. However, during the faster growth of inflation, which made financing more expensive, wages also rose, balancing the disparity between rents and disposable incomes. We see insufficient housing supply as one of the important factors of excessively high rents. In graphs 5 and 6, we can see a comparison of rents, specifically of one-room apartments outside the center and in the city center, with the average net salary in the given city. For one-room apartments outside the center, we can note that in Vienna, 26% of disposable income is enough to rent such an apartment, in Berlin 29%, in Paris 33.8%, in Bratislava 39.8%, in Prague 42.4%, in London 46.6% and in Milan up to 55%. In the case of apartments in the center, this ratio often increases by dozens of percentage points.

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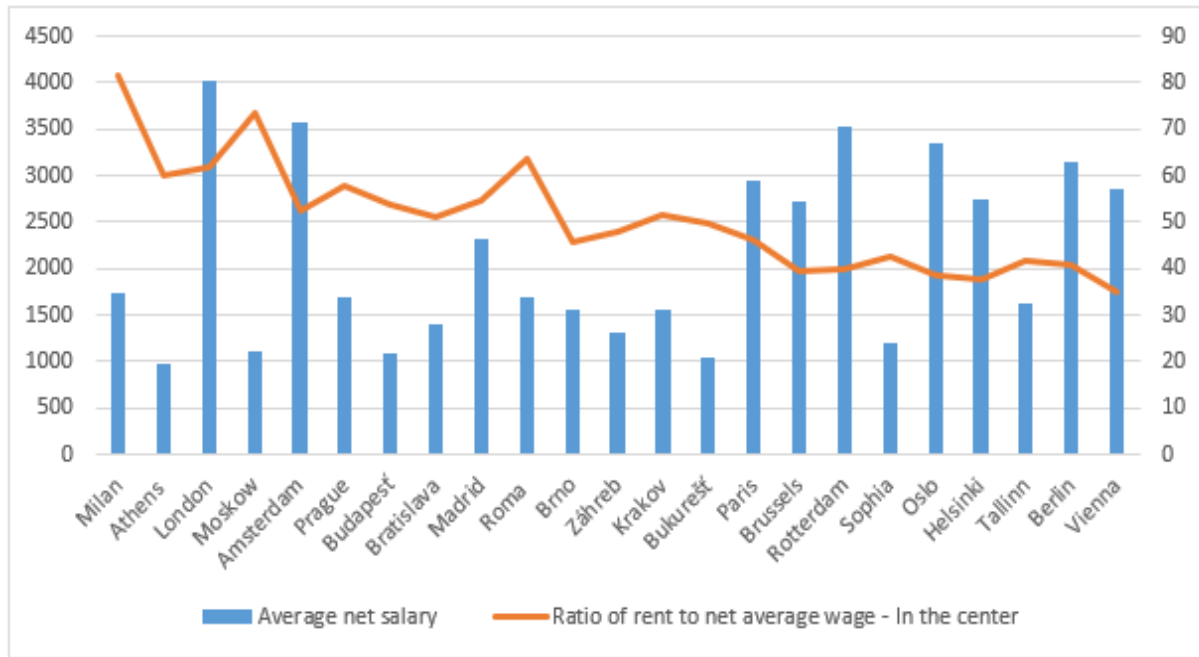


Figure 5: Average net salary and ratio of rent net average wage – in the center  
(Source: Eurostat)

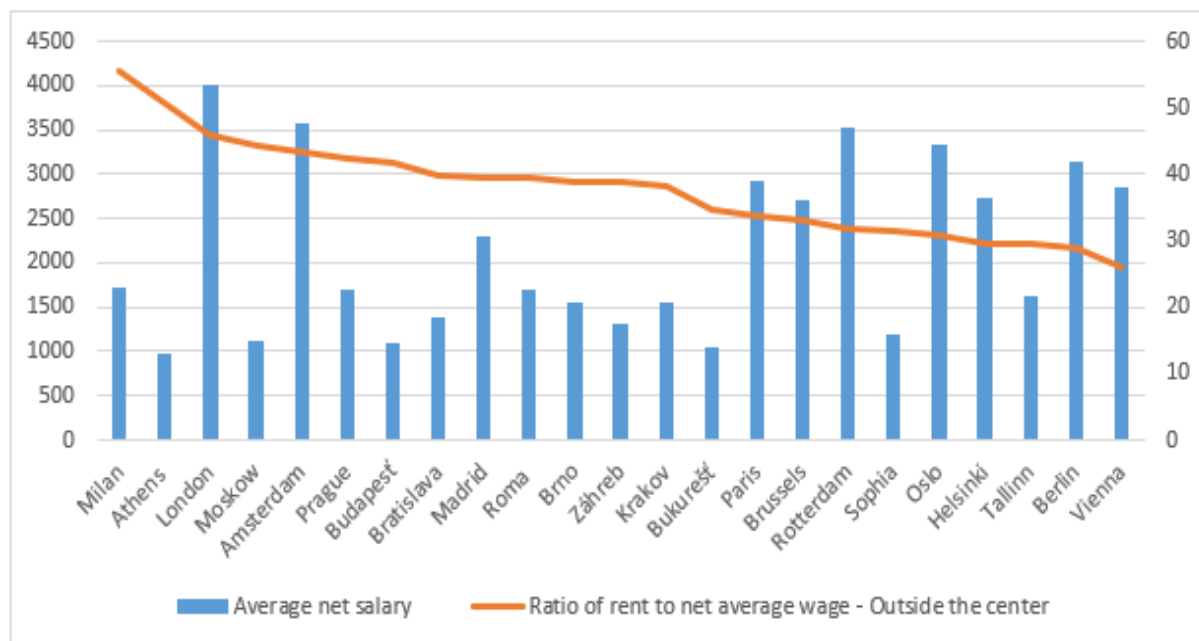


Figure 6: Average net salary and ratio of rent net average wage – outside the centre  
(Source: Eurostat)

With house prices and rents rising, the cost of housing can be a burden. This can be measured by the housing cost overburden rate, which shows the share of the population living in a household where total housing costs represent more than 40 % of disposable income.<sup>1</sup>

<sup>1</sup> Housing costs refer to the monthly expenses associated with the right to live in a dwelling. This includes the cost of utilities such as water, electricity, gas, and heating. Only the housing costs that are paid are taken into account, regardless of who covers them. This includes expenses such as structural insurance, mandatory services and charges (e.g., sewage and refuse removal), regular maintenance and repairs, taxes, and the cost of utilities (water, electricity, gas, and heating). For homeowners, the housing cost calculation includes mortgage interest payments net of any tax relief, and gross of housing benefits (i.e., housing

In the EU in 2021, 10.4 % of the population in cities lived in such a household, while the corresponding rate for rural areas was 6.2 %. The housing cost overburden was higher in cities than in rural areas in all Member States, except Romania, Bulgaria, Lithuania, Croatia and Latvia. The highest housing cost overburden rates in cities were observed in Greece (32.4 %), Denmark (21.9 %) and the Netherlands (15.3 %), while in rural areas they were highest in Greece (22.0 %), Bulgaria (13.3 %) and Romania (10.8 %). Looking at people with a disposable income below 60% of the national median income, people who could be considered at risk of poverty, the share of housing to disposable income was 37.7% on average in the EU. On the other hand, for those with a disposable income higher than 60% of the median income, this share was 15.2%.

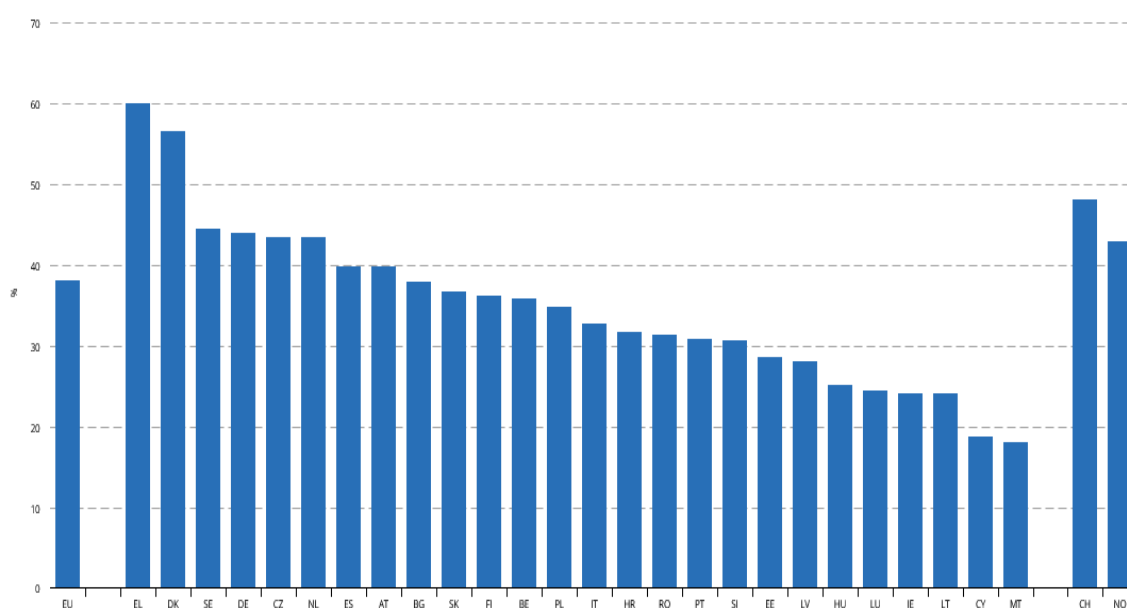


Figure 7: Housing costs in disposable income – for people with a disposable income below 60 % of the median income, 2021 (in %)

(Source: <https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-2b.html?lang=en>)

With a limited market for rental apartments, material deprivation most affects the group of residents aged 18-24 and residents aged 65 and over. Young people have to secure housing on debt, so in some cases more than 50% of their monthly income is made up of mortgage loan repayments. The 34 to 49-year-old group, which has small children, cannot manage its payment obligations above average. This is logically related to the effects of inflation and the fact that this is the most heavily indebted age group. The group of residents aged 65 and over is exposed to the risk of material deprivation due to reduced income at retirement age. Retired households are not always able to cover their expenses from average pensions, even though statistical findings indicate that from the point of view of social exclusion, people of retirement age do not belong to particularly vulnerable groups. In Slovakia, the proportion of people aged 65 and over who live below the poverty line is 6.4%, the rate of severe material deprivation in this age group is 7.0%, and the rate of severe housing deprivation is 2.1%. The solution to this problem is an increase in the supply of rental apartments. Otherwise, a slowdown in growth can be expected, especially in cases where people have to spend most of their income on rent and an increase in the level of material deprivation.

benefits should not be subtracted from the total housing cost). For tenants, the calculation includes rental payments gross of housing benefits (i.e., housing benefits should not be subtracted from the total housing cost).

#### 4. CONCLUSION

Own house and land formed the basis of property. A high share of own housing brings social benefits, contributes to increasing the self-confidence of the owners, but it can also cause certain economic problems related to the functioning of the real estate market. In many European countries, residents preferred owner-occupied housing because the conditions were suitable for it. However, this is associated with a high increase in indebtedness. In our society, there are residents who cannot secure adequate housing due to their income situation, they are primarily young families, families with children, or socially excluded. It is therefore essential that the state, through its housing policy, creates conditions for affordable housing. Currently, with the increase in household debt, the issue of rental housing is reopening. The phenomenon of housing and the apartment market is a dynamic process. It is subject to social changes, depends on many social, political and economic decisions and at the same time affects the quality of life of the inhabitants. It is therefore necessary to strive for the relative autonomy of the quality of life of an authentic and socially responsible citizen who chooses himself from possible alternatives and individual preferences.

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# TESTING THE EFFICIENCY OF FUTURES MARKETS WITH PRICE ACTION AND TECHNICAL INDICATORS

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## ABSTRACT

*The efficiency of financial markets is gauged by how accurately prices mirror all accessible information. Nonetheless, this efficiency can be questioned due to anomalies and market disruptions. The ongoing debate on market efficiency oscillates between rational asset valuation and the impact of human behaviour. For our efficiency tests, we chose futures markets because of their high liquidity and transparency. These markets offer real-time price data that mirrors the expectations of market participants, making them perfect for studying price discovery and market efficiency. Our analysis aims to evaluate market efficiency by assessing how effectively market prices incorporate all accessible information. The efficiency aids in comprehending the predictability of asset prices and the efficacy of trading strategies in delivering superior performance. We implemented algorithmic trading strategies across 17 futures markets. We hypothesised that futures markets are inefficient and that consistently abnormal returns can be achieved through selected technical indicators and price patterns. We opted for a breakout, mean reversion, and moving average strategies and established five criteria for pass characteristic decision-making. These criteria included overall profitability, walk-forward analysis efficiency, profit consistency, distribution, and maximum drawdown. To verify the robustness of our findings, we primarily relied on walk-forward analysis, supplemented by out-of-sample optimisation. In each of the 17 markets, the strategies were expected to meet a 50% pass rate for each criterion. Our hypothesis was not validated based on the selected criteria. While some strategies performed exceptionally well in specific markets, none met the stringent criteria across all markets.*

**Keywords:** *futures markets, price action, technical indicators*

## 1. INTRODUCTION

Technical indicators have become popular in algorithmic trading because they help traders identify market trends, dynamics, and potential market reversals. Technical indicators provide insight into market strength and direction using historical volume and price data. They help with potential entry and exit points for trades. Algorithmic trading involves using various software to execute trades based on predetermined strategies and rules. Technical indicators help traders automate their strategies, making trades faster and more accurately executed. A crucial aspect of this trading is sufficiently testing your trading strategies on historical data using quality methods. In particular, algorithmic trading helps eliminate emotional biases that influence human decision-making. However, it should be remembered that technical analysis is based on historical data and may not always accurately predict future market prices.

Also, technical indicators may not work effectively during a crisis or when vital news or economic data is released. For this article, we verified the predictive ability of selected technical indicators as part of trading strategies on futures financial markets. Proposed algorithmic strategies were used to determine whether future markets will be efficient. We established the following null and alternate hypotheses:

- $H_0$ : Futures markets are not efficient. It is possible to achieve consistently abnormal returns on them thanks to a selected technical indicator and price patterns.
- $H_1$ : Futures markets are efficient. It is impossible to achieve consistently abnormal returns on them due to using the selected technical indicator and price patterns.

## 2. HYPOTHESIS OF EFFECTIVE MARKETS, TECHNICAL ANALYSIS AND ALGORITHMIC TRADING

Various factors, such as geopolitical indicators, economic indicators or reports of specific companies influence financial markets. Understanding the behaviour of financial markets is crucial for investors and traders to make the right decisions and maximise their risk adjusted returns. In the article, we decided to test whether the hypothesis of efficient markets, introduced by Fama (1970), applies in the futures market. The efficient market hypothesis states that security prices reflect all available information. The efficient markets hypothesis further asserts that key financial markets, such as the stock or bond market, are indeed efficient by this definition. The average investor, by which we mean, for example, an individual, a mutual fund or a pension fund, cannot hope to beat the market. Holding the passive market portfolio is better if the theory of efficient markets applies. As Shleifer (2000) states, the market itself knows best. In this article, we present the verification of the validity of the given hypothesis using technical analysis and algorithmic trading in future markets. We will use technical analysis tools to examine how supply and demand for futures contracts will affect price changes, implied volatility and volume. We start from the assumption that past trading activity and changes in the price of a futures contract can be valuable indicators of the future movement of its price as long as they are associated with an appropriate trading strategy or investment (Scott et al., 2017), (de Souza *et al.* 2018). Technical indicators (Montevirgen, 2022) are tools that many traders use to analyse historical data and predict future market price movements. Notable technical indicators include moving averages, Bollinger Bands, RSI, MACD, and Fibonacci sequence. Traders use technical indicators to identify market trends, potential price movements, resistance and support levels. Technical indicators are based on the fact that historical data can predict future price developments. We propose strategies to verify the efficient market hypothesis using technical indicators on futures markets. This paper considers both technical analysis and algorithmic trading to create trading strategies. We propose our trading algorithms, which buy and sell instruments according to the instructions in the given code. The instruction sets are based on price, timing, quantity, or any other mathematical model. Trading has become more systematic, so human emotions disappear from it.

## 3. DATA AND METHODOLOGY

Futures contracts are time-limited contracts with an expiration date. After the expiration of the contract, investors and traders must close their position or transfer it to the next contract. After the contract has matured, trading with a new one will begin. In this process, futures prices may experience jumps or gaps. Continuous contracts are designed to smooth out these jumps and thus provide a longer-term view of price trends and allow price development to be analysed within a long-term history. Continuous futures contracts are created by compounding, meaning the next contract starts where the previous one ended.

We decide to analyse futures markets for the following reasons:

- Futures contracts are tradable on standardized and highly liquid organized exchanges, with low trading costs and a possibility of leverage.
- Futures cover a wide range of markets, often with low mutual correlation, which makes it possible to increase the credibility of analysis outputs.
- We can use them to estimate the sentiment of the market.
- When analysing futures markets, we can identify trends and behaviour patterns that may not be immediately obvious on the spot market.

Seventeen futures markets were chosen, including indices, currencies, commodities and bonds. We primarily focused on commodities but also wanted to determine how the strategy would behave in other markets. Futures market selection is as follows: Australian Dollar (AD), British Pound (BP), Cocoa (CC), Copper (HG), E-mini Nasdaq (NQ), E-mini S&P (ES), Euro-Dollar (ED), Euro FX (EC), Gold (GC), Heating Oil (HO), Japanese Yen (JY), Livestock (LC), Platinum (PL), Soybean Flour (SF), Soybean Oil (SO), U. S. dollar index (DX), US Cash receipts (FV). Commodities (eight markets), currencies (five markets), indices (three markets) and bonds (one market) create our universe of futures markets. It should be noted that fees and so-called "slippage" are paid for contract trading. Slippage is the estimated difference between the price realised and the price we expect to receive. This estimate is based on market experience. Each contract has a fixed fee for opening and closing a position, and it is necessary to set the initial capital. In our case, we decided to use a fictive starting capital of 150,000 USD; slippage follows from CME (2023). The profitability and risk of the proposed strategies were measured for the daily close price data from 1.1.2005 to 1.1.2023. The given period captures different stages of market development and economic cycles of market volatility. In addition, we use backtesting for the algorithmic strategies we designed. Proposed algorithmic trading strategies were realised using EasyLanguage in the TradeStation brokerage platform. We tested the analysis of the efficiency of futures markets for the following strategies: Moving Average Crossover, Breakout, Mean-reversion and Trend following moving averages. The moving average crossover strategy was used to determine the market efficiency. We verified this strategy using price action, chart formations and price action patterns.

### 3.1. Optimisation strategies

*Moving Average Crossover strategy* was based on a short-term period (10 days) and a long-term (20 days) moving average. The long entry signal was linked to the cross of the 10-period average above the 20-period average. If the 10-period average crossed below the 20-period average, the code executed an order to sell the instrument short at the current market price. *The breakout strategy* uses two parameters, "Lenght" and "BSE" (Bars Since Entry). The algorithm checked whether the closed price of the given financial instrument is higher than or equal to the highest closed price for the last period of length "Length". If the closed price was more significant than or equal to the highest price for the defined past period, the algorithm purchased at the market price. Similarly, it checked the opposite scenario, i.e. if the closed price was lower than or equal to the lowest price the past, the code executed the order to sell short. The algorithm then performed the following actions since the last entry (BarsSinceEntry- BSE). If long positions were open, a "Sell" order was executed to close all long positions and a "Buy to Cover" order was executed to close all short positions. The BSE variable ensured that the algorithm did not hold positions for too long, regardless of whether they were profitable or losing. "Lenght" and "BSE" parameters have been optimised. A *mean-reversion strategy* is the opposite of a breakout strategy. A buy signal was generated after a price decline and a short sale after a price increase. Again, we used two inputs, "Lenght" and "BSE", which were optimised.

If the condition was met, the algorithm ordered the purchase or short sale the financial instrument at the market price. Exits were based on the “BSE” parameters. *The trend-following strategy* uses two input parameters: "FastMAPeriod" (Fast Moving Average Period) and "SlowMAPeriod" (Slow Moving Average Period). The values of the moving averages FastMA and SlowMA were optimised according to the closed price of the financial instrument following the signalling of whether there is an increasing ("UpTrend") or decreasing trend ("DnTrend") in the market and using the length of the "FastMAPeriod" and "SlowMAPeriod" periods. We then set "UpTrend"/"DnTrend" to true, which meant there was an up/down trend in the market. If the "UpTrend" value was true, the buy order was executed at the current market price. If we detected a downward trend, the order to sell at the market price was executed.

### 3.2. Optimisation methods and evaluation criteria

There are well-known methods for optimising trading strategies:

- In-sample,
- Out of Sample,
- Walk-Forward Analysis (WFA).

In-sample optimisation is the simplest and least effective of the mentioned methods. The method uses all historical data from a defined date in the past to today. This analysis is not robust. It also creates a risk that its results cannot be repeated in the future. It means that its informative value is weak, and drawing conclusions based on this method is inappropriate. At the same time, it is the simplest and very often used by traders. In-sample analysis mainly yields positive results, which could be misleading in future strategy deployment. Out-of-sample optimisation is more demanding than the in-sample method, and at the same time, it is more straightforward than WFA (Chan, 2013). This method is more robust than the mentioned In-sample method. Out-of-sample optimisation usually has more negative results than in-sample optimisation but more positive results than WFA. The method works by dividing the test file into two parts. We would have available data for the period 2005 to 2023. We would test data from 2005 to 2020 in the sample and then from 2020 to 2023 outside the sample. Walk-forward analysis (WFA), as written (Fric, 2015), is a type of backtest that consists of several smaller backtests for optimisation periods. The entire historical period is divided into parts, and Out-of-sample optimisation is done within each part. Subsequently, the periods are ordered so that the out-of-sample parts follow each other. This technique optimises the parameter values on the previous market data segment. Then, the system performance is verified by testing the data forward in time following the optimisation segment. This process can then be repeated. In this paper, we performed WFA and In-sample optimisations on selected futures markets. We used WFA on all 17 markets to optimise our algorithmic strategies. We used the in-sample method only as a supplement for Breakout and Mean-reversion strategies. We decided to use the WFA method because it is the most optimal, and its outputs are the most reliable. The WFA also gave us an inside out of the robustness of our strategies, which use only selected technical indicators such as price movement and moving averages. We have used the Monte Carlo simulation method to estimate the extreme drawdown values (local and global extremes).

We set the following criteria for WFA:

- 1) The total profitability of executed trades in Out of Sample must be greater than zero. In this case, the test was successful.
- 2) The effectiveness of Walk Forward Analysis is greater than 50%. We compared Out-of-sample with In-sample analysis. If the WFA efficiency was 50%, it was only half as efficient as the In-sample; if the WFA was 100%, it was as effective as the In-sample. If the efficiency was more than 100%, the WFA results were better than the In-sample. We marked the criterion as successful only when  $WFA > 50\%$ .

- 3) Consistency of profits. We marked the criterion successful when 50% or more of the WFA analysis series were profitable. The criterion applies to the Out-of-sample segment of the series.
- 4) Distribution of profit. No test period could contribute more than 50% to the total profit.
- 5) Maximum drawdown.

The criteria were successfully met; if not, a single series could have a more significant drawdown than 30% of the initial capital, which in our case was 150,000 USD. For the test's success at WFA, all the listed criteria must be met. If four criteria were marked as successful and the fifth as unsuccessful, we marked the overall result of the test as failure. In-sample analysis served only as a supplement for two strategies; it followed only one criterion: the total profit had to be positive. We evaluated the proposed strategies only based on the WFA results.

#### 4. RESULTS

In this section, we present the results of our strategies, which verified the validity of the hypothesis of inefficient/efficient markets.

Number of Tests "PASS "	AD	NQ	PL	SF	FV
1	OOS 30%	OOS 15%	OOS 25%	OOS 10%	OOS 25%
	Runs 20	Runs 30	Runs 20	Runs 20	Runs 30
2		OOS 20%	OOS 25%	OOS 15%	
		Runs 30	Runs 25	Runs 20	
3				OOS 20%	
				Runs 20	
4				OOS 15%	
				Runs 25	
5				OOS 10%	
				Runs 30	

*Table 1: Markets with "PASS" test for Moving Average Cross Strategy  
(Source: Kontra (2023))*

Table 1 presents the future markets for which the Moving Average Cross strategy was successful. We present results for **AD** Australian Dollar, **NQ** E-mini Nasdaq, **PL** Platinum, **SF** Soybean Flour, and **FV** US Cash receipts. The SF market brought the best results for the Moving average cross strategy. To define the overall result as PASS, the strategy needed to achieve a success rate of at least 50%. We concluded that not a single market met the established 50% success criterion, and therefore, the strategy did not consistently achieve abnormal returns. Table 2 presents the markets for which the Trend Following strategy was successful. It's about markets **AD** Australian Dollar, **NQ** E-mini Nasdaq, **SF** Soybean Flour, **EC** Euro FX. The trend-following strategy worked on the same principle as the moving average cross strategy but was more complex. The strategy received at least one positive test for the seventeen analysed markets in four markets. The SF market (soybean flour) performed best again. Although both strategies work on the same principle, their results were not the same, even on the market that came out the most positive. The Trend Following strategy is not robust, and we do not expect it to work well in the future based on our WFA. Again, no market met our criterion that 50% of all tests must be "PASS". We marked the strategy as unsuccessful. The strategy rejected our hypothesis  $H_0$ , and hypothesis H1 was confirmed again.



Number of Tests "PASS "	AD	NQ	EC	SF
1	OOS 25%	OOS 10%	OOS 15%	OOS 10
	Runs 20	Runs 30	Runs 5	Runs 25
2		OOS 15%		OOS 15%
		Runs 30		Runs 30
3				OOS 20%
				Runs 30

*Table 2: Markets with "PASS" test for Trend Following strategy  
(Source: Kontra (2023))*

The breakout strategy was only successful in the soybean oil market. We recorded a positive fulfilment of the criteria in the case of two tests. The created strategy did not meet our criteria again, and therefore, we concluded that the strategy does not consistently achieve abnormal returns, rejects hypothesis  $H_0$  and confirms hypothesis  $H_1$ . Our last strategy, the Mean-reversion strategy, was the worst of all. Of all the analysed markets, this strategy did not have a single positive test. When applied to live operations, the strategy did not meet the established criteria for a favorable result. Therefore, we concluded that it is impossible to consistently achieve abnormal returns in future markets using our mean-reversion strategy. The WFA method showed very negative results for the mentioned strategies. We also decided to subject these strategies to In-sample analysis to see if the markets react more positively to the Breakout or Mean-reversion strategy. Using the In-sample analysis, we compared only the net profit that the strategies can generate in the markets. We used this method only as a supporting result to our WFA results, on which our entire evaluation of the efficiency of the markets using the selected strategies was based. After comparing the strategies using the in-sample analysis, we found that the breakout strategy worked better than the mean-reversion strategy for the mentioned markets. The breakout strategy outperformed in eleven markets compared to the Mean-reversion strategy, which gave higher returns only in six markets against the Breakout strategy. We found that in most tests, one strategy is diametrically superior to the other (see Table 3). Based on these results, we rejected the  $H_0$  hypothesis. We claimed that futures markets are efficient and that achieving consistently abnormal returns on them is impossible thanks to the selected technical indicators and price patterns.

*Table following on the next page*

Comparison of profitability strategies				
Breakout Strategy				Mean-reversion Strategy
AD	28.24%	<	18.24%	AD
BO	84.12%	<	3.53%	BO
BP	12.94%	<	47.06%	BP
CC	0.00%	<	73.53%	CC
DX	35.88%	<	2.35%	DX
EC	52.35%	<	2.94%	EC
ED	39.41%	<	0.00%	ED
ES	26.47%	<	46.47%	ES
FV	15.29%	<	8.24%	FV
GC	22.94%	<	25.29%	GC
HG	69.41%	<	7.65%	HG
HO	87.65%	<	0.00%	HO
JY	36.47%	<	17.06%	JY
LC	2.35%	<	30.59%	LC
NQ	17.06%	<	62.94%	NQ
PL	50.00%	<	4.71%	PL
SF	68.24%	<	0.00%	SF

Table 3: Results for In-sample analysis for Breakout and Mean-Reversion strategy  
(Source: Kontra (2023))

## 5. CONCLUSION

Algorithmic trading has become an increasingly popular type of trading in the financial markets in recent years due to the ever-evolving technology. This technology has brought significant changes to financial markets, including increased liquidity and better pricing efficiency. Technical indicators are one of the critical components of algorithmic trading. The best strategy appeared to be the Moving averages cross, with the most successful tests of all tested trading strategies. The Trend following strategy finished in second place, followed by the Breakout and Mean-reversion strategy, which did not have a single successful test and finished worst. Since the WFA criteria were too strict, an In-sample analysis was performed for the Breakout and Mean-reversion strategies. With the help of this analysis, we tried to find out which of the two strategies would work better for the given future markets. An exciting phenomenon emerged during the analysis: there was a dramatic difference in the strategy's profitability in many cases. For example, if Breakout had a return of 84.12%, Mean-reversion had a return of 3.53%. A similar result was repeated for several markets. Ultimately, the conclusion was that the Breakout strategy worked better on the selected 17 futures markets than the Mean-reversion strategy. In conclusion, we can evaluate that our established hypothesis  $H_0$  was not confirmed, and thus we accepted hypothesis  $H_1$ . With the help of our strategies, we found that the futures markets are efficient and that it is impossible to achieve consistently abnormal returns on them thanks to the use of the selected technical indicators and price patterns.

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## DIGITAL TRANSFORMATION IN SMALL AND MEDIUM SIZED ENTERPRISES

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### ABSTRACT

*In the continuously changing market environment, digital transformation (DT) has emerged as a pivotal element for enhancing business operations and economic performance. This paper examines the significant impact of DT on small and medium sized enterprises (SMEs), which are known for being crucial to job creation and economic growth. Despite their importance, SMEs face numerous challenges in digital adoption, including limited resources, lack of digital skills, and incompatible infrastructure. This study utilizes literature reviews and case studies to analyze the benefits of DT in SMEs, such as improved operational efficiency, customer satisfaction, and competitive advantage. Additionally, the paper highlights the influence of DT on SMEs in the European Union (EU) and Croatia, demonstrating varied success levels in digital implementation. The findings underscore the necessity for supportive measures to facilitate SMEs' digital journeys, and research contributes valuable insights into optimizing DT strategies to bolster SME performance and growth.*

**Keywords:** Digital transformation, Small and medium sized enterprises, Literature review

### 1. INTRODUCTION

In an era marked by rapid technological advancements and global economic integration, digital transformation stands out as a vital force in empowering businesses and the broader economy. Digital transformation refers to a thorough transformation of business that includes innovative changes in organizational activities, processes, products or services, and business models, with the aim of utilizing the potential provided by digital technologies (Pihir et al., 2019a). The effects of a successful transformation can be seen through improved operational efficiency of organizations, more precise satisfaction of user needs by creating new values, structured decision-making based on data, and the opening of opportunities in new markets (Bradač Hojnik and Huđek, 2023), (Pihir et al., 2023). The potential and inevitability of digital transformation is recognized in various fields of application (Kutnjak et al., 2019) - agriculture (Kutnjak et al., 2021), (Tomičić Furjan et al., 2020), administration (Kutnjak et al., 2023), marketing (Pihir et al., 2019b), banking (Žajdela Hrustek et al., 2019), and education (Pihir, 2022), where small and medium sized enterprises show varying degrees of success in implementing digital transformation in their business processes. SMEs are the drivers and backbone of most economies. They significantly contribute to job creation and economic

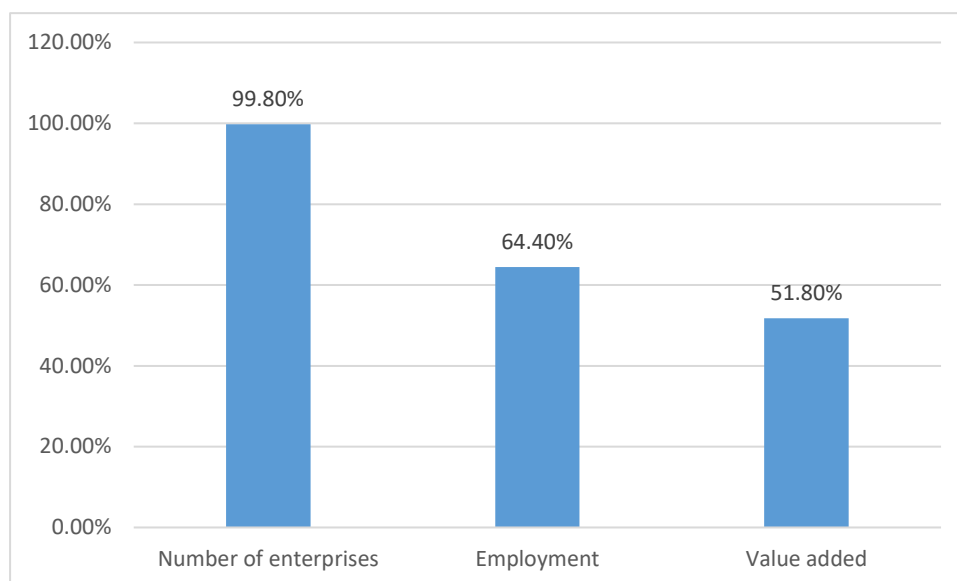
growth; therefore, it is crucial to consider the impact of digital transformation on them. The current digital evolution affects the business environment of small and medium sized enterprises, leading to a need for changes in their usual ways of doing business. In addition to the disruptions caused by digital evolution (Tomičić-Pupek et al., 2023), SMEs face challenges from insufficient value generation in supply chains, rising prices, strict credit conditions from banks, etc. (OECD, 2024), (Szopa and Cyplik, 2020). Lack of digital skills, differences between urban and rural areas (geographic diversity), security problems, infrastructure issues, insufficient investment in information and communication technology, and limited resources are just some of the recognized problems faced by SMEs in their efforts to strengthen digital capacities (Ulas, 2019), (Burinskienė and Nalivaikė, 2024), (Battistoni et al., 2023), (Bilal et al., 2024), (Kutnjak, 2021). These factors further increase their vulnerability, especially for those SMEs that do not have digital, long-term sustainable business models. Various digital tools and technologies, such as mobile technologies, cloud computing, artificial intelligence, big data, and blockchain technology, can help them to overcome disruptions and problems, and create long-term resilience to changing market environments (OECD, 2024), (Ulas, 2019). In response, national and European legislative makers are defining support programs for small and medium enterprises in various areas (Burinskienė and Nalivaikė, 2024), (Schmerber et al., 2022). The document *Europe's Digital Decade* (European Commission, 2003.) outlines the vision for the EU's digital transformation by 2030, with one of the key areas being the digital transformation of companies. This priority area is based on three goals: (i) at least 75% of companies should use cloud computing services, big data, and/or artificial intelligence in their business; (ii) it is necessary to double the number of 'unicorn' companies; (iii) more than 90% of SMEs should reach at least a basic level of digital intensity using different digital technologies. Given the exceptional importance of this field, this paper aims to contribute to research on the impact of digital transformation on the operations of small and medium sized enterprises. The paper is structured as follows: After the introductory part, the authors describe the methods and data used during the research. This is followed by an analysis of the representation of small and medium sized enterprises in the European Union and the Republic of Croatia, along with an overview of the implementation of digital transformation in these enterprises. The next chapter presents the benefits that digital transformation brings to small and medium sized enterprises, and the paper concludes with the authors' final remarks.

## 2. METHODS AND DATA

This paper tends to analyze the context and the main benefits of digital transformation in small and medium sized enterprises. Methods used are literature review and case study analysis of examples of DT on different industries, connected to SME and DT in general, international studies of DT and SME in Europe, UN and on OECD level. A literature review is made on the basis of selected papers and research studies in the field of SME and digital transformation. Papers focused on the benefits of DT in SMEs, scientometric studies, trend analysis, and statistical data for DT, SMEs and combined.

## 3. SMALL AND MEDIUM SIZED ENTERPRISES IN EU AND CROATIA

In the European Union, there are 25 million SMEs employing around 100 million people (Breton, 2022). SMEs are heterogeneous in terms of their business models and entrepreneurs' profiles. Since SMEs employ fewer employees, they are more connected to their surroundings and the community in comparison to large enterprises. They primarily employ local residents and have a stronger connection with local suppliers and consumers and in that way, they actively influence the overall quality of life in the communities where they operate (Odgovorno, 2017). Their contribution to the total number of enterprises, employment and added value is presented in Figure 1.



*Figure 1: Share of EU-27 SMEs in the number of enterprises in the non-financial business sector and of non-financial business sector employment and value added in 2022*  
*(Source: di Bella et al., 2023, Calculations by the JRC based on Eurostat's Structural Business Statistics, Short-Term Business Statistics and National Accounts Database)*

The activity of EU-27 micro enterprises, small enterprises and medium sized enterprises accounts for 18.6%, 16.5% and 16.6% of the added value in the economy, respectively. Seeing them as a whole, SMEs create 51.5% of the value added in the economy employing 64.4% of the employees (di Bella et al., 2023). During 2022, EU-27 SMEs were concentrated in several industries: wholesale and retail trade (24% of the SMEs), professional, scientific and technical activities (20% of the SMEs) and construction (15% of the SMEs). Only 30% of EU-27 SMEs were active in the knowledge-intensive service industries or high-tech manufacturing industries. However, the long-term analysis shows that the share of SMEs, which are classified into knowledge intensive service industries, has grown constantly through the last 15 years (di Bella et al., 2023). Due to the COVID-19 pandemic in 2020, all enterprise size classes in the EU-27 experienced a substantial decrease in nominal value added. However, during the pandemic, the states provided measures oriented towards SMEs that could possibly explain more resilience of the SMEs, and among them especially micro enterprises, in comparison to the large enterprises. In the post-pandemic 2021 EU-27 SMEs started to increase their economic activity with the following year 2022 bringing growth of 6.7% in added value and 2.4% increase in their employment (di Bella et al., 2023). It needs to be noted that the value added is measured in current prices so the strong value added growth in 2022 partially reflects the high inflation. When taking inflation into account, most SMEs in 2022 have still not reached their levels of 2019 before the COVID-19 crisis (di Bella et al., 2023). However, according to OECD - *Studies on SMEs and Entrepreneurship - The Digital Transformation of SMEs* (OECD, 2021) up to 70% of SMEs are making more use of digital technologies due to COVID-19. The crisis heightened the importance of SME digitalisation and its role as an accelerator of national economies. In 2022, in Croatia 150,846 enterprises were operating, of which the majority of 134,587 (89.2%) were micro enterprises. There were 14,102 small enterprises (9.3%), 1,753 medium sized enterprises (1.2%), and 404 large enterprises (0.3%). Small, medium and large enterprises made a net profit, while micro enterprises reported a net loss. In the case of small enterprises, the net profit was HRK 15.14 billion, in the case of medium sized enterprises, it was HRK 15.12 billion, in the case of large enterprises, it was HRK 17.4 billion, and in the case of micro entrepreneurs, the net loss was HRK 776.1 million (Fina 2023).

As of 2022, 404 large enterprises had 269,667 employees, 1,753 medium-sized enterprises had 186,708 employees, 14,102 small enterprises had 266,262 employees, while 134,587 micro entrepreneurs had 273,576 employees (Fina, 2023). SME value added in 2022 grew in Croatia by 8.3%. Taking inflation into account SME value added dropped by 2.2%. Croatian annual growth rate of SME employment in 2022 amounted to 2.7% (di Bella et al., 2023). Croatian SMEs are currently operating in an expanding economy with inflationary pressure. The real growth rate of GDP in 2023 was 3.0%. The annual inflation rate is 8.4% and the unemployment rate amounts to very low 6.1% (Croatian National Bank, 2024). In such an economy, there are many business opportunities, especially for those open to increasing the quality of their products and services through digital transformation. In this manner, authors aim to research more about the connection of SMEs to digital transformation and see the potential for growth and increase of competitiveness among SMEs.

#### **4. DIGITAL TRANSFORMATION IN SMALL AND MEDIUM SIZED ENTERPRISES**

Digital transformation in SMEs is an opportunity for small businesses to step into the game of the large. It delivers new value, enriched with digital technologies, profoundly as innovative new business ideas transformed into innovative products or services, and/or business processes and/or business models. DT also enables new ways to deliver value to customers. Strategically oriented, it changes the company to gain a competitive advantage in the market and "jump" in the sense of boosting its performance. This jump means new market opportunities, an increase in revenue, accessibility to a higher customer base, increased operational efficiency, enhanced customer engagement, improved customer experience, digital marketing, and company presentation (Ravindran, 2024), (Yip, 2023). DT is not easy to achieve, so the challenges are how to overcome the lack of digital talent in terms of not having enough IT experts on board, lack of experience with digital tools, or lack of agility to change in a digital way (Flat Rock Technology Team, 2023), (Patterson-Waites, 2023). These needs and benefits were also recognized in pandemic time of COVID-19 and afterward. As Kuczevska et al. (2023) noted, before the pandemic, SMEs recognized and used various digital transformation technologies to improve their business processes and performance. During the pandemic, this adoption was mainly driven by the need for remote work, e-commerce, virtual events, and automation of business relationships among all stakeholders. Post-pandemic, the focus for SMEs shifted to cybersecurity, talent acquisition, infrastructure, customer engagement, and data privacy to remain competitive in the digital economy. The transformation of SME is supported and measured by many EU, national, international, UN, OECD, and other market measurement agencies and studies (OECD, 2021), (European Commission, 2023), (PWC, 2018), (PWC, 2022). As mentioned earlier in the paper, DT creates opportunities and possibilities in different industrial areas (Kutnjak et al., 2019). Examples can be seen in agriculture (Kutnjak et al., 2021), (Tomičić Furjan et al., 2020), administration (Kutnjak et al., 2023), marketing (Pihir et al., 2019b), banking (Žajdela Hrustek et al., 2019), and education (Pihir, 2022). Measures for a successful digital transformation of SMEs (Stich et al, 2020), monitoring of prospects (Skare et al, 2023), comparative studies and guides are developed to foster digital transformation process in SMEs and shifting to DT in any aspect of SMEs economic activities (APEC, 2020). According to Skare et al (2023) main advantages of DT in SMEs are that: digitally transformed SMEs significantly benefit from new technology adoption; SMEs improve their market position and presence in the market; They have no problems with accessing new and traditional customers. In general, DT increases demand for skilled IT labor and experienced managers, but also needs support from governments in way of pushing forward with legislation for advance digital services, digital infrastructure and, to ease the way of doing new and innovative business in the digital world.

## 5. BENEFITS OF DIGITAL TRANSFORMATION FOR SMALL AND MEDIUM SIZED ENTERPRISES

Small and medium enterprises are crucial contributors to the economy, yet they often struggle to keep pace with the rapid advancements in digital technologies (Lokuge and Duan, 2021). While large enterprises have the resources and expertise to navigate the complexities of digital transformation, small and medium enterprises frequently face challenges such as limited resources, technical expertise, and organizational planning. Digital transformation offers numerous benefits for small and medium sized enterprises. Recent research results highlight that embracing digital technologies leads to improved management efficiency in SMEs, enhancing supply chain management, inventory control, decision-making processes, and customer relationship management (Siregar and Sudarmanto, 2023). Additionally, digital transformation aids in increasing productivity, achieving cost savings, enhancing customer satisfaction, and boosting competitiveness, ultimately driving overall growth and success for SMEs (Liu, 2023). Digital transformation enables SMEs to break through barriers, expand their market reach, and improve brand exposure through electronic marketing (Dewi et. al., 2023). The integration of digital technologies empowers SMEs to optimize operational efficiency, financial performance, and innovation, fostering organizational resilience and long-term development. Szopa (2020) and Anim-Yeboah (2020) both provide valuable insights into the digital transformation process in SMEs. Szopa's model emphasizes the assessment of current digitization levels and the proposal of digital transformation. Implementing this model is expected to increase the effectiveness and efficiency of SMEs by reducing task execution time and improving information flow. Anim-Yeboah's study identifies a four-stage process and the role of managerial cognition and capacity building. Li (2018) explores the role of SME entrepreneurs in driving digital transformation, highlighting the importance of managerial cognition renewal and organizational capability building. Saleh (2020) discusses the need for digitalization in SMEs, particularly in least developed countries, to achieve competitive advantages and economic growth. Author emphasizes importance of digital transformation in SMEs and provide practical frameworks for its implementation.

Based on previous research findings, we could summarize the benefits of digital transformation for small and medium enterprises as follows:

- 1) *enhanced operational efficiency*: one of the primary benefits of digital transformation is the increased operational efficiency it offers. By automating routine tasks and optimizing business processes, enterprises can reduce human error, lower operational costs, and speed up their service delivery.
- 2) *improved customer experience*: digital tools allow enterprises to offer enhanced customer experiences through personalized services, quicker response times, and multi-channel support. Advances in data analytics enable businesses to better understand customer preferences and behavior, leading to more targeted marketing efforts.
- 3) *innovation and new business models*. Digital transformation enables enterprises to innovate new products and services or even develop entirely new business models. Leveraging technologies such as mobile applications, Internet of Things (IoT), or artificial intelligence (AI) allows businesses to create unique offerings that set them apart from competitors.
- 4) *increased agility*. The agility enabled by digital tools helps enterprises respond rapidly to market changes or opportunities. Agile methodologies foster an environment where quick adjustments become part of the business'- crucial for staying competitive in today's market.
- 5) *enhanced collaboration*. Digital transformation facilitates better collaboration both within teams and with external partners through the use of collaborative tools.



Such benefits are quantized in recent research papers. Teng et. al. (2022.) developed a cost-benefit analysis framework for the digital transformation of small and medium sized enterprises. Their research was based on a sample consisting of 319 small and medium sized listed companies. There are four elements of the framework: digital transformation, operational performance, financial performance, and innovation performance. The authors measured the intensity of digital transformation using the frequency of keywords related to digital transformation in the companies' annual reports. The operational performance is measured by the ratio of operating cost and sales expenses to operating income. The financial performance is measured by the return on assets (ROA). The innovation performance is measured by the total number of patent applications.

The key findings are:

- 1) *impact of digital transformation on operational performance.* The study found that digital transformation has a positive correlation with the operational performance of small and medium sized listed companies. Digital transformation can help reduce costs and increase efficiency through process optimization.
- 2) *impact on financial performance.* The relationship between digital transformation and financial performance is not significant. The authors propose a U-shaped relationship, where the initial investment costs outweigh the benefits, but as the intensity of digital transformation increases, the financial performance improves.
- 3) *impact on innovation performance.* The study found an inverted U-shaped relationship between digital transformation and innovation performance. Digital transformation can initially improve innovation performance through R&D investment, but as the intensity increases, the innovation performance starts to decline due to the high costs and low success rate of patent commercialization.

The authors conclude that for small and medium sized listed companies, the impact of digital transformation on operational and innovation performance is more evident than on financial performance. They recommend that small and medium sized listed companies should first focus on improving operational efficiency through digital transformation, then optimize and improve financial efficiency, and finally, through innovative efficiency, the organization can continue to develop and improve its organizational resilience.

## 6. CONCLUSION

This research underscores the transformative potential of digital technologies for small and medium sized enterprises. Results presented here have shown impact of digital transformation on the operations of small and medium sized enterprises from various aspects. By analyzing digital transformation across different industries and geographic regions, it becomes evident that DT offers significant benefits, including enhanced operational efficiency, improved customer experience, innovation in business models, and increased agility. The case studies and literature review highlight how SMEs can leverage digital tools to overcome common challenges, such as limited resources and technical expertise. Furthermore, the empirical data demonstrates that DT fosters competitiveness and drives sustainable economic growth, emphasizing the need for continued support from national and international bodies to facilitate this crucial shift.

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# FRAMING ORGANIZATIONAL RESILIENCE OF SMALL AND MEDIUM SIZED ENTERPRISES FROM A SUSTAINABILITY PERSPECTIVE – A SYSTEMATIC REVIEW

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## ABSTRACT

*The contribution of small and medium-sized enterprises (SMEs) to the European economy is substantial, given the fact that they generate more than two thirds of all employment and over a half of the total value added. Coupled with their heightened susceptibility to various disruptions, such as economic downturns, technological shifts, and environmental changes, it is imperative to discern how these enterprises navigate challenges and what role does the implementation of sustainability practices play in their resilience building. Employing a multidisciplinary approach, this study integrates theories of resilience, sustainability, and organizational behaviour to construct a robust framework for scrutinizing SMEs resilience through a sustainability-oriented lens. Central to this study is the acknowledgment that through the incorporation of sustainability principles, SMEs stand to bolster their resilience while concurrently fostering positive impacts across social, environmental, and economic dimensions. Our research methodology involves a well-structured systematic review procedure. This paper, therefore, offers (i) an overview of resilience and sustainability literature between 2000 and 2023, providing valuable insights into the evolution of the relationship between these concepts over time, (ii) the framework outlining fundamental factors of organizational resilience (leadership and culture, networks and readiness for change), with (iii) a special emphasis on encapsulating the specificities of the latter for SMEs. By examining the interplay between organizational resilience and sustainability, we seek to elucidate how SMEs can not only survive but thrive amidst challenges while contributing to broader societal goals. Based on the review results, we describe distinguishing features of SMEs resilience through elucidating the intricate relationship between organizational resilience and sustainability in, but also identify gaps in the existing literature, highlighting avenues for future research, and by that advancing our understanding of how SMEs can navigate challenges while fostering sustainability practices.*

**Keywords:** *organizational resilience, SMEs, sustainability, systematic review, societal goals*

## 1. INTRODUCTION

The corporate landscape is fraught with uncertainty and volatility, demanding that organizations, regardless of their size, develop the capacity to withstand and adapt to disruptive events (Alberti *et al.* 2018; Tolner *et al.* 2021; Saad *et al.* 2021). This becomes especially vital for small and medium-sized enterprises (SMEs), which constitute the backbone of most economies, yet are inherently more vulnerable to external shocks due to their limited resources and structural constraints (*Ibid.*). As such, the notion of organizational resilience, defined as the

ability to anticipate, prepare for, respond to, and adapt to incremental change and sudden disruptions in order to survive and thrive in a complex and dynamic environment (Annarelli and Nonino 2016; Hosseini *et al.* 2016), has garnered significant interest from both scholars and practitioners. SMEs play a crucial role in the economic landscape, generating over two-thirds of all employment and more than half of the total value added in the European economy (European Commission 2023; Rotar *et al.* 2019). However, their limited resources and structural constraints (Karadağ 2015) make them particularly susceptible to various disruptions, such as economic downturns, technological shifts, and environmental changes (Goos *et al.* 2019). Particularly in the wake of the COVID-19 pandemic, which has had a disproportionate impact on SMEs (Gregurec *et al.* 2021; Klein and Todesco 2021; Thukral 2021; Zutshi *et al.* 2021), there is an urgent need to understand how these enterprises can cultivate resilience and leverage sustainability practices to withstand an increasingly turbulent business landscape. The critical research questions to address in this field include: How does sustainability affect the resilience of SMEs? To which resilience factors does sustainable behavior of SMEs contribute the most? These questions are pivotal as they aim to unravel the potential impact of sustainable practices on enhancing SME resilience. The existing literature has begun to explore this intersection, highlighting the potential synergies between organizational resilience and sustainability, but more in-depth research is required to fully elucidate this relationship, especially from the perspective of SMEs. The intertwined nature of organizational resilience and sustainability has become increasingly apparent in the face of mounting global challenges. While often treated as distinct concepts, a growing body of literature suggests that they are intrinsically linked, with the capacity for resilience becoming crucial for achieving long-term sustainability (Klewitz and Hansen 2014). However, the nexus between understanding SMEs' sustainable behavior as a variable affecting their resilience remains almost untouched in terms of research. It would, therefore, be very much needed to explore the interlinkages between sustainable practices and resilience building in small and medium-sized enterprises, given their significant contribution to global economic growth and employment. The critical research questions to address in this field include:

- How does sustainability affect the resilience of SMEs?
- To which resilience factors does sustainable behavior of SMEs contribute the most?

The existing literature has begun to explore this intersection, highlighting the potential synergies between organizational resilience and sustainability, but more in-depth research is required to fully elucidate this relationship, especially from the perspective of SMEs. To this end, the present study aims to assist with a systematic literature review that illuminates the role of sustainability in shaping the organizational resilience of small and medium-sized enterprises (Alberti *et al.* 2018; Burch *et al.* 2022; Saad *et al.* 2021), thereby contributing to the ongoing discourse on how SMEs can resiliently navigate the challenges they face in the 21st century business environment.

## 2. THEORETICAL FOUNDATION

### 2.1. Organizational resilience

In organizational theory, the concept of resilience has undergone a significant evolution, moving from a reactive, crisis-oriented perspective to a more proactive and adaptive approach. This shift reflects a growing understanding that organizations do not exist in static environments but rather face constant change and disruption. Initially, resilience was often conceptualized in reactive or passive terms, primarily focusing on an organization's ability to recover from adversity – this perspective emphasized the capacity to "bounce back" from disruptive events or "absorb" the impact of change with minimal disruption (Horne and Orr 1998; Sutcliffe and Vogus 2003).

Wildavsky (1988, p. 77) further describes resilience as the 'capacity to cope with unanticipated dangers after they have become manifest', further reinforcing the notion of resilience as a response to an already existing crisis. Framed in this way, resilience is primarily a response to a crisis situation, rather than a prescribed set of actions or activities (Lengnick-Hall and Beck 2003). However, more recent scholars have emphasized the proactive and adaptive dimensions of organizational resilience. Specifically, resilience is not just about recovering from adversity, but also about anticipating potential threats, maintaining strategic preparedness, and reconfiguring resources and processes to capitalize on new opportunities that arise from disruption (Herberg and Torgersen 2021; Laganier 2015; Mentges et al. 2023; Zhaxylyk 2020). Organizational resilience by other definitions, therefore, goes beyond mere recovery or survival; it involves proactively identifying potential risks and taking steps (Longstaff 2005) to ensure an organization can thrive in the face of adversity (Kanigel 2001). The goal is to build resilience by enhancing the organization's capacity to adapt to complex situations (Lengnick-Hall and Beck 2003). Resilience is a multifaceted concept involving behaviors, perspectives, and interactions that can be developed, measured, and managed. Rather than only reacting to events or crises after they occur (Wildavsky 1988), organizations should adopt an adaptive approach that focuses on building their resilience potential to maintain operational continuity during disruptions. This requires the ability to assess latent resilience, which is not immediately evident but can be cultivated (Sommers 2009). As argued by Fiksel (2015), the enterprises "that wish to improve their resilience will most likely need to invest in the structural aspects of enterprise resilience such as reserve capacity, flexibility, redundancy, and external alliances." Recent conceptualizations of resilience have embraced a more comprehensive approach, differentiating between various phases and the corresponding capabilities (e.g. Darkow 2019; Duchek 2020). According to Williams *et al.* (2017, p. 742) this comprehensive perspective encompasses "the process by which an entity cultivates and utilizes its capability endowments to interact with the environment in a manner that enables positive adjustment and sustained functioning before, during, and after adversity". This proactive approach recognizes that disruptions can also present opportunities for growth and innovation (Developers 2016; Megele 2014). By being prepared and adaptable, organizations can leverage disruptive events to their advantage, reconfiguring their resources and processes to capitalize on emerging opportunities. This ability to adapt and evolve in response to change is central to the concept of proactive resilience (Yukl and Lepsinger 2006). Fiksel (2015) argues that a framework for assessment and management of organizational resilience consists of 13 qualitative resilience indicators grouped into 3 major categories: leadership and culture, networks, and change readiness (p. 134). The indicators of leadership and culture group are strong leadership (1), staff engagement (2), situation awareness (3), decision making (4) and innovation and creativity (5). Effective (crisis) leadership involves strong management, decision-making, and continuous strategy evaluation against organizational goals. Staff engagement is crucial, as employees need to understand their role in organizational resilience and success, empowering them to solve problems. Situation awareness is fostered by encouraging vigilance and rewarding the sharing of both good and bad news, with early warnings quickly reported to leaders. Decision-making authority is appropriately delegated, involving highly skilled staff when their expertise is valuable. Innovation and creativity are promoted and rewarded, encouraging staff to use novel approaches to solve problems and develop solutions (p.134). The indicators for the networks major category are effective partnerships (6), leveraging knowledge (7), breaking silos (8) and internal resources (9). Effective partnerships involve understanding and planning for the resources and relationships needed during a crisis. Knowledge is leveraged by storing critical information in various formats and locations, ensuring staff access to expert opinions, and training for role-sharing. The organization breaks silos by minimizing communication barriers that lead to disconnected operations.

Internal resources are managed and mobilized to maintain regular operations and provide additional capacity during crises (p. 135). Last but not least, the indicators of the change readiness major groupation are unity of purpose (10), proactive posture (11), planning and strategies (12), and stress-testing plans (13). Unity of purpose is achieved by ensuring everyone understands the organization's priorities and minimum operating requirements post-crisis. A proactive posture involves being strategically and behaviorally ready to respond to early warning signals before they become crises. The organization develops and evaluates plans to manage vulnerabilities concerning the business environment and stakeholders. Stress-testing plans involve staff participating in simulations or scenarios to practice and validate response arrangements (p. 136). This framework will further in the paper be used as a tool for checking the resilience factors that are supposedly boosted the most when enterprises (concretely SMEs) behave in a sustainability-oriented manner. It was chosen because it corresponds well with the sustainability notion, including also the impact and inclusion of wider community in resilience building, as does sustainable development.

## 2.2. Sustainability and SMEs

Even though sustainability has become the business paradigm of 21<sup>st</sup> century, weighing social and environmental concerns against economic results still poses a significant dilemma for managers (Cintra and Carter 2012, 110) as it drives them to pursue missions that differ from shareholder value maximization (Alexander et al. 2010, 567). As the SMEs currently represent the majority of companies in the European Union, their contribution to sustainable development is crucial on both global and European levels (European Commission 2016). Furthermore, the responsibility of SMEs for sustainable development might be better depicted by their responsibility for around 60% of all carbon dioxide emissions and 70% of global pollution (Aragón-Correa *et al.* 2008; European Commission 2010; Parker *et al.* 2009). Nevertheless, the existing literature on SMEs and sustainable behaviour has made it clear that peculiar features differentiate them from large companies and multinational corporations (Jenkins 2004).<sup>1</sup> This might come as no surprise, since the capacities of SMEs in terms of time, knowledge and staff are extremely deficient compared to large companies (Jenkins 2006; Roberts *et al.* 2006; Tajbakhsh and Hassini 2015; Piercy and Rich 2015; El Baz *et al.* 2016), therefore, it is more difficult for SMEs to establish a business case for sustainability (Battisti and Perry 2011; Lee *et al.* 2015). Moreover, it has been shown that it takes two years for physical investments to influence profitability negatively for large companies, whereas the impact is immediate for SMEs (Khan et al. 2018, 286), therefore, the sustainable behaviour for SMEs can be riskier in that regard. Other relevant differences between large companies and SMEs refer mainly to SMEs chief executive officer's values (El Baz *et al.* 2016), the ethical instead of economic approach to sustainable behaviour of SMEs (Jamali *et al.* 2009), and the SMEs' belief that their social and environmental effects are negligible (Roberts *et al.* 2006; Battisti and Perry 2011). Bianchi and Noci (1998) differentiated between pro-active and re-active strategies SMEs take towards sustainability. SMEs more often adopt a re-active strategy, as a pro-active strategy requires resources and skills they usually do not possess. On the other hand, Gombauldt and Versteeg (1999) introduce internal and external drivers for (environmental) sustainability. They also emphasize the role that authorities can play in sustainability-related issues in SMEs, as they can force (or encourage) them to take preventive measures. In addition, it is important to understand that SMEs do not exist in isolated environment, but need to be deliberated from a network perspective. For this purpose, Verheul (1999) suggested two so-called network strategies, in order to overcome these barriers.

<sup>1</sup> Most studies focus on large companies, because they offer researchers a vast domain of good case studies, as well as major ethical issues (Burlea-Schiopoiu and Stelian Mihai 2019).



While the first one aims at involving the third parties to stimulate interaction between the companies and their clients on sustainability matters (1), the second and third ones can be found interconnected as they strive at the implementation of pilot projects (2), which can later be tied into follow-up programs (3), usually co-financed by the state. Due to lower capacities of SMEs and smaller negative externalities for the environment and the society, their rationale for sustainable behaviour must be heavily influenced also by the financial gains in terms of performance that can result from such behaviour. The financial gains of SMEs from sustainable behaviour can be measured by the so-called financial performance of a company that can be defined and measured in an “array of financial indicators, such as profitability, growth, market value, total return on shareholder, economic value added etc.” (Carroll 2004). There are different views on the relationship between a company’s sustainable behaviour and its financial performance (Friedman 1970; Xepapadeas and de Zeeuw 1999; Schaltegger and Synnestvedt 2002). However, many studies confirm the positive impact of integrating sustainable business models and solutions into companies’ agendas, as companies that do so seem to outperform their competitors in terms of financial performance, record higher return on investment and have lower volatility (CDP 2019). Besides portraying a combination of reactive and proactive measures creating favourable work environment, improving employees’ welfare and minimising ecological damage, the triple bottom line approach also enhances minimisation of operational costs (especially those induced by reduction of hefty costs associated with fines and compensations for incidents and accidents causing injuries) (Gordon and Reddy 2010, 19). Subsequently, reduced operational costs enlarge company’s overall profitability margin (Kaplan and Norton 1992). So far, conducted research has established a link between sustainable behaviour of companies and their superior financial performance in several studies (Jung *et al.* 2018; Matuszewska-Pierzynka 2021), predominantly focusing on large companies. Nevertheless, the link remains vague for the SMEs, as sustainable behaviour of the latter is more specific and more difficult to track on a level of representative samples. Moreover, there are several ways for an SME to pursue sustainable behaviour, i.e. corporate social responsibility (Jain *et al.* 2017), environment-friendly measures etc. (Herrera Madueno *et al.* 2015). Furthermore, the impact of sustainable behaviour varies in accordance with the scope of the latter. SMEs can pursue sustainable behaviour on the organisational level by transforming existent working processes (Bichard 2009); on the level of technology investments being made (Biondi *et al.* 2002; Heshmati and Lööf 2008) or by getting involved in multi-stakeholder exchanges (Herrera Madueno *et al.* 2015).

### **2.3. The nexus of organizational resilience and sustainability**

While resilience is argued to be a purely descriptive concept of system dynamics, sustainability is a normative concept capturing basic ideas of intergenerational justice when human well-being depends on natural capital and services (Derissen *et al.* 2011). The intertwined nature of organizational resilience and sustainability has become increasingly apparent in the face of mounting global challenges (Burnard and Bhamra 2019; Corrales-Estrada *et al.* 2021; Ford *et al.* 2021; Weber, 2023). While often treated as distinct concepts, a growing body of literature suggests that they are intrinsically linked, with the capacity for resilience becoming crucial for achieving long-term sustainability (Marchese *et al.* 2018; Roostaie *et al.* 2019). Resilience is increasingly recognized as a prerequisite for achieving sustainability. In a world characterized by volatility, uncertainty, complexity, and ambiguity, organizations face a myriad of disruptions, from economic downturns and pandemics to climate change and resource scarcity (Weber, 2023). The ability to navigate these challenges and emerge stronger is essential for maintaining sustainable operations and fulfilling social and environmental responsibilities. Prior research has suggested that sustainable practices can cultivate stakeholder trust (Chen and Miller 2011), enabling enterprises to better detect and respond to external changes (Harrison *et*

al. 2010), and helping enterprises to accrue vital intangible resources such as reputation, financing, clients, effective partnerships, and engaged employees (Chen and Miller, 2011). An important contribution in linking sustainable practices and organizational resilience was made by Mandojana and Bansal (2016), who demonstrated the resilience-based outcomes of sustainable behavior, which are often only discernible in the long term as resilience requires time to develop and for its benefits to materialize (Ramos-González et al., 2017). Although resilience was not directly observable, the Mandojana and Bansal (2016) study demonstrated that the practices fostering resilience, specifically sustainable behaviour of enterprises, contributed to reduced financial volatility, increased long-term growth, and higher survival rates over 15 years of data (p. 13). Both resilience and sustainability necessitate a long-term perspective and a commitment to continuous improvement. Building resilience requires investing in redundancies, diversifying operations, and fostering a culture of learning and adaptation (Winnard *et al.* 2014). Similarly, achieving sustainability demands ongoing efforts to minimize environmental impact, promote social equity, and ensure long-term economic viability. This shared emphasis on foresight, adaptability, and stakeholder engagement underscores the inherent alignment between the two concepts (Bashir, Hassan, and Arif 2022; Marchese et al. 2018).

### **3. RESILIENCE OF SMALL AND MEDIUM-SIZED ENTERPRISES THROUGH SUSTAINABILITY LENS – SYSTEMATIC REVIEW**

Although sustainability can provide long-term benefits to the environment, it may pose short-term risks to SMEs due to the associated costs (Dey et al., 2020), despite the potential to enhance business resilience. Consequently, it is crucial to examine the relationship between organizations (in our study concretely SMEs) and resilience.

#### **3.1. The review procedure**

The study presented here reviews the relationship of sustainability and resilience in the organizational context, referring specifically to SMEs. Additionally, we sought to provide evidence in the literature in support or opposition of the type of effect sustainability has on resilience in SMEs (positive or negative), and which group of resilience factors by Fiksel (2015) are being studied as the most affected by sustainable behaviour of SMEs. The search process was conducted in the Web of Science database To control the quality and uniformity of data the document type was limited to peer-reviewed “scientific articles” and “books/book chapters” and the language was selected as “English.” The timespan was set from 2000 to 2023. The keywords used were in the form of the following input (*sustainability* OR *sustainable*) AND (*resilience* OR *resilient*) AND (*SME* OR *SMEs*). This search yielded 107 results. Titles and abstracts were then screened and irrelevant results were excluded. 73 full-text records were selected for eligibility check. After reading the full texts records, a total of 21 papers were included in this study.

#### **3.2. Results**

##### *3.2.1. How does sustainability affect resilience of SMEs?*

While the interconnection between sustainability and resilience in general has already been researched in a certain amount, there is a very limited research on the effect of sustainability on resilience in SMEs available. Moreover, previous research concerning sustainable behaviour of SMEs have on multiple occasions proven that the latter does not necessarily increase their financial gains (Hahn *et al.* 2010; Van der By and Slawinski 2015). The analysis showed that 13 text records showcased a positive affect of sustainable behaviour of SMEs on their resilience, while 8 text records showed mixed results – showcasing both positive and negative effects of sustainable behaviour of SMEs on their resilience.

Within this sample there were no text records that indicated negative correlation between the impact of sustainable behaviour of SMEs on their resilience. Looking at the results, a very recent study Pércsi and Fülöp (2023) showcased an important positive connection between integrated marketing communications of SMEs and an increase of their resilience. While working on a Hungarian sample, they have explored how the sustainability-oriented behaviour of SMEs, exhibited through integrated marketing communications, affected resilience in times of external hazardous scenarios (p. 741). Within their study, Suriyankietkaew and Avery (2016) draw strong empirical conclusions that adopting sustainable leadership practices in SMEs is significantly linked to enhanced corporate financial performance as well as resilience, as the sustainable leadership practices foster positive association with long-term financial performance in firms (p. 326). Nevertheless, the study also concludes that even though Thai SMEs do comply with environmental regulations, they are not willing to go beyond them, making sustainability-related business practices a lesser priority for SMEs (*Ibid.*). From a very different point of view, Caputo *et al.* (2018) researches the perception of consumers (as a factor of resilience) and enterprises' involvement in sustainable actions. As resilience is considered a cognitive influencer of consumer evaluations "this result underlines the need for firms to pay more attention to their activities and strategies" (p. 12). Furthermore, through their study Li *et al.* (2023) suggest that entrepreneurial marketing behaviours that foster sustainability-orientation can be used to promote business rebound during challenging times. In addition, Howard *et al.* (2022) draw similar conclusions on the positive effects of sustainable behaviour of SMEs on their resilience through recognizing the role of place-based societal identities and ecosystems. Nevertheless, they have also reached a conclusion the SMEs seeking to capitalize on circular economy systems and the value of specific regional or local factors using conventional market strategies and cost targets may achieve short-term gains, but may not succeed in their pursuit of sustainability. However, an excessive emphasis on long-term sustainability objectives may compromise the SMEs' survival (*Ibid.*). Freze *et al.* (2023) on the other hand, recognizes the positive impact of sustainability on enterprises' (also SMEs) resilience, however, it acknowledges the distinct barrier for SMEs to foster sustainability-related practices, such as limited human resources to engage in this kind of activities (p. 11). Similar findings were obtained also by other researcher who *per se* support the idea of SMEs sustainable behaviour positive impact on their resilience, but are noticing specific barriers for them to act so, such as shifting focus from digital transformation to more social-oriented sustainable behaviour as an implication of lack of financial resources (Gregurec *et al.* 2021), lack of information and knowledge and relevant data on climate change (Crick *et al.* 2018), and lesser prioritization of environmental risks (Asgary *et al.* 2020; Chan *et al.* 2023; Skouloudis *et al.* 2020).

### 3.2.2. To which resilience factors does sustainable behaviour of SMEs contribute the most?

In accordance to Fiskel (2015) the factors affecting resilience of an enterprise can be grouped into 3 major categories, i.e. leadership and culture, networks, and change readiness (p. 134). In an aim of determining which factors (through 13 indicators – see Table 1) affect the resilience of SMEs that exhibit sustainable behaviour the most the links have been made between the 21 text records and each of the indicator with plus sign (+) indicating a positive connection, and a minus (–) sign indicating a negative connection. Most frequently associated indicator with text records turned out to be *planning and strategies*, followed by *effective partnerships*. On the other hand, an indicator that has not been recognized in any of text records is *decision making*. In its lesser frequency it is followed by *situation awareness* and *unity of purpose*. The indicator *internal resources* has received the most negative associations through the selected text records. In terms of the major groups, the indicators within the Networks groupation were in vast majority of text records associated with resilience (in both positive and negative ways).

The least referencing was done to the indicators from the Leadership and culture groupation. It is possible to draw several conclusions from the yielded results:

- indicators within the Networks and Change readiness groupations more likely correspond to the capabilities SMEs do foster and are able to capitalize in favour of their resilience;
- as resilience is heavily correlated with risk mitigation, strategic planning is very much associated with the latter as well;
- the frequency of effective partnerships indicator associations might reflect upon the nexus of sustainable behaviour of SMEs, which corresponds to wider society and stakeholders in it, affecting resilience;
- the internal resources indicator has the most negative associations due to the fact that SMEs face barriers in terms of lesser capacities (human, financial and know-how-related resources) (Asgary et al. 2020; Brown et al. 2022; Chan et al. 2023; Crick et al. 2018; Gregurec et al. 2021; Skouloudis et al. 2020), which corresponds to the theoretical foundations of the paper.

Author	Leadership and culture					Networks			Change readiness				
	Leadership	Staff engagement	Situation awareness	Decision making	Innovation and creativity	Effective partnerships	Leveraging knowledge	Breaking silos	Internal resources	Unity of purpose	Proactive posture	Planning and strategies	Stress-testing plans
Abdullah <i>et al.</i>							+						
Asgary <i>et al.</i>												+	
Brown <i>et al.</i>						–			–			+	+
Bruce <i>et al.</i>					+	+					+		
Caputo <i>et al.</i>						+							
Chan <i>et al.</i>						+					+		
Crick <i>et al.</i>									–			+	
Del Baldo <i>et al.</i>							+		+				
Freze <i>et al.</i>	–								+		+		
Gregurec <i>et al.</i>							–		–			+	
Halkos and Skouloudis									–			+	
Howard <i>et al.</i>			+								+	+	
Ibidunni <i>et al.</i>					+								+
Li <i>et al.</i>	+	+			+	+						+	
Pércsi and Fülöp	+	+				+	+	+	+				
Saad <i>et al.</i>						+						+	
Skouloudis <i>et al.</i>									–				+
Suriyankietkaew and Avery	+	+										–	
Suriyankietkaew <i>et al.</i>	+	+				+	+			+			
Weber													
Zutshi <i>et al.</i>	+				+	+						+	

Table 1: Connection between the Fiksel (2015) framework for assessment and management of organizational resilience and the text records within the study.

Besides negatively associating *internal resources* indicator, within the Brown *et al.* (2022) study we have also found a negative association to the *effective partnerships* indicator, as they have argued that SMEs might experience difficulties in connecting with existing and potential costumers. As costumers are also one of the stakeholders, we have decided to associate this with the chosen indicator. Freze *et al.* (2023) concluded that the age of the enterprise and the enterprise's leader has a negative impact on the enterprise's susceptibility to sustainable behaviour and consequently resilience building in that manner (the higher the age of enterprise

or its leader, the lesser the possibility of the enterprise to engage in sustainable practices). Saad *et al.* (2021) claimed to involve diverse factors in their study, categorizing them into entrepreneurial, firm, environmental and interaction effects. These so-called interaction effects were a foundation to associate the text record to the *effective partnerships* indicator. While the latter, together with Abdullah *et al.* (2023) and Asgary *et al.* (2020), was only associated with one of the indicators, the Pércsi and Fülöp (2023) and Suriyankietkaew *et al.* (2022) were both associated with five indicators, showcasing especially their focus on the research of resilience (which might not be as present within other text records). The only negative association to the *planning and strategy* indicator has been identified within the Suriyankietkaew and Avery (2016) who came to the conclusion that SMEs foster a very low commitment to environmental improvement, which reduces their willingness to plan ahead in the direction of risks mitigation. However, we were not able to associate factors within Weber to any of the indicators, because the author has very neutrally argued that the question of the direction of the effect remain unanswered – he did not establish a connection between sustainable behaviour affecting resilience, but also resilience potentially affecting sustainable behaviour (p. 19).

#### 4. CONCLUSIONS AND NEW BEGINNINGS

While the research on interconnectedness within organizational resilience and sustainability might be on the rise, it is still very fragmented and does not mostly correspond to the business environment (as it seldom draws foundations from environmental management and ecology). Moreover, research on SME resilience is gaining momentum, but the literature remains inconclusive. While there is an increase in case-based empirical studies, the existing knowledge lacks coherence and inclusivity. Saad *et al.* (2021) highlight the need for more survey-based research to validate theoretical foundations of resilience measurement for SMEs (same gap also confirmed by Annarelli and Nonino (2016) and Linnenluecke (2017) in their literature reviews). However, the nexus between understanding SMEs sustainable behaviour as a variable affecting their resilience, remains almost untouched in terms of research. It would, therefore, be very much needed to explore the interlinkages between sustainable practices and resilience building in SMEs given their significant contribution to global economic growth and employment (Winnard *et al.* 2014). Regarding sustainability in SMEs, there are many negative perceptions suggesting that investment in sustainability is not worthwhile. However, resilience appears to be viewed more positively. This dichotomy indicates that while SMEs may be hesitant to invest in sustainability due to perceived negative outcomes, the benefits of investing in resilience are recognized. This recognition could drive further research and practical implementation strategies to enhance SME resilience. To bridge the existing gaps, expanding the sample size and exploring additional data sources, including hand-picked additions, would be essential. The scarcity of quantitative and empirical studies on SME resilience necessitates a broader and more rigorous approach to data collection and analysis. Conducting a comprehensive study to classify articles related to resilience and sustainability based on selected model (Fiksel 2015) and comparing these factors with SMEs' average would be beneficial. Such a study would provide deeper insights into how resilience and sustainability intersect and differ in the context of SMEs. Ultimately, advancing research on SME resilience requires a multi-faceted approach. Incorporating both qualitative and quantitative research methods can provide a more holistic understanding of the factors that contribute to SME resilience. By addressing the current gaps and expanding the scope of research, scholars can develop more robust and applicable frameworks to support SMEs in navigating crises and enhancing their long-term viability. The positive outlook on resilience investment among SMEs suggests a promising avenue for future research and practical applications, ultimately contributing to the sustainable growth and stability of small and medium-sized enterprises.

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# **BIBLIOMETRIC ANALYSIS OF BUSINESS INTELLIGENCE AND STRATEGIC MANAGEMENT**

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## **ABSTRACT**

*This article conducts a comprehensive bibliometric analysis of the literature on business intelligence and strategic management, encompassing 456 publications from 1990 to 2023. The primary language of these publications is English, spanning the fields of business management, social sciences, and economics. The research represents contributions from 40 countries, with a notable concentration in the United States, the United Kingdom, China, and Germany. Our use of VOSviewer for co-authorship, term co-occurrence, citation analysis, and bibliographic linkage reveals critical insights into the interconnectedness and evolution of these fields, offering a roadmap for future research and practice. Findings indicate dynamic and expanding research domains for both business intelligence and strategic management, marked by significant international collaboration and varied research themes.*

**Keywords:** *Business Intelligence, Strategic Management, Bibliometric Analysis, VosViewer*

## **1. INTRODUCTION**

Business intelligence (BI) and strategic management (SM) are critical research areas that have garnered significant attention from both researchers and practitioners globally. Originating from data analysis and information systems, business intelligence (BI) has evolved to become a pivotal component for organizations, enabling the collection, analysis, and dissemination of vital information to support strategic decision-making processes (Martin, 2014). This involves leveraging data and analytics to gain insights that can drive competitive advantage and operational efficiency. Strategic management, on the other hand, is defined as the array of activities involved in the formulation and implementation of strategies aimed at achieving organizational objectives (Hitt et al., 2012). This encompasses a broad spectrum of processes, including environmental scanning, strategy formulation, strategy implementation, and performance evaluation. The overarching goal of SM is to ensure that an organization can effectively navigate its environment and sustain long-term success. Despite the growing importance of both BI and SM, limited studies have systematically analyzed their intersection through a bibliometric lens.

This study aims to fill this gap by providing a comprehensive bibliometric analysis, as BI serves as a crucial tool within the strategic management framework. BI provides the data-driven insights necessary for informed strategic planning and execution (Bouquin, 2018). By integrating BI into SM processes, organizations can enhance their strategic capabilities, improve decision-making accuracy, and ultimately achieve their strategic goals more effectively. This synergy underscores the importance of understanding and advancing research in both BI and SM to foster organizational success in an increasingly data-driven world.

## **2. CONCEPTUAL FRAMEWORK**

The conceptual framework of this study is grounded in the intricate relationship between business intelligence (BI) and strategic management (SM). The conceptual framework of this study is built upon the historical and theoretical foundations of BI and SM. We trace their origins and evolution, highlighting key intersections and how BI enhances SM through data-driven insights, examining how each field has developed over time and the ways in which they intersect and complement one another.

### **2.1. Definition of Business Intelligence (BI)**

Business intelligence, with its roots in data analysis and information systems, has evolved to become a vital tool for organizations seeking to harness the power of data for strategic decision-making (Lönqvist & Pirttimäki, 2006). It encompasses applications and technologies designed to collect, access, and analyze data and information related to company operations. It helps companies in gaining a thorough understanding of the factors impacting their business, thereby enabling them to make more informed decisions (Saha, 2007). BI is the process of transforming raw data into useful information for more effective strategic, operational insights, and decision-making purposes to yield real business benefits (Duan & Xu, 2012). According to Zeng et al. (2012), Business Intelligence is the process of gathering correct information in the correct format at the correct time; and delivering the results for decision-making purposes, or having a positive impact on business operations, tactics, and strategy in enterprises. It is a broad term that encompasses strategies, technologies, and information systems used to derive relevant insights from extensive and diverse data, supporting a variety of operational, tactical, and strategic business decisions (Muntean, 2018).

### **2.2. Definition of Strategic Management (SM)**

Strategic management, originating from management theory and organizational studies, focuses on the formulation and implementation of strategies to achieve organizational goals. The table 1 presents some definitions of SM:

*Table following on the next page*

Definition	Authors
“Strategic management involves the development of a comprehensive framework to guide an organization’s strategic actions, focusing on long-term goals, the resources available, and the environmental context in which it operates.”	Bracker (1980)
“Strategic management is the process through which a manager ensures the long-term survival and growth of a firm by adapting to the environment, capturing the endeavors of the organization to fit better within its context.”	Chakravarthy (1982)
“Corporate strategy is the pattern of decisions in a company that determines and reveals its objectives, purposes, or goals, produces the principal policies and plans for achieving those goals, and defines the range of business the company is to pursue, the kind of economic and human organization it is or intends to be, and the nature of the economic and noneconomic contribution it intends to make to its shareholders, employees, customers, and communities.”	Freeman et al. (2010)
“Strategic management is a relatively new approach that involves comprehensive definitions and commonalities of interpretation to help organizations achieve their objectives by integrating management, marketing, finance/accounting, production/operations, research and development, and information systems.”	Jasper & Crossan (2012)
“Strategic management is the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives. It focuses on integrating various functions like management, marketing, finance, and others to achieve organizational success.”	Djordjevic (2014)

*Table 1: Definitions of Strategy Management  
(Source: Authors)*

### 2.3. Integrating Business Intelligence (BI) into Strategic Management (SM)

Business Intelligence (BI) and Strategic Management are intricately linked, as BI supplies the data-driven insights essential for effective strategic planning and implementation. BI encompasses the collection, integration, analysis, and presentation of business data, providing organizations with a comprehensive understanding of their internal operations and external environment (Alnoukari & Hanano, 2017). This information is vital for strategic decision-making, aiding managers in anticipating market trends, identifying opportunities and threats, and allocating resources efficiently (Hijazin et al., 2023). Utilizing BI enables strategic managers to make informed decisions that enhance organizational performance and adaptability in a dynamic business landscape (Hasan & Kaplan, 2017). Additionally, BI tools support the continuous monitoring and evaluation of strategic initiatives, ensuring companies remain agile and responsive to change (Marchand & Hykes, 2008). Integrating BI into strategic management processes not only promotes proactive decision-making but also fosters a culture of data-driven strategy and continuous improvement (Ferreira et al., 2018). The intersection of these fields highlights how BI can enhance SM by providing the necessary data and insights for effective strategy development and execution.

## 3. RESEARCH METHODOLOGY

In this study, we employ a variety of research methods to explore the relationship between BI and SM comprehensively. Bibliometric analysis is utilized to quantify and analyze the vast body of literature in these fields, identifying key trends and patterns. It compiles and synthesizes

extensive bibliometric data to reveal the current intellectual structure and emerging trends within a particular research area or discipline (Donthu et al., 2021; Housni & Machrafi, 2023). First, a publication analysis were conducted using EXCEL in order to overview the progress of studies in the field of BI and SM. The data collected from SCOPUS database while using the following subject query:

*TITLE-ABS-KEY ( ( "business intelligence" OR "economic intelligent" ) AND ( ( "management" AND "strategy" ) OR "strategic management" ) )*

The results were limited to papers from 2002 to 2023 including only papers from *Business, Management and Accounting, Social Sciences, and Economics, Econometrics and Finance*. Then we choose to use VosViewer software for a deep analysis. This specialized, free software excels in bibliometric analysis, offering the ability to generate maps of authors or journals using co-citation data, as well as keyword maps based on co-occurrence data (Housni et al., 2023). Additionally, VOSviewer provides an interface that enables a detailed exploration of these bibliometric maps (Eck & Waltman, 2009). Here are the following analysis conducted through VosViewer:

- **Co-author analysis** helps us understand the collaborative networks and the extent of international cooperation among researchers;
- **Co-occurrence analysis** reveals the frequency and context in which specific terms appear together, shedding light on prevalent themes and topics;
- **Citation analysis** is used to measure the impact and influence of specific works and authors;
- **Bibliographic linkage analysis** examines the connections between different publications, revealing the structure of the research landscape.

By employing these diverse methods, we aim to provide a robust and nuanced understanding of how business intelligence and strategic management are interrelated, highlighting the synergies and potential for further research in these dynamic and evolving fields.

### 3.1. Publications Analysis

The publication analysis section began by (1) examining the number of publications, followed by an assessment of (2) the subject areas covered. This was then complemented by an analysis of (3) the types of documents, (4) the sources from which these documents originated, and (5) the languages in which the papers were written. Additionally, the study identified the most frequently used (6) keywords and (7) the countries where the research was conducted. By providing an overview of this information, the analysis offers valuable insights into the breadth and depth of the research landscape, highlighting significant trends and patterns that contribute to a comprehensive understanding of the field.

#### 3.1.1. Number of Publications

There has been a general increase in the number of publications over the years, with notable peaks in **2014 and 2020** (see Figure 2). There is some variability from year to year, which may be due to external factors such as economic events or specific technological advances.

*Figure following on the next page*

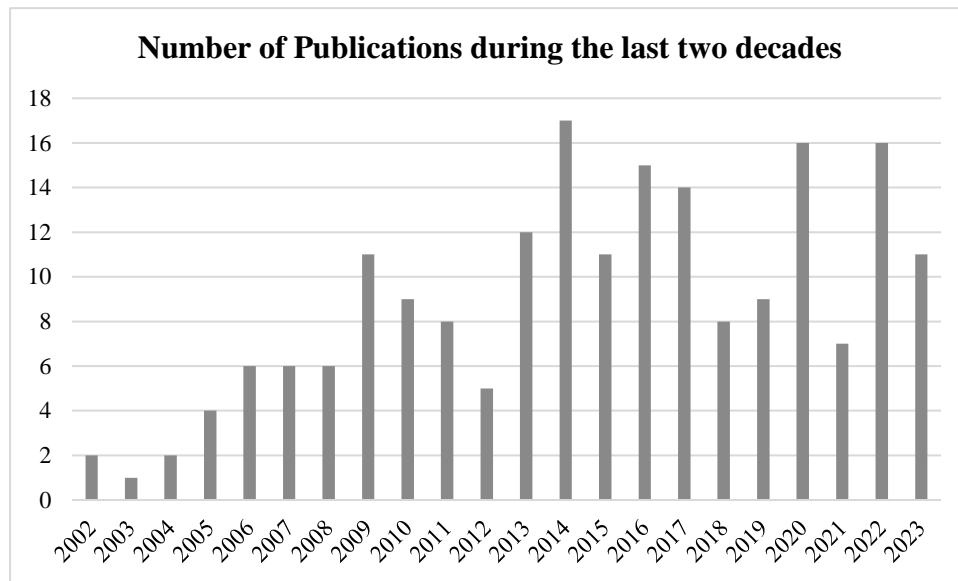


Figure 1: The progress of research in the field of BI and SM  
(Source: Authors)

The **year 2020** shows a high number of publications, which could be linked to the increased interest in information technology and strategic management in response to the COVID-19 pandemic.

### 3.1.2. Subject Area

There are 7 main subjects<sup>1</sup> area interested in the field of BI and SM (see Figure 3). The **“Business, Management and Accounting”** field dominates with **135 publications**, which shows the importance of business intelligence and strategic management in this sector.

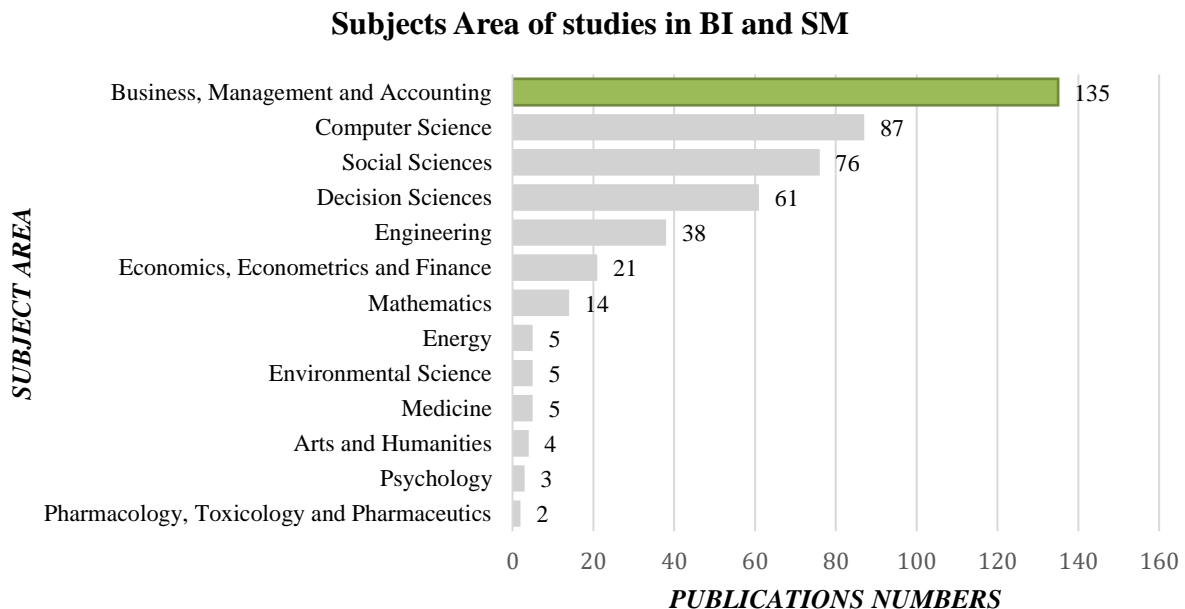


Figure 2: Distribution of Publications in BI and SM by Subject Area  
(Source: Authors)

<sup>1</sup> The data were collected in this stage without filtering the results of SCOPUS according to included and excluded criteria.

The presence of publications in various fields such as social sciences, computer sciences and decision sciences indicates an interdisciplinary approach to business intelligence. Some fields, such as medicine and environmental sciences, have very few publications, which could indicate underexplored research opportunities.

### 3.1.3. Types of Documents and Source

Articles constitute the majority of publications, **totaling 118**, which is typical for academic studies. Conferences contribute a significant number of publications, with **58 entries**, highlighting the importance of academic and professional exchanges in this field. Although book chapters and reviews are less numerous, they still play a crucial role in the synthesis and dissemination of knowledge.

DOCUMENT TYPE	PUBLICATIONS NUMBERS
<i>Article</i>	118
<i>Conference paper</i>	58
<i>Book chapter</i>	12
<i>Review</i>	7
<i>Retracted</i>	1

*Table 2: Type of document and number of publication  
(Source: Authors)*

The *Table 3* presents the distribution of publications by type of document, with **journals** being the predominant source, accounting for **120 publications**. **Conference proceedings** follow with **56 publications**, emphasizing the significance of scholarly exchanges in this domain. **Book series, books, and trade journals** contribute **12, 5, and 3 publications**, respectively, illustrating the diverse mediums through which knowledge in this field is disseminated. The **total number of publications is 196**.

SOURCE TYPE	PUBLICATIONS NUMBERS
<i>Journal</i>	120
<i>Conference proceeding</i>	56
<i>Book Series</i>	12
<i>Book</i>	5
<i>Trade Journal</i>	3
<b>TOTAL</b>	<b>196</b>

*Table 3: Number of publication per type of document source  
(Source: Authors)*

### 3.1.4. Languages of Documents

The majority of publications are in **English (190 documents)**, underscoring its status as the dominant language in international academic research. Despite being fewer in number, publications in Spanish, German, Ukrainian, Russian, and Croatian demonstrate a degree of linguistic diversity within the field.

*Table following on the next page*

LANGUAGE	PUBLICATIONS NUMBERS
<i>English</i>	190
<i>Spanish</i>	4
<i>German</i>	2
<i>Ukrainian</i>	1
<i>Russian</i>	1
<i>Croatian</i>	1
<b>TOTAL</b>	<b>199</b>

Table 4: Languages used in BI and SM research  
(Source: Authors)

### 3.1.5. Number of Publications per Country

**The United States** leads with **30 publications**, indicating a significant concentration of research activity. This dominance can be attributed to substantial investments in BI and SM research and the presence of leading academic institutions and corporations in these fields, followed by **India, the United Kingdom, Italy and China**, indicating strong research activity in these countries. The presence of countries such as **Malaysia, South Africa and Portugal** demonstrates the geographical diversity of business intelligence research (see Table 5).

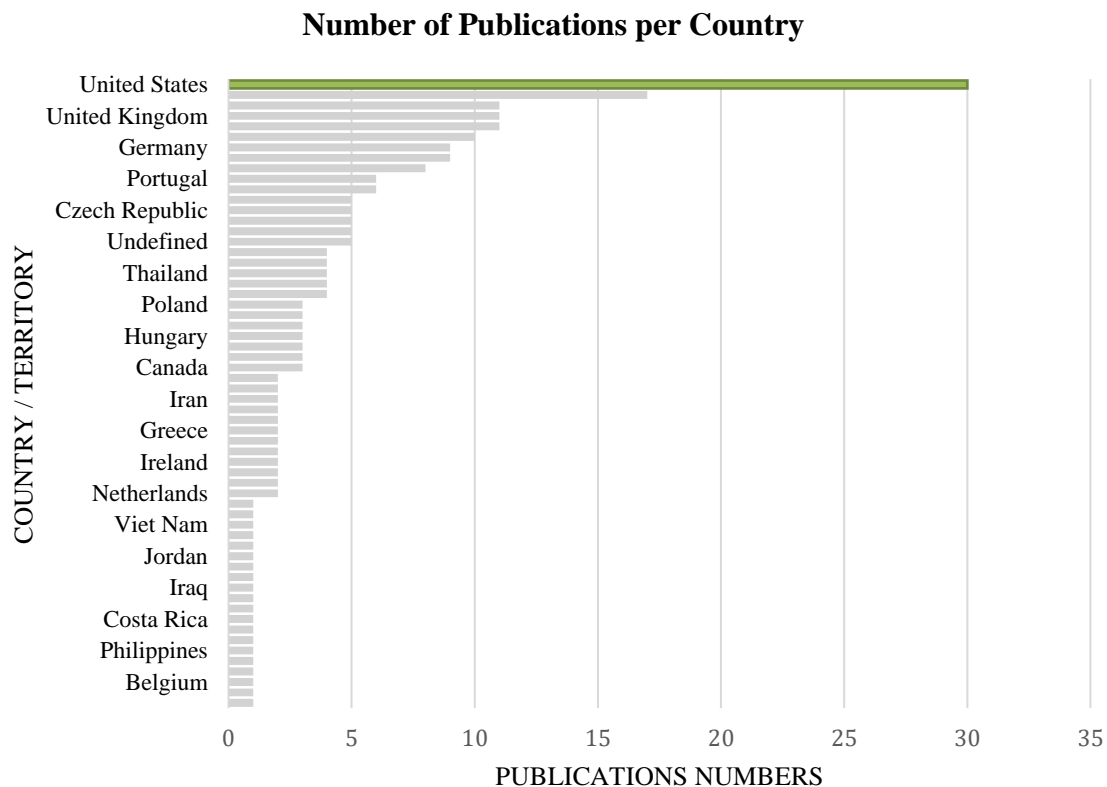
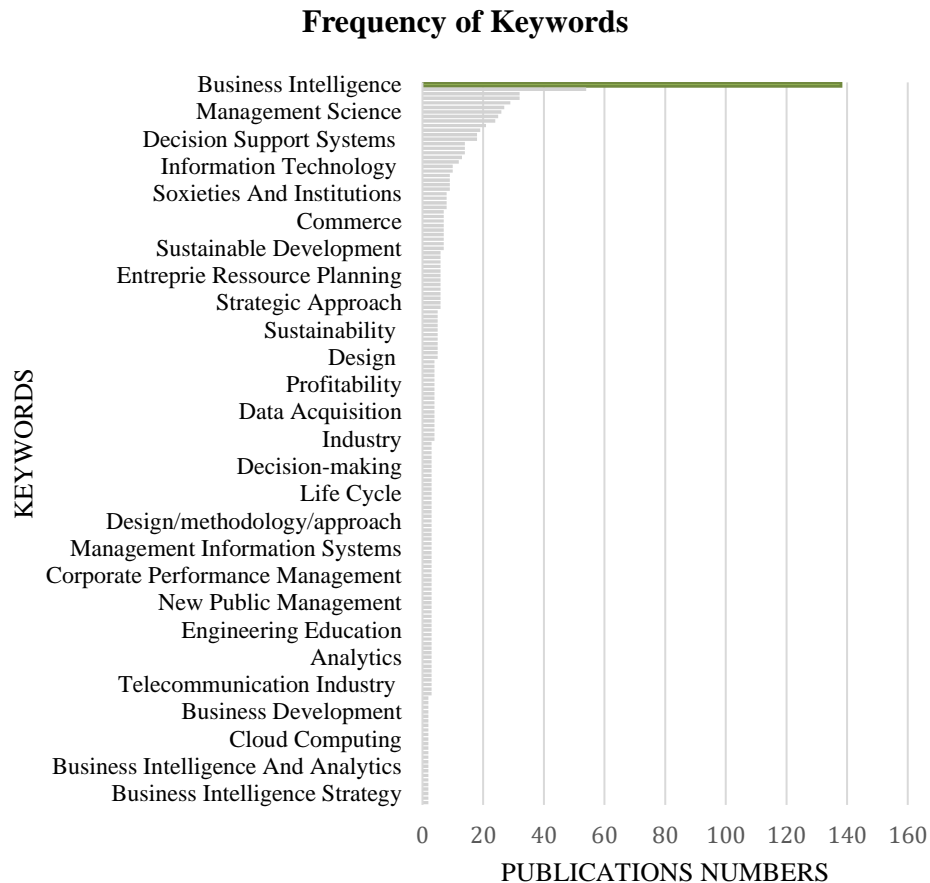


Figure 3: Distribution of Publications in BI and SM by Country  
(Source: Authors)

### 3.1.6. Papers Keywords

**“Business Intelligence”** and **“Competitive Intelligence”** are the most frequent keywords, which shows the importance of these concepts in the field. Other keywords such as **“Decision Making”**, **“Information Management”**, and **“Knowledge Management”** indicate a diversity of themes addressed in the publications.





*Figure 4: Distribution of Keywords  
(Source: Authors)*

All in all, we have identified 456 relevant publications, published between 1990 and 2023. The publications come from 40 countries, with a high concentration in the United States (190 publications), the United Kingdom (54 publications), China (38 publications) and Germany (32 publications). Publications are mainly in English (190 publications), followed by Chinese (11 publications), German (2 publications), Croatian (1 publication), Spanish (4 publications), Russian (1 publication), Ukrainian (1 publication) and French (1 publication). Publications are mainly articles (118 publications), followed by conferences (58 publications), book chapters (12 publications) and reviews (7 publications).

### 3.2. Bibliometric Analysis with VOSviewer

We used VOSviewer to carry out a bibliometric analysis of the publications. We used (1) co-authors, (2) co-occurrence, (3) citations and (4) bibliographic linkage analysis to analyse the publications.

#### 3.2.1. Co-authorship Analysis

In our study, we identified a total of 196 co-authors across the analyzed publications. Among them, the most prolific authors include Zackariasson P. with 10 publications, Wagner S. with 9 publications, Ritter D. and Schlegelmilch B. each with 8 publications, and Tuten T. with 7 publications. Furthermore, the authors who have garnered the most citations are Porter M.E. with 816 citations, Kotler P. with 561 citations, Hamel G. with 452 citations, Prahalad C.K. with 441 citations, and Tushman M.L. with 364 citations.

CATEGORY	AUTHOR	PUBLICATION/CITATION
<b>Most Active Authors</b>	<i>Zackariasson P.</i>	<b>10</b>
	<i>Wagner S.</i>	<b>9</b>
	<i>Ritter D.</i>	<b>8</b>
	<i>Schlegelmilch B.</i>	<b>7</b>
	<i>Tuten T.</i>	<b>6</b>
<b>Most Cited</b>	<i>Porter M.E.</i>	<b>816</b>
	<i>Kotler P.</i>	<b>561</b>
	<i>Hamel G.</i>	<b>452</b>
	<i>Prahalad C.K.</i>	<b>441</b>
	<i>Tushman M.L.</i>	<b>364</b>

Table 5: Most active and most cited authors in the publications  
(Source: Authors from VOSviewer results)

### 3.2.2. Co-occurrence Analysis

We have identified a total of **100 terms** that frequently appear together in the analyzed publications. Among these, the terms with the highest occurrences are as follows: **“business intelligence”**, which appears **138 times**; **“competitive intelligence”**, with **54 occurrences**; **“decision making”**, occurring **32 times**; **“information management”**, appearing **29 times**; and **“knowledge management”**, with **27 occurrences**. This analysis reveals the most commonly discussed topics within the publications. By identifying these frequently co-occurring terms, we can gain insights into the primary focus areas and themes in the literature. **“Business intelligence”** is the most dominant term, indicating its central role in the research. Other significant terms like **“competitive intelligence”**, **“decision making”**, **“information management”**, and **“knowledge management”** highlight key concepts and practices that are essential to the field. This information helps to understand the prevalent trends and the emphasis placed on various aspects of the subject matter.

### 3.2.3. Citations and Co-Citations Analysis

- Citations

We identified 32 publications that have each been cited more than 100 times. The most cited publications are **“A Resource-Based View of the Firm”** with **1274 citations**, **“Strategic Management: A Stakeholder Approach”** with **1182 citations**, **“Competitive Advantage: Creating and Sustaining Superior Performance”** with **1154 citations**, **“Blue Ocean Strategy”** with **1095 citations**, and **“The Five Forces Model”** with **1065 citations**.

- Co-Citations

We identified 100 pairs of publications that are frequently co-cited. The most common pairs are:

RANK	PUBLICATION PAIR	NUMBER OF CO-CITATIONS
<b>1</b>	Porter M.E. & Millar V.E. (1985). How Information Gives You Competitive Advantage	<b>54</b>
<b>2</b>	Barney J.B. (1991). Firm Resources and Sustained Competitive Advantage	<b>52</b>
<b>3</b>	Porter M.E. (1980). Competitive Strategy: Techniques for Analyzing Industries and Competitors	<b>50</b>
<b>4</b>	Hamel G. & Prahalad C.K. (1994). Competing for the Future	<b>49</b>
<b>5</b>	Teece D.J. (1986). Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing, and Public Policy	<b>48</b>

Table 5: Most Frequent Co-cited Publication Pairs  
(Source: Authors from VOSviewer results)

### 3.2.4. Bibliographic Coupling Analysis

We have identified 100 pairs of publications that are linked through bibliographic coupling in the analyzed literature. The most frequent pairs are:

- “*Innovation as a Learning Process: Embedding Innovation in Organizational Routines*” by Eisenhardt K.M. and Martin J.A. (2000) with 34 couplings;
- “*Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance*” by Teece D.J. (2007) with 33 couplings;
- “*Dynamic Capabilities and Strategic Management*” by Teece D.J., Pisano G., and Shuen A. (1997) with 32 couplings;
- “*Capturing Value from Technological Innovations: Integration, Strategic Positioning, and the New Economics of Distribution*” by Teece D.J. (1998) with 31 couplings;
- “*The Dynamic Resource-Based View: Capability Lifecycles*” by Helfat C.E. and Peteraf M.A. (2003) with 30 couplings.

## 4. DISCUSSION, LIMITATIONS AND FUTURE RESEARCH

### 4.1. Discussion

Our findings support the theoretical proposition that BI and SM are increasingly intertwined, with BI providing the necessary data insights to inform strategic management decisions, as posited by resource-based and dynamic capabilities theories, with strong collaboration between researchers and a wide variety of research topics. Bibliometric analyses showed that publications on IE and MS are mainly in English, published in journals and originating from the USA, the UK, China and Germany. Co-authorship, co-occurrence, citation and bibliographic linkage analyses showed that publications on IE and MS are strongly linked and that researchers collaborate closely. The co-occurrence and bibliographic linkage analyses also showed that publications on EI and SM are strongly linked to strategic management concepts such as resource management, information management and knowledge management.

### 4.2. Limitations

This study has a number of limitations. Firstly, we used a single database (Scopus) to identify relevant publications. Secondly, we used specific keywords to identify publications, which may have excluded some relevant publications. Third, we excluded irrelevant publications, such as editorials, letters and footnotes, which may have excluded some relevant publications.

Variability in the number of publications from year to year may indicate challenges in research continuity, possibly due to fluctuating funding or changing priorities.

### 4.3. Future Research

For future research, we recommend using multiple databases to identify relevant publications, using broader keywords to identify publications, and including all relevant publications, including editorials, letters and footnotes. We also recommend qualitative analysis of publications to understand trends and emerging themes in the fields of BI and MS.

## 5. CONCLUSION

This article has presented a bibliometric analysis of the literature on business intelligence and strategic management. We identified 456 relevant publications published between 1990 and 2023, mainly in English and in the fields of business management, social sciences and economics. Bibliometric analyses showed that publications on EI and SM are mainly in English, published in journals and originating from the United States, the United Kingdom, China and Germany. Co-authorship, co-occurrence, citation and bibliographic linkage analyses showed that publications on IE and MS are strongly linked and that researchers collaborate closely.

The co-occurrence and bibliographic linkage analyses also showed that publications on EI and SM are strongly linked to strategic management concepts such as resource management, information management and knowledge management.

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# EXCESSIVE PRICING IN EUROPEAN UNION COMPETITION LAW AND COMPARATIVE CONTEXT: TOWARDS STRONGER REGULATION OR ABANDONMENT?

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## ABSTRACT

*The Treaty on the Functioning of the European Union (TFEU) prohibits any abuse by undertakings of a dominant position, and stipulates inter alia that such abuse may consist in directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions. This prohibition has been applied also to prices that are excessive. The mere existence of this judicial and administrative interpretation can be questioned within the rationale of theory of economics. In theory, bar the completely monopolistic markets, with high barrier to entry excessive pricing would have punished by the consumer choices that is market itself. However most of the Organization for Economic Cooperation and Development (OECD) member countries have similar prohibitions in their respective Competition Laws. In the United States Antitrust Law following very long period of opposition to the adoption of this institute regulation of excessive pricing has also started to develop in recent case law. This paper analyses the need for the regulation of excessive pricing in general. Than it continues to detect specific areas that demand its application. The paper produces also economic quantitative test for the determination of existence of excessive pricing in judicial and administrative case law.*

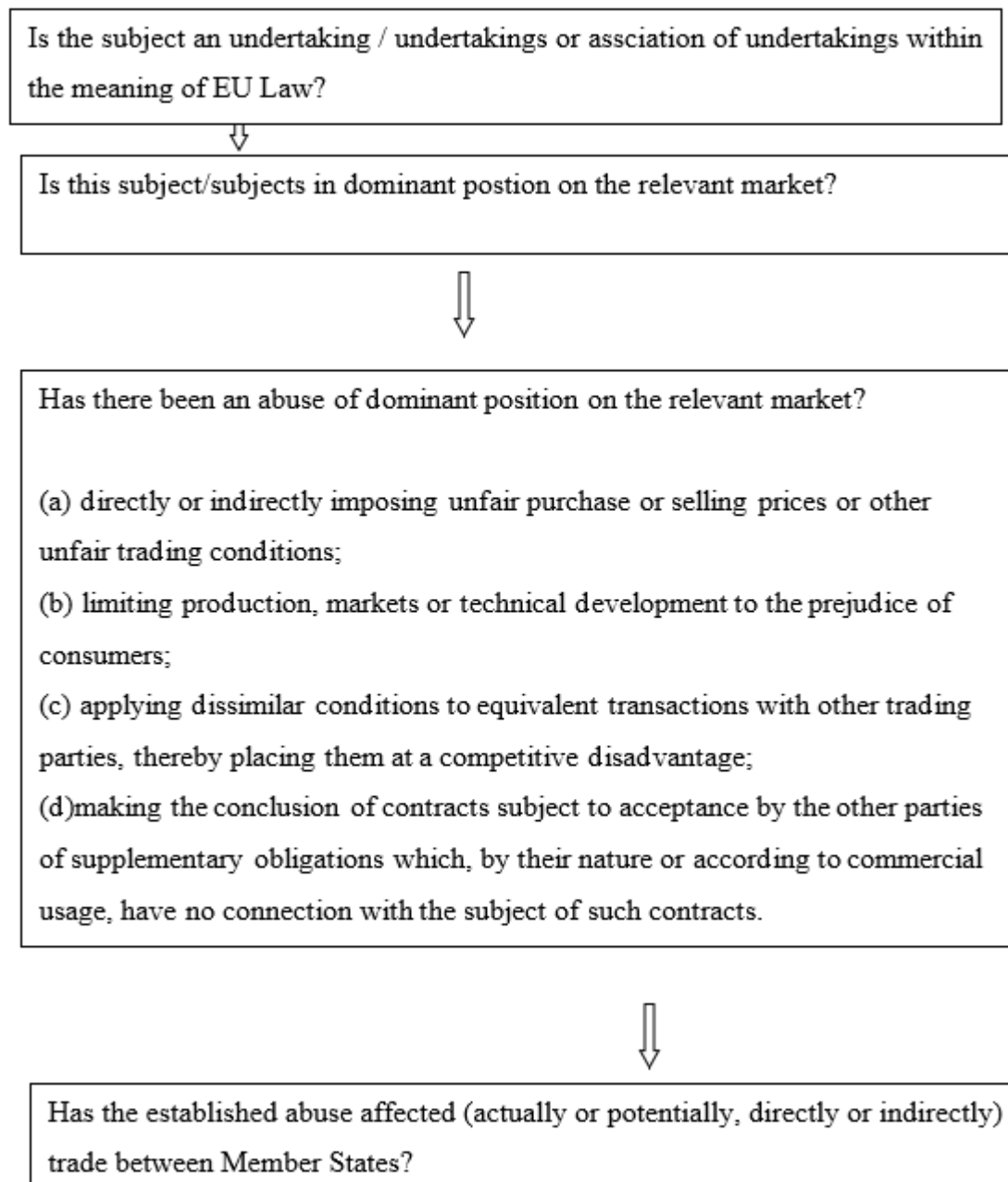
**Keywords:** Abuse of Dominant Position, European Union Competition Law, Excessive Pricing, Law and Economics

## 1. INTRODUCTION: EXCESSIVE PRICING IN EU COMPETITION LAW

The Treaty on the Functioning of the European Union (TFEU) prohibits any abuse by undertakings of a dominant position, and stipulates *inter alia* that such abuse may consist in directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions (Article 102. TFEU, par. a). Similar provision is contained in Article 54 of the European Economic Area (EEA) Agreement, The European Court of Justice has in 1975 in *General Motors Continental NV v. Comm'n* case introduced that prohibition of unfair prices and trading conditions can relate to excessive prices. It held that dominant undertaking service price if unfair if it is excessive in relation to the economic value of the service provided. In far better known case that was adjudicated several years later, to be exact on the Valentine's Day 1978 (Vuletić, 2015) - *United Brands* case - the Court established approach for determination of criterion for excessive prices. In that case the Court explained that dominant position relates to position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumer. Commission held that *United Brands* (UBC), big producer and exporter of bananas, charged the price of bananas to its customers in Germany (other than the Scipio Group), Denmark, the Netherlands that are considerably higher, sometimes by as much as 100%, than the prices charged to customers in Ireland and therefore produce for it a substantial and excessive profit in relation to the economic value of the product supplied. Court held that excess in prices could, *inter alia*, be determined objectively if it were possible for it to be calculated by making a comparison between the selling price of the product in question and its cost of production, which would disclose the amount of the profit margin. However, the Commission has not done this since it has not analysed UBC's costs structure. The Court held that excess in price is

therefore to be determined in answering the question whether the difference between the costs actually incurred and the price actually charged is excessive, and, if the answer to this question is in the affirmative, whether a price has been imposed which is either unfair in itself or when compared to competing products. Thus, the Court concluded that Commission did not succeeded to prove excess in prices. Failure on the Commission part to provide analysis of UBC cost structure analysis was paramount to such judicial decision (UBC was found to be in abuse of dominance in relevant market in other aspects but excess in prices was not sufficiently proven). However, the Court noted that other ways may be devised — and economic theorists have not failed to think up several — of selecting the rules for determining whether the price of a product is unfair (excessive). Cost structure analysis in relation to the price of product or service of dominant undertaking/undertakings is important factor in determining of existence of excessive prices in EU Competition Law but is not the only one. Comparative analysis to similar markets in Member States can also be used for determination of excess in prices. In *Bodson v. Pompes Funèbres* case from 1988 the Court of Justice held that the excess in price can be determined by comparing what the dominant undertaking had charged in other markets in which it is subject to more intense competition. This method of comparison with other markets was further elaborated a year later in *Tournier* case. In that case the Court held that a national copyright management society holding a dominant position in a substantial part of the common market imposes unfair trading conditions where the royalties which it charges to discotheques are appreciably higher than those charged in other Member States (the rates being compared on a consistent basis), That would not be the case if the copyright management society in question were able to justify such a difference by reference to objective and relevant dissimilarities between copyright management in the Member State concerned and copyright management in the other Member States. In other words, the Court in *Tournier* case required objective justification for price difference from the similar/comparable markets. This regulatory approach influenced on the small number of cases in which excessive pricing was determined within the EU Competition Law (Butorac Malnar et. al, 2021). The level of excessiveness that amounts to abuse of dominance in using comparative markets /benchmark method was not made clear in the case law. Some cases held that prices exceeding the competitive benchmark in other markets by 25% to 40% were excessive, while other decisions concerned larger differences. In more recent case law, the Court in *AKKA/LAA* case from 2017 held that there is no minimal threshold in price difference, it only required difference is significant and persistent. Although the Court deliberated on circumstances that are taken in consideration when comparative market method is used in determine excessiveness of the price it is clear that it is to decided form case to cases basis. Other side of the scale are the prices that are obviously excessive. The debate in this area has developed especially in sensitive pharmaceutical sector (Kinzad & Minssen, 2018) including and specialized OECD roundtable (OECD, 2018) on the subject and it is well presented in EU case law in Commission decision in *Aspen* from 2020.

*Figure following on the next page*



*Figure 1: Fundamental scheme in determination of abuse of dominance in EU Competition Law*  
(source: author)

Any analysis should primarily include usual steps in EU Competition Law in determination of abuse of dominance as shown in Figure 1. Excessive prices within the terminology of EU Competition Law will always be considered as exploitative abuse (Butorac Malnar et. al, 2021) and not as exclusionary abuse. Exclusionary abuses have more significant effect on competition in comparison to exploitative abuses. The comparative market method has its limitations, especially when the undertaking in question is not only in dominant position but it has achieved effective monopoly on the relevant market. Good example for this is Commission decision in *Port of Helsingborg* case from 2004. In that case Commission held that there is no sufficient evidence to conclude that the port charges have no reasonable relation to the economic value of the services provided by the port to the ferry-operators.



The problem of the assessment by using comparative markets and benchmark method in this kind of situation is locational monopoly. Port of Helsingborg is located in the southwest of Sweden, at the narrowest point of Øresund between Sweden and Denmark. Thus, there is literally no sufficiently comparable market or ferry route in whole of the EU (or in the world for that matter) to apply comparative market / benchmark method. Similar situation was in the judgement of the General Court in *Trajektina Luka Split* case from 2016.

## 2. COMPARATIVE OVERVIEW OF EXCESSIVE PRICING OUTSIDE THE EU COMPETITION LAW

In the United States Antitrust Law excessive pricing is not prohibited. Idea of self-correcting market is here obviously prevalent behind legal norms. However, it should be noted that barriers to entry are substantially regulated in US Antitrust Law. Likewise, the essential facilities can be regarded as counter balance to absence of prohibition of excessive prices. The legal doctrine of essential facilities originated very early in US Antitrust Law. The term arose from the commentary on United States Antitrust case law. In the judgment of the US Supreme Court in the *Terminal Railroad* case from 1912 the Court imposed a duty on an association of railroad companies to give competitors access to certain railroad bridges and terminal facilities they had acquired. Without this form of shared access, competitors would not have been able to offer their own railroad service beyond the Mississippi River into and out of Saint Louis. This would have harmed the interests of consumers due to the lack of choice for competing services outside of the control of the owners of the railroad bridges and terminal facilities. The competition intervention by the Supreme Court in *Terminal Railroad* later became known as the essential facilities doctrine. The leading U.S. essential facilities case is *MCI Communications Corp. v. AT&T.* from 1983. The Court said that there were four elements necessary to establish liability under the essential facilities doctrine:

- control of the essential facility by a monopolist;
- a competitor's inability practically or reasonably to duplicate the essential facility;
- the denial of the use of the facility to a competitor;
- the feasibility of providing the facility.

It is not excluded from the future development of US case law that it will include, under general provisions of Section 2 of the Sherman Act that addresses monopolization and attempts to monopolize, excessive pricing as part of prohibited monopolistic practices / abuses of dominance. This would especially be the case in the pharmaceutical sector where interplay between prohibition of abuse of dominance and intellectual property rights may result with suboptimal balance. Interesting case in US Antitrust Law that could provide grounds for such development is *In re Nexium (Esomeprazole)* case from 2014 involving pay-for-delay agreements of AstraZeneca and their impact on competition and consumer prices. Furthermore, in United States, like elsewhere, outside the Antitrust Law there can be rules regulating maximum or excessive prices in other legal areas. According to the OECD 29 US States have laws that prohibit excessive prices of certain commodities during periods of abnormal supply disruption. These laws provide for civil penalties, criminal penalties or both and most of them, although not all are triggered by a state of emergency declared either by the president, the governor or local officials (OECD, 2011). Regulation of excessive pricing exists in all of the Organization for Economic Co-operation and Development Member countries except US, Canada, Mexico, Australia and New Zealand (OECD, 2011). Excessive pricing as form of abuse of dominance is prohibited in United Kingdom. It is interesting that in UK Competition Law in *CMA v. Flynn Pharma Ltd.* case from the UK Court of Appeals held that excessiveness in prices can be based solely on a price-cost comparison.

Naturally due to obligation of harmonization with EU Law all EU Member States have in their national legislation corresponding regulation of excessive pricing. Similar relates to European Economic Area Agreement Member countries, that is Iceland, Liechtenstein, and Norway. Regulation of excessive prices exists in competition laws of all BRICS countries (Brazil, Russia, India, China, and South Africa). Article 17 of the Anti-Monopoly Law of the People's Republic of China prohibits abuse of a dominant market position, including selling goods at unfairly high prices. Article 10 of the Competition Law of the Russian Federation prohibits abuse of a dominant market position, including setting monopolistically high prices. Section 4 of the Indian Competition Act prohibits abuse of dominant position, which includes imposing unfair or discriminatory prices. Article 36 of the Brazilian Competition Law prohibits abuse of a dominant position, including imposing unfairly high prices. Section 8 of the South African Competition Act prohibits dominant firms from charging an excessive price to the detriment of consumers.

### **3. ECONOMIC THEORY BEHIND EXCESSIVE PRICES: DEREGULATION OR MORE REGULATION – TOWARDS THE NEW TEST OF EXCESSIVENESS**

The problem of excessive prices is as old as economic reasoning itself. The idea of a just, fair or natural price and with it the concept of economic value and rudimentary equilibrium notions can be traced back to ancient Greece and has therefore occupied political philosophers and economists for well over 2000 years. The belief that economic value is inherent to the good itself, defines the economic writings from Plato and Aristotle through scholastic writers such as Thomas Aquinas up to Adam Smith. The concept of just price in turn is closely related to the notion of equilibrium that first appeared in its most rudimentary form as equivalence (OECD, 2011). There are strong arguments for not intervening against exploitative excessive pricing conducts, which have led to the development of stringent enforcement screens for the bringing of such cases (OECD, 2018). Fundamental argument deriving from the economic theory against the regulation of excessive prices (as a form of Competition law violation) is self-correcting mechanism of the market. Ezrachi and Gilo detect additional arguments against excessive prices regulation (2008) that can be summarized in following manner:

- a) prohibition of excessive prices might chill down entrepreneur's incentive to innovate or invest *ex-ante*
- b) practical difficulties in measuring the competitive price and identifying excessiveness make the prohibition of excessive prices difficult to implement in practice
- c) intervention by competition agencies might risk affecting the prospects of new entry into the market as the market force according to which excessive prices invite new entry would be handicapped if excessive pricing is prohibited.

Organization for Economic Cooperation and Development Roundtable on Competition Policy in 2011 summarized positive and negative arguments for regulating of excessive prices as shown in Table 1.

*Table following on the next page*

Ground for non-intervention	Ground for intervention
markets are self-correcting	markets are not always self-correcting (market failures exist)
regulatory failure may aggravate market failure	conduct causes a reduction in consumer welfare
cost of intervention even if it successfully redresses market failure exceeds its benefits	conduct causes a reduction in total welfare (deadweight loss)
Intervention is redundant as excessive prices are competed away	may fill the gap in the competition law and allow a second shot if the authority missed exclusionary conduct
price regulation/ remedies are difficult to devise	increases popular support for competition policy
uncertainty/arbitrariness of the concept (determining excessiveness is difficult)	link between entry and excessive pre-entry price is spurious
prohibiting monopoly prices is tantamount to prohibiting monopoly	excessive price abuses are a competition law infringement
distorts investments, and firm behaviour generally possibly fostering “gold-plating”	public policy considerations/ will of the legislator/ political pressure (primacy of politics)

*Table 1: The pros and cons of intervention  
(source: OECD, 2011).*

One research from 2008 had concluded that excessive prices are not self-correcting whether entry barriers into the market are high or low and whether or not potential entrants are informed about the incumbent's relative efficiency (Ezrachi & Gilo, 2008). This conclusion refutes fundamental argument against regulation of excessive prices in Competition law, particularly as form of abuse of dominance. Furthermore, as we have demonstrated regulation of excessive prices as form of abuse of dominance is actually globally prevalent. United States is one of the few notable exceptions. This global prevalence is undoubtedly influenced by the fundamental idea from economic theory of inherent value intrinsically linked to goods and services. However, rarity of actual enforcement, both within EU Competition Law and elsewhere, points to the controversy and underdevelopment of this legal institute. Differences between US Antitrust Law and absence of specific excessive prices prohibition and its presence in EU Competition Law can point to differences between liberal reading of economic constitution in United States versus European concept of social market economy. Highly competitive social market economy is the aim of the EU defined by Lisbon Treaty (Article 3, paragraph 3, Treaty on European Union). The concept itself derives from the ordoliberal school of economic thought (Glossner & Gregosz, 2010). The fundamental formative influence on the concept of social market economy, first named by Alfred Müller – Armack in 1946 *Soziale Marktwirtschaft* (Müller–Armack, 1990 – originally 1946) is ordoliberalism (Vuletić, 2024). Ordoliberals believe in the entrepreneurial liberties and interpreted them as fundamental rights. However, what sets them apart from the neoliberals is the advocacy for strong interventionism in the market executed with purpose of protecting free market mechanism (*ordungspolitik*). Naturally, for ordoliberals competition rules are of utmost importance (Vuletić, 2024). One of the major enforcement issue are inherent difficulties in determining when exactly prices are excessive, even in completely monopolistic markets like in *Port of Helsingborg* case. We have seen that even within EU Competition Law there are different approaches: from cost structure analysis to comparative markets/benchmark method. In reality in majority of cases it is very hard for regulators to determine when exactly prices are excessive. Vagueness of applicable criteria is also one of the major reasons of rarity of excessive pricing cases in practice.

Thus, this research will propose new test tailored for EU Competition Law for determination of excessive prices as form of abuse of dominance. Naturally, application of the proposed test can also go beyond EU Competition Law if enforcing competition agencies and courts deem so useful. The basic premise of the proposed test is the cost structure analysis, which was also the fundamental idea of the Court reasoning in *United Brands* case when it comes to excessive prices. We have seen that there are situations like in cases of *Port of Helsingborg* and *Trajektna Luka Split* comparative markets/benchmark method is simply not applicable. Determination of competitive price form analysis of other comparable markets is not always possible. Also, concept of competitive price has no solid foundation in economics (OECD, 2011). It could be interpreted as any price that is obtained under equilibrium conditions, including the monopoly price (OECD, 2011). Monopolist markets therefore also can achieve equilibrium. We have also seen in comparative law, in *CMA v. Flynn Pharma Ltd* case in the UK, that excessiveness in prices can be based solely on a price-cost comparison. Thus, after determination of legal status of the subject (as an undertaking/undertakings or association of undertakings) and its position of dominance on the relevant market detailed price to cost analysis should be implemented. This analysis could be based on the methodology of price-cost comparisons as proposed by the OECD executive summary in 2011:

$$p-c/p$$

So if the price (p) is 10 and the cost (c) is 5, the price-cost margin is 1/2 or 50%. After determination of price-cost margin if it amounts to 60% or higher legal presumption of excessiveness in prices should be applied. The 60% threshold may seem overly high, bearing in mind that there have been cases of excessive prices with considerably lower margins. However, the 60% threshold is presumptive but excess can be proven and in the cases where price-cost margins are lower. This can be done by using other methods if they are applicable. Primarily this include comparative markets/benchmark method if this is possible. So 60% threshold is presumption of abuse of dominance. After presumption of abuse of dominance has been reached its effect on trade between Member states (actually or potentially, directly or indirectly) should be evaluated as well as possibility of existence of objective justifications. Described steps in application of test for excessive prices are shown in Figure 2.

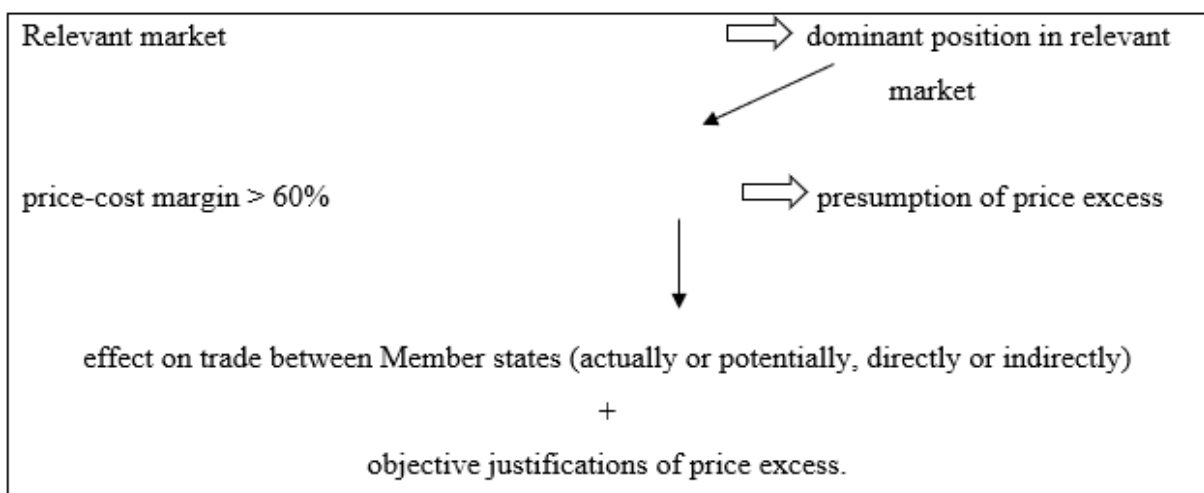


Figure 2: Proposed test of determination of excessive prices as form of abuse of dominance (source: author)

#### 4. CONCLUSION

This research has proved for analysis of excessive pricing as form of abuse of dominance in Competition Law in European Union and comparative context. The global prevalence of excessive prices regulation, including BRICS countries, is influenced by the fundamental idea from economic theory of inherent value intrinsically linked to goods and services. However, there are important exceptions to this regulatory state, with United States being most notable one. Differences between US Antitrust Law and absence of specific excessive prices prohibition and its presence in EU Competition Law can point to differences between liberal reading of economic constitution in United States versus European concept of social market economy that derives from ordoliberalism. Taking into consideration the relative rarity excessive prices in administrative and judicial enforcement practice in general, with the possible recent exception of sensitive pharmaceutical sector, this paper proposed new test of determination of excessive prices as form of abuse of dominance. The test is tailored for EU Competition Law but it can, in part or fully, be also applied in other jurisdictions. The basic premise of the proposed test is the cost structure analysis and abandonment of comparative markets/benchmark method as primary one. The methodology of price-cost margin is used in the proposed test with the application of 60% threshold for the legal presumption of existence of excess in price as form of abuse of dominance.

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## HERITAGE MANAGEMENT THE ECONOMIC VALUATION OF HERITAGE

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### ABSTRACT

*The paper tries to emphasize the fact that economic assessment aims to clarify the elements and information relevant for making social choice, and not replace the economic view of these choices. Heritage comes with certain economic limitations. The economics of heritage has emerged as a distinct field of research and empirical application in cultural economics. Three significant areas of research are highlighted: theory and the application of economic analysis to heritage issues; evaluation methods and their suitability for assessing cultural value; and understanding the economic impact of heritage policy. This paper illustrates an example of innovative research and application in one specific area: heritage investment as a driver of urban renewal projects. It reiterates the continuing importance of recognizing the economic, social, and cultural context and impacts of heritage practice. In particular, it draws attention to the valuation of intangible heritage. In order to assess the economic consequences of heritage-related activities, we need to ask two questions: what are the limitations of heritage-related activities? Which methods can be used to determine the scale of these activities?*

**Keywords:** *Culture, Cultural heritage, Economic evaluation of heritage, protection of intangible cultural heritage, The impact of ICT*

### 1. INTRODUCTION

Cultural heritage management is a widespread term in all jurisdictions except the United States of America, where cultural resource management is more widely used (Pearson and Sullivan 1995; Macintosh 1999). Resources have been replaced by the word heritage, taking into account the different connotations of the two words. The term resources implies that a certain good has economic value and can be used. Heritage, on the other hand, recognizes the non-economic values of that good and the value of inheritance, which implies certain obligations and responsibilities. The majority of managers, cultural managers and cultural heritage managers still believe that the concept of cultural resources is neither current nor intuitively comprehensible to the general public, to whom they ultimately respond (Pearson and Sullivan 1995). Definition of cultural heritage: the need for a heritage agreement. In a certain way, we can consider everything that already exists as heritage, but we think that such a definition would be a wrong starting point. But this is not the only problem we encounter: the content of what we recognize as cultural heritage can differ depending on time periods. We consider some monuments as heritage, while some other sights, monuments or activities have been forgotten. Therefore, it is necessary to clarify the criteria for determining the set of cultural activities in a certain period of time. We will suggest some of the criteria that we can use together or separately.

Culture is a universal human phenomenon, an anthropological given and an essential generic characteristic of man as a social and individual, spiritual and creative being (Valčić, M. 2018). Therefore, there is no man or society in history without a certain degree of culture in the broadest sense of the word.

## **2. DEFINITION OF CULTURAL HERITAGE: THE NEED FOR A HERITAGE AGREEMENT**

In a certain way, we can consider everything that already exists as heritage, but we think that such a definition would be a wrong starting point. We will propose three criteria that we can use together or separately. The three basic types of cultural goods, i.e. cultural heritage:

- IMMOVABLE CULTURAL PROPERTY
- MOVABLE CULTURAL PROPERTY
- INTANGIBLE CULTURAL GOODS.

Architectural heritage is the totality of immovable cultural assets located in a certain area. Architectural heritage defined in this way is only a part of cultural heritage, which in its material form contains monumental properties, which makes it special in relation to the totality of buildings inherited from previous generations (Antolović, J.: *Menadžment u kulturi*, 2009, Zagreb, p. 132). According to the Act on the Protection and Preservation of Cultural Property (Article 7), immovable cultural property includes:

- cultural and historical entities (monumental entities),
- individual buildings and their parts,
- archaeological sites.

Moving from heritage to heritage, movable, immovable, tangible and intangible, the concept of intangible heritage necessarily arises. The term intangible cultural heritage requires a broad definition: it is the collective memory of a community or social group. This memory can be seen as an arrangement of technical knowledge and relational knowledge. The first term unites all the knowledge and beliefs that frame the relationship between man and nature: the construction of resources, "natural" and developing ecosystems, the domestication of biological processes, the transformation of matter... or even beliefs that define the modalities of appropriating nature, resources as well as sharing wealth and prestige and power. Memory is above all related to time. Heritage is heritage, enriched, developed, transformed, valued or wasted in the present before it is – possibly – passed on to generations. Intangible heritage in so far as it represents geographical indications (GI) becomes an important lever for implementation. Then collective appropriation appears as the problematic base of the economy of patrimonialization. Sharing the capacity to access technical knowledge and the relationships that underpin our relationship with nature, time and social order form its core. The indication of geographical origin is then a source of tension and conflict. The connection with the origin can only be a fictional and soothing vision of the past, mythologized and instrumentalized. The exact opposite of development, which is always work with which we can overcome the past and ensure projecting into action and the future. It is the study of the spatial uniqueness of different elements of the entire cultural heritage and the interdependence of tangible and intangible heritage that help us to understand the cultural dynamics of a region or place. This procedure includes the recognition of the various characteristics of the elements of the mentioned cultural heritage and the potential of all driving forces present in the process of creating an attractive tourist area. The management of cultural heritage and its preservation are structured activities that are part of a process that requires constant updating of data on the condition and use of cultural heritage assets.



The reason from which such a process was developed lies in the the way in which the international codes and conventions that stand behind the philosophy of that process have been developed. Now many developing countries rely on such codes as a basis for the development of CHM (eng. cultural heritage management) and the adoption and improvement of laws.

### **2.1. Cognitive aspect of culture**

When the cognitive aspects of culture are taken into account, it is obvious that they are found in the deepest layer of culture of which the only expressions are traditions. This not only makes cognitive culture completely invisible, but also allows for inconsistency. We can say that the cognitive elements of culture consist of shared beliefs and what the world is. Questions such as what is real and what is not, what is important and what is unimportant, underline the meaning of cognitive culture. Cognitive aspects of culture consist of beliefs, values and ideologies:

- Beliefs do not have to be true or provable if they are shared by the majority of people. Especially in the case of a culture based on the oral tradition of self-sufficient communities, the representation of reality is deeply rooted in cultural beliefs and may be different from what is real.
- Values are abstractions that cannot be tested against other people's cultural values. They represent the knowledge of good and evil, and what is desirable and what is not for a specific community. Differences in values, beliefs and cultural practices can lead to misunderstandings in everyday life between communities from different cultural groups as well as in tourism interaction between tourists and the resident population.
- Ideologies are strong beliefs that maintain a group's identity. They can be secular or religious. Examples of secular ideologies are Nazism, communism, feminism. An example of forcing and controlling orthodox religion is, for example, the Inquisition.

### **3. SELECTIVE PROCESS FOR DETERMINING THE CULTURAL ATTRACTION**

Not all cultural attractions possess the attributes that enable them to become cultural attractions in tourism. The selection process for determining cultural attractions consists of five stages.

- 1) STAGE OF ENCUSION. An inventory list of all cultural attractions within areas, regions, cities, regions or provinces is being made. Combined inventories of cultural interests for regions and urban areas are the basis for creating inventories of cultural interests of large cities, while regional inventories are the basis for inventories of cultural interests of provinces and so on.
- 2) PHASE OF DESCRIPTION. All curiosities, existing and potential, must be accurately described in the inventory and their historical origin marked. The sole purpose of this phase is to identify the historical value of each point of interest.
- 3) ASSESSMENT PHASE. During this phase, all points of interest that have historical significance are investigated, and their attributes are evaluated through two main criteria: authenticity and uniqueness. Only those cultural curiosities that are assessed as authentic, unique or both will be considered for evaluation in the next phase. This is the point where cultural interests are divided into two groups: potential primary cultural interests and potentially secondary cultural interests.
- 4) EVALUATION PHASE. After potential primary cultural attractions have been evaluated for their authenticity and uniqueness, they are further evaluated according to five criteria. This is the point where cultural attractions are evaluated as possible cultural attractions in tourism. Of all the positively evaluated points of interest, only some with touristic potential will be considered as primary attractions during the last phase.
- 5) STRATEGIES OF GROUPING OF INTERESTS (creating packages). Clustering strategies of attractions are used to determine which cultural attractions will be selected to form part of the tourism unique package of cultural attractions of a given area.

It is a key stage in the selection process. At this point we return to the assessment phase to select supporting cultural interests from a temporary pool of primary and secondary cultural interests. The market success of the cultural interest product group will depend to a large extent on how the listing phase is conducted as well as the strict application of the four evaluation criteria during the evaluation phase and the five evaluation criteria during the evaluation phase.

### **3.1. Paradigm of attraction**

The most visible effect of cultural heritage on territorial identity lies in its potential as a resource to influence the development of tourism products, not for export, but for import of tourists. This explains the many references to the role of cultural heritage in the tourism dynamics of places and regions (Jansen-Verbeke et al., 2005).

### **3.2. Paradigm of information dissemination**

Another paradigm of the process of monetization of cultural resources refers to the idea that the presence of a large number of elements of cultural heritage offers favorable conditions for the creation of new cultural goods and services, and even strengthens the forces of research into new cultural goods that can be "sold" outside the area. Cultural goods are also considered social capital, incentives for social integration and, above all, business opportunities. This is linked to capacity building in terms of transferring local knowledge and ways of working from production to marketing. Even the explanation of the expressed creativity in evaluating the unique selling proposition (USP) can be derived from this paradigm. This belief of Xavier Greffe is based on studies of many urban plans and projects; some who had the most favorable initial conditions, such as the presence of a rich heritage - material - and some who were reinforced by the immaterial one; traditions, stories, legends, authors, music, etc. Some cities, or urban areas, are in a much less attractive position, such as post-industrial places, and very far from the leading tourist destinations. But he believes in the power of creation, provided there are incentives for creativity and leadership. It is obvious that these views on cultural heritage as an incubator for new activities and a signifier of the (re)vitalization of the cultural economy need stronger empirical support.

### **3.3. Spatial paradigm**

One of the challenges of the spatial approach to cultural dynamics is the understanding of spatial uniqueness among different elements, and ultimately the synergy between material and immaterial cultural resources. It should be possible to follow the relevant factors in the dynamics of the cultural economy, starting with a spatial analysis of patterns of cultural heritage elements. Although the study of pattern positions seems fundamental and not very innovative, it is a necessary first step in the interpretation of spatial dynamics, such as in the case of grouping processes. The two characteristics of cultural goods - production that is constantly moved and changeability - can be solved by geographical concentration or clustering. The group then appears as a place where the strongholds of vegetative and endogenous growth begin to act. Clustering principles have been studied from different perspectives, such as industrial activity, retail and, more recently, also tourism (Murphy and Murphy 2005). The fundamental dynamics of cultural and creative areas are located in the vicinity of heritage elements, cultural contents and activities. This offers advantages for cultural production, whereby users, human resources, costs and risks can be shared. It has been proven that geographical concentration offers favorable conditions for synergism between different attractions and activities. The presence of "active places for tourists" plays an important role in the strategic marketing of a place or region. Roman cities were created on our coast, as a rule, on the peninsula, so that they can ensure the ideal direction of the main cardo street and the transverse decumanum.

A Roman forum was usually built at the very top of the peninsula. We inherit it in many of our cities, the most interesting one is in Zadar. Physical and functional networks promote business opportunities and the development of strategic partnerships, inter- or intra-sector. The grouping of tourist activities has certainly shown a large number of advantages, mainly in relation to the management and marketing of destinations, and finally also in the planned management of visitors. At different levels, spatial groups can be or become functional hubs in participant networks and main physical areas in tourist landscapes (Jansen-Verbeke and Lievois, 2004). The three paradigms discussed in the previous paragraph suggest that the preservation of both material and immaterial elements of heritage can stimulate cultural activities and the development of a creative and productive environment. The capacity to exploit cultural resources, support the process of identity building and ultimately establish tourism landscapes will differ among different types of regions and communities. How regions (and nations) value and invest in cultural capital is very important. The gap between dynamic and less dynamic cultural regions, between emerging and dormant tourist destinations is not only based on the actual presence of monuments, museums and historical landscapes (hardware), but increasingly on the efforts invested in advertising, on stories and liveliness (software). Also very important is the creativity present in the intangible elements of heritage, such as traditions embedded in local history and the environment. Traditions find their contemporary expression in lifestyle, language, religion, music, folklore and gastronomy, as well as in events and celebrations. In order to know how to truly appreciate these cultural resources, good organizational skills and professional knowledge are needed.

*Table following on the next page*

*Table 1: Categories of cultural heritage (Espon 2006)*

A	A			MATERIAL CULTURAL HERITAGE
A	A	1		SITES OF CULTURAL HERITAGE
A	A	1	1	MONUMENTS AND SITES
A	A	1	2	RELIGIOUS BUILDINGS
A	A	1	3	ARCHITECTURAL COMPLEXES
A	A	1	4	ARCHAEOLOGICAL SITES
A	A	1	5	HISTORICAL CITY LANDSCAPE
A	A	1	6	INDUSTRIAL HERITAGE
A	A	2		MAN BUILT SIGHTS OF SPECIAL SIGNIFICANCE (HISTORICAL IDENTITY)
A	A	2	1	PARKS AND GARDENS
A	A	2	2	PLACES OF MEMORY
A	A	2	3	SIGHTS
A	A	3		MOVEABLE CULTURAL HERITAGE
A	A	3	1	MUSEUM AND GALLERY COLLECTIONS
B	B			INTANGIBLE CULTURAL HERITAGE
B	B	1		RELIGION AND, MORE PRECISELY, THE SHARE OF FOLLOWERS OF ANY RELIGION OR CULT IN THE REGION
B	B	2		ETHNIC GROUPS AND MINORITIES PRESENT IN A CERTAIN AREA
B	B	3		LANGUAGES AND DIALECTS WHICH ARE SPOKEN
B	B	4		REGISTERED INTANGIBLE GOODS OF HERITAGE (CELEBRATIONS, TRADITIONS, EXPRESSIONS OF POPULAR CULTURE AND IDENTITY), AS DEFINED BY THE UNESCO CONVENTION ON INTANGIBLE HERITAGE
B	B	5		CULTURAL MANIFESTATIONS AND EVENTS
C	C			UNITS OF CULTURAL HERITAGE (LANDSCAPES)
C	C	1		SITES CONTAINING SOME OR ALL OF THE ABOVE CATEGORIES (CULTURAL LANDSCAPES?)
C	C	2		CULTURAL DIRECTIONS
C	C	3		GROUPS OF PRODUCTS BASED ON CULTURE
D	D			PLACES FOR CULTURAL EXPRESSIONS, ORGANIZATION AND PROMOTION
D	D	1		THEATERS, OPERAS, CONCERT HALLS
D	D	2		INSTITUTIONS OF HIGHER EDUCATION, LIBRARIES
D	D	3		NATIONAL AND REGIONAL ARCHIVES
D	D	4		CULTURAL ORGANIZATIONS (ASSOCIATIONS)
D	D	5		JOBS IN CREATIVE INDUSTRIES

#### 4. EVALUATION OF CULTURAL ATTRACTIVENESS

Valuation of cultural attractions is a process in which all cultural attractions are named, described, evaluated and then valued according to the following criteria:

- QUALITY OF CULTURAL ATTRACTIVENESS,
- DIVERSITY OF ACTIVITIES OF CULTURAL ATTRACTIVENESS,
- THE ATTRACTION OF CULTURAL ATTRACTIVENESS,
- AVAILABILITY OF CULTURAL ATTRACTIVENESS i
- VALUE FOR THE COMMUNITY OF CULTURAL ATTRACTIVENESS.

##### 4.1. Quality of cultural attractiveness

The following two evaluation criteria should be used to determine the quality of a cultural/heritage point of interest: the quality of service of all contents within the destination that complement the uniqueness and attractiveness of the point of interest; the extent to which attraction/destination quality is integrated into community resource values. (Since only the community can evaluate the degree of integration of attractions and other supporting contents offered by the destination, they should be consulted during the planning and development

process). The main purpose of valuing the quality of attractions is to ensure that any new development undertaken within a destination as part of the development of a tourism product will enhance, rather than threaten, the cultural integrity of the place. The way in which regions, places and areas or whole peoples value and invest in cultural goods and resources can explain many differences that exist on the map of tourist regions of Europe and the world. This also requires and implies a more careful study of the material elements of heritage, their spatial expression and effect.

3.2. Diversity of cultural activities When we find ourselves in the field of culture, then economics can mean little or nothing to us. This is due to the fact that man, his world, the entire human world and culture, his specific human situation cannot be measured or measured at all. Researching culture is a social activity that must take into account the totality of social relations of which it is a part. The way of connecting, today, new research with the existing fund of scientific knowledge already given and limited in scientific theory depends, first of all, on the general theoretical development of a certain science as well as on the development of the theory itself that we find in a certain area of research. Culture is a universal human phenomenon (Valčić, 2018), culture is both an anthropological given and a very important generic feature of man as a social and individual being, a spiritual and creative being. Therefore, we can conclude that there is not a single society in history without a certain degree of culture in the broadest sense of the word, i.e. as an organization and way of survival, nor an individual as a natural member of a specific society, who has not adopted the basic patterns of culture, processes of socialization and interiorization. In recent times, EUROSTAT has been successfully conducting research related to the economic valorization of culture and cultural events. The document shows how Eurostat distributes data related to culture, how it defines the entire area - in Eurobase and - The Cultural Framework for Cultural Statistics covers 10 cultural areas: - heritage - archive - libraries - books and press - visual arts - performance art - audio-visual and multimedia - architecture - advertising - arts and crafts And six functions: • creation • production / publishing • expansion / trade • conservation • education • management / regulation. All these areas represent the activity of cultural attractions.

3.3. The possibility of expanding the activities of cultural attractions Evaluating the possibility of expanding the offer of cultural activities requires research into the possibilities of the destination for constant reconstruction in order to create a new cultural product that would make the cultural offer of the destination more interesting for tourists. The probability of expanding cultural activities within a cluster of cultural attractions or a cultural destination zone will depend on the results of the evaluation of the following three elements:

- 1) Is there enough space for possible expansion if the future development of the place will require it.
- 2) Are the secondary and tertiary potential cultural attractions sufficient and different enough to enable the permanent upgrading of the site.
- 3) Is the nature and character of the new activities in accordance with the socio-cultural integrity of the area in order to minimize the negative effects of tourism on culture.

The possibility of expanding activities in the destination is an important element that can ensure the sustainability of the touristic growth of the destination and have a positive effect on the economic security of the community. In many cases, it can provide a longer lifespan for the destination and a basis for rejuvenating the destination when it reaches saturation and loses its tourist appeal.

#### **4.2. The appeal of a cultural attraction**

The attractiveness of a cultural attraction is a quantitative expression of a destination's ability to attract tourists. We have already divided points of interest into primary, secondary and tertiary according to their unique authentic attributes, which are expressed in tourism by the number of

tourists that the destination is able to attract. This number is a quantitative expression of the attractiveness of the destination. Further qualitative analysis can determine the characteristics of tourists entering the area as well as the characteristics of the main areas from which they come. This is important for the development of the cultural product and the responsible management of attractions. The dynamics of change is the most interesting challenge for researchers. The most important issue is the identification of the factors, participants and variables of the context that is in the background of the process. As the world rushes into a global economy, there is a growing awareness of the need to preserve and value parts of our heritage. Tourism itself is an active participant in the change. Where a community or region chooses tourism as one of its economic activities, this implies accepting change and making decisions to share some heritage resources with visitors, while making the remaining resources a privilege of the local population. In fact, the dynamics of "attractive places" often become increasingly dependent on the construction of new, prestigious "architectural design" projects, such as the Guggenheim Museum in Bilbao, the Millennium Dome in Greenwich, London, and conference and social halls in many places (Plaza, 2000). The short lifespan of this type of attraction has already become a cause for concern. Such modern icons usually go hand in hand with significant development of cultural activities, such as museums, concert halls, art galleries, social halls, etc. (Fladmark, 2000). It cannot be denied that landmarks and icons have become strong cultural elements on the mental map of visitors and also in their actual time-space use of tourist destinations (Lievois, 2007, Lew & al., 2004). Analyzing certain characteristics of tourists who visit a place can determine the breadth and nature of the attraction's attractiveness:

- where tourists come from (define the characteristics of those areas)
- how far they have traveled (international, national, regional and local)
- what are the characteristics of the tourist profile (age, education, consumption)
- the means of transport they used

The characteristics of existing and potential tourists can only be determined by conducting a special market research, thus establishing the attractiveness of the destination.

#### **4.3. Availability of cultural attractions**

Evaluating the availability of cultural attractions should begin with the definition of a tourist "development zone", followed by the selection of a place for special cultural and tourist development. Unfortunately, there is no agreement on how to define tourism development zones. Gun (cited in Gartner, 1996:250) identifies "several terms that are used interchangeably to describe development zones: administrative zones, marketing zones, and destination zones. Gun defines tourism development zones as "general areas that possess some special tourism development qualities that other areas do not have". This means that any tourist attractive area, if it is financially feasible to participate in the tourism industry, can be a tourist development zone. Also, lack of development in one zone means more work in another. Due to the competitiveness and the degree of (inter)regional dependence between zones that depend on similar market segments, only the development of a unique cultural product can ensure the sustainable economic growth of each tourism development zone in the region. According to Claire Gun (cited in Gartner, 1996:250) the four main elements of primary tourism zones are:

- Clusters of cultural attractions: all cultural resources in the destination are available for tourist consumption, they form the basis of the selection process of cultural attractions.
- Degree of community participation: the community is seen as part of the foundation of the attraction and/or provider of tourism services.
- Circulation space: allows entry and exit from the destination with minimal delays. The number and type of visitors depends on the number of different transport systems in the development zone.

- Connection spaces: connect points of interest with the community. Community space can be separated from the tourist zone (cluster of interest) through well-organized connecting spaces. This can, to a certain extent, be effective in protecting local culture from the negative consequences of tourism.

Any point of interest cluster within the destination zone that lacks one of the listed elements will automatically be demoted to a secondary point of interest cluster. If it lacks the two listed elements, it will become a tertiary cluster of interest. If a cluster within the destination zone has only one of the requirements, it will not be considered for development at this stage of the selection process. If, at a later stage, the development needs to be expanded, the clusters can be reconsidered. Usually, the development zone is quite large, independent and just a sufficiently regional area. It does not depend so much on existing connectivity and availability as it is able to stimulate the development of the missing infrastructure. The larger the zone, the less its dependence on existing tourist routes, because its size is expected to generate enough attraction to create new tourist flows. The rule for choosing a place for a tourist development zone is, contrary to earlier opinions, that it must be physically separated from other development zones and points of interest in order to emphasize the uniqueness of the product offering. For example, Sun City was built in a remote rural area, and Las Vegas is in the middle of the desert. Evaluating accessibility is very important for small tourist zones. We have already said that secondary tourist attractions are usually developed on the way to primary ones in order to take advantage of already existing tourist flows. Since they are not capable of generating tourism demand by themselves, but use the existing ones, we describe them as parasitic. Accessibility means that the tourist has the possibility to reach the area. If it is not possible to provide relatively comfortable and permanent access to attractions, the sustainability of tourism development should be carefully reconsidered.

#### **4.4. Valuation of the cultural attraction for the community**

In cases where the way of life and cultural traditions, as a living culture, become the focus of cultural tourism, communities often resort to different strategies to protect themselves from the curious and persistent "tourist gaze". Communities whose culture has become an object of tourist interest without their consent defend themselves against tourist influence and commodification using various tactics and strategies. One way to protect living culture is to create a "cultural exchange interface" or "cordon sanitaire" that surrounds the community and forms a unique defense system where cultural products are offered and tourist consumption is controlled on a kind of community stage.

##### *4.4.1. Economic limitations of inheritance*

To assess the economic consequences of heritage-related activities, we need to ask two questions:

- what are the limitations of heritage-related activities?
- what methods can we use to determine the scale of these activities?
- Communication criterion: object, monument, trade, craft, become cultural heritage because they have great significance for the territory or society. The very fact of its existence is a way of spreading some common references or learning a common history, which also explains its relativity.
- Scientific criterion: an object, monument, craft, become cultural heritage because their scientific or artistic value is recognized, and their destruction, from that same point of view, would be considered a loss.

This also means that heritage that does not have a very significant communicative content should be preserved because its scientific or artistic value is highly valued.

- Economic criterion: an object, a monument, a craft, a trade, become a cultural heritage because it would be too expensive to "reconstitute" it if it disappeared. Therefore, this very large economic value is evaluated in relation to the cost of re-existing the heritage, and we can even say that this cost would be infinite. Then inheritance would be an economic good whose cost of production is infinite. Again, we can establish that this criterion can be used even if the first two criteria are not met.

#### *4.4.2. Assessment of cultural heritage: the necessity of specific methods*

This problem is the basis for the heritage economy: How to combine elements such as aesthetic value, indirect effects in the form of costs and jobs, housing value, etc.? Typically, economists will assign some monetary value to these effects, even if they feel that the logic of money should not prevail over social choices of inheritance.

#### *4.4.3. Evaluation of the value of use*

Normally, the prices of entrance tickets to attractions and accompanying activities should be considered as a relevant approximation of the economic value of the heritage. This is not entirely true because the price is only one part of the funds created by such consumption, and the difference is the consumer surplus. Therefore, the challenge is not only to know what users will actually pay (which is a flexibility problem), but to determine the maximum amount they are willing to pay. If we try to determine the optimal amount of investment when it comes to inheritance, we have to take into account the total amount of funds that will appear in one domain and the total amount of loss of funds that would appear in another domain, thanks to the specific use of monetary sources.

Here we can use three methods:

- Transportation cost: the main idea is that the transportation cost that people are willing to pay is sensitive to the utility that the visitor will get from these trips. The higher the expected utility from heritage-related activities, the higher the transportation cost they will be willing to pay. In fact, this method is complex, and its main assumptions are highly debatable.

To introduce this method, defined by Clawson and Knetsch (1969), we need to gather some information:

- relationships between visits and travel costs, according to different areas and the population density of these areas: therefore we can have transportation cost functions;
- the demand function, through the combination of different transportation cost functions: for a certain (actually a certain transportation cost) we can determine the expected number of visitors and the largest corresponding surplus.

But the assumptions are very limiting:

- the trip must be systematically and uniquely connected to heritage-related activities,
- the intrinsic value of the trip is ignored,
- if the excursion is explained by activities related to heritage, we consider only one main activity related to heritage,
- the effects of transportation cost on income are ignored, which means that we can only consider price effects,



- the consequences of the territorial distribution of cultural capital are neglected, which allows considering only the effects of transport costs to explain the number and frequency of heritage visits.
- Contingent value: some economists suggest asking users directly what is the greatest utility that a visit to a landmark would have for them. We call this the value of the option, the cost of the option: then we agree to finance the cost of preservation so that the landmark will be available in the future. Another non-use value is the legacy value: I am willing to spend some money so that my descendants can enjoy the legacy in the future.

These non-use values are very important: donations, subsidies, patronage, sponsorships are very common and play the most important role in some countries. Most often they are in money, but sometimes they can be in kind, for example voluntary work organized through the work of non-profit conservation organizations. We must take these means into account precisely because they show not only an interest in inheritance, but also a social choice for certain forms of inheritance.

#### *4.4.4. Indirect value*

As we mentioned earlier, many of the expected benefits are indirect. Since they appear in "costs - revenues - costs" rounds, a certain multiplier is usually used to estimate the global value of this indirect advantage. There are three tools available here:

- consumption or income multiplier: the most traditional and produces some very high values. For example, for one unit of currency spent in the relevant territory, we would have a final cost amount of 3, which means that the value of the multiplier is equal to 3. As we stated earlier, this method is as dangerous as it seems because we often underestimate the loss: for example, if the costs realized on external products and services, the total value will always be 1, and we will not benefit from any multiplier effect;
- employment multiplier: compares the final number of jobs created or retained in the territory with the initial number of jobs closely related to the activity of the new heritage: with regard to development, this method is better because it starts with a much more precise focus and considers links more precisely; their value is usually lower (on average around 1.5);
- input-output multiplier or Leontieff factor: this method is probably the best because it starts with a very detailed description of production in the territory, exports and imports. As the loss is the focus of the analysis, the result is not only better but also more relevant: it shows what policy should be taken to maximize the expected benefits of inheritance.

But it should be recognized that many researches or surveys on the economic effects of heritage activities use the income multiplier, and very often by "imposing" their values from other examples, which creates great biases.

#### *4.4.5. The best investment in heritage*

Once the effects of inheritance are determined and assessed, it is possible to determine the optimal amount of investment in heritage. But, in fact, there are three different types of investments:

- reuse: private or public, the owner intends to change the use of his inheritance,
- renovation or rehabilitation: private or public, the owner retains the state of his heritage without considering the possible use,

- preservation: private or public, the owner intends not only to preserve his heritage, but also to create new values of use and non-use. These three types of investment are determined by agreement.

#### Investing in reuse

If  $V_n$  is the reuse value of the inheritance,  $C_n$  is the reuse cost,  $V_0$  is the value of the inheritance before reuse, and  $C_0$  is the market value of the inheritance.

The existing value of the inheritance before any investment is:

$$V_0 + C_0$$

investments will be needed as long as:

$$V_n - C_n > V_0 + C_0$$

and optimal investment

$$V_n - C_n = V_0 + C_0$$

The introduction of this equation is straightforward as long as we do not consider the specificity of inheritance.

#### Investment in renovation

If  $V_n$  is the inheritance value for renovation,  $C_n$  is the renovation cost,  $V_0$  is the inheritance value. The market value of the inheritance should not be considered here because the ownership of the inheritance should not be changed.

The existing value of the inheritance before any investment is then:

$$V_0$$

the investment will be necessary as long as:

$$V_n - C_n > V_0$$

and the optimal investment will be:

$$V_n - C_n = V_0$$

#### Investing in conservation

If  $V_n$  is the value of inheritance after preservation,  $C_n$  is the cost of preservation,  $V_0$  is the value of inheritance before preservation. The market value of the existing inheritance should not be considered here, because the ownership of the inheritance should not be changed. However, we need to take into account the new variable  $A_n$  which is the preserved inheritance value for other users.

The existing value of the inheritance before any investment is:

$$V_0$$

the investment will be necessary as long as  $V_n - C_n > V_0$ :

$$V_n - C_n > V_0$$

and the optimal investment will be:

$$V_n - C_n = V_0$$

Introducing this equation should be easy, but gathering the relevant information could be difficult because the owner may not have a good understanding of the value of the new inheritance to the beneficiaries. In this sense, we can expect that the owner cannot predict the value of this preserved heritage for users and non-users, directly or indirectly. Such an omission can be explained by various reasons:

- the owner does not assess the interest of the newly preserved heritage,
- the owner does not benefit from real indicators about the potential inheritance claim,
- the owner cannot organize new services that are potentially required by different consumers, regardless of the type of consumer: households, companies, local authorities.

We can modify the previous presentation a bit if we define  $A_n$  as an unexpected inheritance value or a value that the owner will not consider.

Then the existing equation:

$$V_n - C_n = V_0$$

should be defined as:

$$V_n - C_n + A_n = V_0$$

In this sense, investing in conservation should be more important than in the previous one. This means that the optimum will be introduced only if the information is improved. Even an extreme situation can arise: the number of visitors is so large that the further costs of work and maintenance for a certain quality of service become infinite. The use of inheritance should be strictly limited or even prohibited, and this is a situation of conflict between inheritance and economy.

#### 4.4.6. Conflict "Inheritance vs. Economy"

The best market volumes therefore cannot be sustained. Some over-exploitation of heritage can lead to situations where basic resources will be destroyed or the cost of rehabilitation and conservation would become infinite. Two main factors can lead to such results:

- lack of endurance capacity,
- the importance of the issue of degradation.

#### Endurance capacity challenge

For a long time, the concept of carrying capacity has been used in the economic analysis of tourism. He clearly showed that too many tourists will reduce the quality of the landmark or its very existence. For example, the growing number of visits to archaeological caves has created such sources of pollution that the amount and time of visits need to be regulated more and more. The ultimate solution is the one in the Lascaux cave, or viewing the Last Supper fresco by Leonardo da Vinci, one of the world's greatest artistic masterpieces, the painting has become

an icon of Christian painting and one of the most famous paintings in the world. We can formulate the problem in another way: in order to make heritage-related activities sustainable, it is necessary to regulate the number of visits, but the only way in which this "physical argument" can come in and create a counterbalance to the economic consideration is to consider that the cost of maintenance is getting higher and higher, and it can even become infinite when a certain number of visits is reached.

To prevent these irreversible problems, some solutions are offered:

- to regulate the number of visits, which means that waiting lists increase quickly and that visitors bear the added cost;
- make reproductions and artificial landmarks, as mentioned earlier;
- redirect the demand for cultural products and activities not related to culture. We must emphasize this last point: recently some economists have shown that there is not only a cultural demand for cultural goods, but also a demand for such cultural goods, sights or services, but which is not related to culture. This problem is known as Venice Dilemma (Mossatto) and highlighted the growing need for prestigious locations or landmarks used as an image, even if there is no main motive related to culture. The first solution is to reduce this artificial demand and direct the endurance capacity only to the real demand related to the culture. We need a certain requirement for degradation:

We always consider positive demand for inheritance. But there is also negative demand, which is the demand for destruction to meet alternative needs such as housing, public works, agricultural investment, etc. Otherwise, economic knowledge deals with these types of contradictory requirements, and the principle is to compare alternative surplus and choose the situation that will maximize the social surplus. But inheritance does not fit into that kind of situation because some surpluses are reversible and some are irreversible. Moreover, the demand for degradation is not constant: it is related to the state of society, the tendency to preserve the heritage, the possibility of sources for preservation, etc. Then we can consider that the higher the quality of the heritage, the lower the demand for degradation, and vice versa.

Two limitations of economic analysis appear here:

- interchangeability between reproducible and non-reproducible products;
- interdependence between the state of society and the value of the request.

#### What kind of economic analysis is that?

These remarks show the problem of using economic analysis of inheritance. Traditionally, three methods have been used to determine the optimal heritage investment: impact analysis, cost-utility analysis, and gain (income) and loss (cost) analysis.

- Impact analysis - the main presentation of this method is the determination and use of multipliers - it does not give a clear view of the problem and creates a systematic bias;
- it is partial because it does not take costs into account,
- systematically increases benefits without considering whether harmful links are well established.
- The analysis of income and costs determines the systematic ranking of projects. But by combining all effects on the same scale of market values, it ignores major contradictions such as reversibility and irreversibility; possibility and impossibility of reproduction; substitutability and irreplaceability.
- Analysis of cost-effectiveness or cost-utility analysis is therefore the most desirable type of analysis, regardless of the specificity of the content: the only one that deals only with physical information (cost-effectiveness); the only one that deals with utility indicators (cost-utility).

These two versions take into account the specificities of inheritance, but they have to solve a basic problem: sooner or later they will have to establish connections between different types of advantage and utility, and use the same evaluation system (same origin, same unit), but in order to take into account the specificity of inheritance they could give a very high importance to the integrity of the inheritance in relation to other effects. This means that these results will be very sensitive to the estimator's choices. But it also means that appraisers won't need to convert effects into monetary values, which creates more opportunities.

## 5. CONCLUSION

This discussion emphasizes the fact that the goal of economic evaluation is to clarify the elements and information for social choice, not to replace the economist's view of those social choices. A tourist product is a "time and place" where an experience is created and consumed. The fact is that the main element of the cultural tourism product is precisely the heritage, the cultural interest confirms that it is necessary to highlight and recognize the intrinsic values of the heritage resources, which become the most important part of the development of the cultural tourism product. The technological revolution experienced by the development of the Internet has dramatically changed the market conditions for tourism organizations. ICT is developing rapidly providing new tools for tourism marketing and management. They support interactivity between tourist enterprises and consumers and as a result of reengineering the entire process of development, management and marketing of tourist products and destinations. The impact of ICT is becoming increasingly clear, as networking, dynamic interfaces with consumers and partners, and the ability to re-proactively develop the tourism product and reactively are key to the competitiveness of tourism organizations. The review of the literature shows that eTourism research is in its infancy and that many issues are only now beginning to be addressed in the literature, including economic benefits.

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