

INTERDISCIPLINARY DESCRIPTION OF COMPLEX SYSTEMS

Scientific Journal

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I. Lučića 1, HR – 10 000 Zagreb, Croatia

E-mails: editor@indec.s.eu (for journal), ured@idd.hr (for publisher)

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INNOVATION FOR ORGANIZATIONAL PERFORMANCE: APPROACHES AND APPLICATIONS. EDITORIAL

Dear readers,

intending to provide additional insights into creating and sustaining innovative business practices and sustainable development, this thematic issue of INDECS presents articles and research results on several issues related to information systems and technology, circular economy, ethical and corporate social practice as well as aspects of technological advancements, managerial and corporate performance that can help to sustain innovative business and long term organizational sustainability.

Some of the latest trends, approaches and research results in this field were presented at the 5th Enterprise Research Innovation Conference (ENTRENOVA) held in Rovinj Croatia, from 12-14 September 2019. ENTRENOVA is an international scientific conference organized by IRENET, Society for Advancing Innovation and Research in Economy, in cooperation with the Faculty of Tourism and Hotel Management, Kotor, Montenegro and the University North, Varaždin, Croatia. It is a multi-disciplinary conference dedicated to examining, comprehending and discussing the art in the theory and application of innovation, knowledge management and R&D issues in the business settings, especially related to information and communication technologies. At ENTRENOVA 2019, more than 160 authors, from 30 countries, participated with 80 abstracts and 70 papers.

Beside for participants of ENTRENOVA 2019, the open call for this thematic issued of INDECS was for all other interested authors, researchers and practitioner from the field of economics, organization and management science, information technology and different managerial aspects concerning innovative business practices and sustainability.

Ten submissions for a thematic issue of INDECS were received, some of them being extended journal version of short articles from proceedings. Articles in this issue were accepted after a review by guest editor and a blind review process by two independent reviewers. A short description and contribution of each article are provided in the following lines.

Paper *Genetic algorithms as a tool for development of balanced curriculum*, by Dijedić, Bebić, and Gašpar, stresses the genetic algorithms application significance in the analysis of the interrelation of the curriculum courses in higher education. The empirical part of the paper employed the genetic algorithms to ascertain the effect that grades achieved in predictors' courses have on achieved grades in contingent courses. Also, the authors of this paper observe if the genetic algorithms can advance the existing curriculum. Authors use data related to the students' success from the Faculty of Information Technologies at the University 'Džemal Bijedić' in Mostar, Bosnia and Herzegovina. Additionally, the authors wanted to examine anticipate students'

grades based on the grades they achieved in courses from the prior semester. Results show that a good curriculum can draw attention from new students, enhance the success rate students that enrolled in specific courses, and boost the institution's quality and its perceptibility. Moreover, this paper shows how the genetic algorithms as search techniques for managing intricate spaces, can be used in every field of the educational process research. Conclusively, using genetic algorithms can help educational systems to boost the teaching quality.

Zoroja, Klopotan, and Stjepić in their paper named *Quality of e-Commerce practices in European enterprises: cluster analysis* approach presents how development and usage of e-Commerce can have a positive influence on businesses within European countries. Authors also show how efficient usage of e-Commerce offers better services to clients and higher profitability for different businesses. Authors recognize that a high-quality communication process between the supply and demand side, is an added benefit for further e-Commerce development, mainly in developing European countries. The main objective of this paper is to examine the e-Commerce practice quality and usage within enterprises in 29 European countries for the year 2018. Authors use hierarchical cluster analysis as a research method intending to find out if there are any differences among selected European countries regarding e-Commerce practices quality and usage. Moreover, results show that European countries with a higher rate of e-Commerce utilization have higher rates in ICT usage generally as well as increased economic progress.

In their paper, *The impact of strategic networking on business performance of manufacturing SMEs operating in a predominantly service based economy*, Morić Milovanović, Primorac, and Kozina analyze the role and the impact of strategic networking on the Croatian manufacturing SMEs efficiency. Authors conducted their empirical research between Croatian manufacturing SMEs by analyzing a set of financial and non-financial performance indicators as well as the environmental context of enterprises as a moderator variable in the model. Thereby, authors gain more extensive analysis of strategic networking and business performance connection. Based on their research, the authors indicate that their results are unconvincing. Namely, they concluded that strategic networking has a positive impact on business performance by conducting the unidimensional analysis. However, results are not the same while conducting the multidimensional analysis by which only the reputation has a notably positive effect on business performance amongst all the other observed antecedents important for strategic networking.

How organizational culture influences satisfaction of employees shown on the example of tourism businesses in Montenegro, the paper by Simović, Perović, and Raičević explores a new way for enhancing competitive benefits and business operations within Montenegro's tourism sector. Simultaneously, by creating this new approach, they improve the environmental context of businesses as one of the competitiveness determinants. Moreover, the authors describe and examine the link and impact of different types of organizational culture and employees' satisfaction by observing the jobs they do at the same time. For gaining results, the authors use quantitative

explorative research, including usage of the Organizational Culture Assessment Instrument (OCAI), and the Test for measuring employees' satisfaction. Analysed results revealed the type of organizational culture that is common for businesses within the Montenegro tourism sector. Also, the results of conducted research proved that organizational culture is a determinant that affects the employee satisfaction level.

In a paper *Cluster analysis of new EU member states' pension systems*, Krpan, Pavković, and Žmuk address the comparison of the pension systems between the chosen newest Member States of the European Union. Accordingly, the authors want to ascertain the guidelines for further pension reforms. Namely, through their research, they discover which countries' practices and challenges would be valuable in setting specific policy measures. For this purpose, they used Ward's clustering methodology as their research method. The authors based their clusters according to three perspectives of the pension system analysis: pension systems' characteristics, demographics, and macroeconomics and labour market. Besides, for conducting cluster analysis, the authors chose the following three periods by 10-year difference: 1996, 2006, 2016. The results of their research suggest that the composition of the countries in derived clusters changes notably through all observed years and all three used perspectives. Also, given results show that economies with later retirement have more sustainable pension systems. Therefore, the authors also indicate that lower pension expenses have a favourable effect on the labour market and their economies.

Sorić, Žokalj and Logarušić, in their paper *Economic determinants of Croatian consumer confidence: real estate prices vs. the macroeconomy*, investigate the driving forces of consumer confidence. They focused their research on the sample of customers in Croatia, a country that is particularly reliant on the real estate sector. In their empirical section of the research, the authors employed Autoregressive Distributed Lag (ARDL) models. Thereby, the authors analysed a broad set of macroeconomic indicators that could influence customer confidence. According to the given results, real-estate prices are not a significant factor that affects customer confidence in Croatia. However, real wages, interest rates, and the general price level are discovered as long-term factors that have an impact on Croatian costumers' confidence. Besides, short-term impact factors on Croatian customer confidence, such as GDP growth rate, unemployment rate, and stock market developments, have been revealed by the authors in their conducted research.

Paper *Living lab – creative environment and thinking techniques for tourism development* by Šker and Floričić explore the issue of the reason for and effectiveness of the Living Lab establishment in the higher education system. They explain the research problem of the Living Lab organization as an environment for creating new ideas and guidance for tourism and entrepreneurship. In addition, they analyse differences and similarities between group creative thinking techniques for generating ideas (brainstorming and brainwriting in the Living Lab) to reveal recommendations for further research. The article aimed to show an innovative model that would enhance tourism entrepreneurship practice. In their empirical part, the authors use qualitative and quantitative approaches as research methods. They apply the explanatory sequential design, which includes data firstly collected by using quantitative and then qualitative

methods. Finally, the authors brought out concluding observations useful for tourism entrepreneurship focusing on innovations and problem-solving in the observed context.

Novice and habitual entrepreneurs and external business support exploitation by Ropega investigate preliminary examination results of the prior experience in business influence or its absence of entrepreneurial behaviour. By employing the Computer Assisted Telephone Interviewing technique, Ropega collects data on a sample of 373 small-sized innovative companies in Poland. Research results indicate that habitual entrepreneurs utilize external business support more than novice entrepreneurs do. However, any notable distinctions between different business support forms are not recognized in this research. Ropega also emphasizes that given results of the conducted study are particularly significant for future research in which focus should be put in detail to analyze habitual entrepreneurs' characteristics.

In their paper, *Hope and responsibility vested in younger generations: the case of Hungary*, Marton, Ernszt, Rodek, and Mahr analyse the consumption habits and consumers' state of mind toward consciousness and responsibility. Therefore, the authors want to investigate if the more recent generations are more responsible than the earlier ones, considering consumption, and consumer decision-making habits. Results of their empirical part of the research conducted amongst 652 consumers of a German supermarket chain operating in Hungary were focused on defining the main distinctions between different generations concerning their consumption habits. Based on their research results, authors indicate that consciousness is rather revealed in the self-interest than in the responsibility. Even the global studies' results refer to progress through generations and consumers within younger generations shown as more conscious and responsible than older ones; this research indicates that it is not the case in the observed country.

Veledar, Gadžo, and Lalić, in their paper *Cost and management accounting in budget-funded organizations in Bosnia and Herzegovina*, investigate the theoretical and practical level of knowledge within the cost and management accounting field. In addition, the authors examine the possibility of mentioned knowledge utilization within the budget-funded organizations in Bosnia and Herzegovina. The empirical part of the paper provides the survey questionnaire that is conducted among 208 budget-funded organizations operating. Based on the results, the authors indicate that respondents do not have a high level of knowledge in the cost and management accounting field. However, results also show that respondents understand the importance of using new forms of accounting that could advance the decision-making process of public management. Consequently, the authors also state that this could trigger the measurement of performance within the public sector and empower the transparency of public management functioning in Bosnia and Herzegovina.

Zagreb, 7th June 2020

Guest editors
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THE IMPACT OF STRATEGIC NETWORKING ON BUSINESS PERFORMANCE OF MANUFACTURING SMEs OPERATING IN A PREDOMINANTLY SERVICE BASED ECONOMY

Bojan Morić Milovanović^{1,*}, Dinko Primorac² and Goran Kozina²

¹Libertas International University
Zagreb, Croatia

²University North
Koprivnica, Croatia

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ABSTRACT

Strategic networking represents a strategic intent of the firm to develop meaningful and sustainable long-term coopetitional business relationships with various market players. Through such market relationships, the focal firm can focus on the further development of its own core competences and simultaneously garner the network benefits. The purpose of this article is to examine the role and the level of influence strategic networking has on the performance of Croatian manufacturing SMEs. The relationship between strategic networking and business performance has been further tested by looking into a set of financial and non-financial performance indicators, where moderating role of the external environment has been used to even further explore the observed relationship. Although unidimensional analysis reveals positive influence of strategic networking on business performance, that is not the case when multidimensional analysis is applied, where only the reputation among other strategic networking antecedents has a significantly positive influence. Therefore, it can be concluded that these research results are inconclusive, whether looking at the existence, strength or direction of the observed relationships, and require further research.

KEYWORDS

strategic networking, business performance, external environment, manufacturing SMEs, multidimensional analysis

CLASSIFICATION

JEL: D00, M20

INTRODUCTION

The concept of networks and networking has its roots in various scientific disciplines, such as sociology, anthropology, psychology, economics, organizational behavior, entrepreneurship, etc. where researchers have generally viewed a network as a specific set of connections and relationships between various groups [1-4]. When viewing firm networks in particular, networking theory suggests that much of firm's competitive advantage resides in the enduring collaborative business relationships [5, 6] and that entrepreneurs, through networking activities are able to gain access to particular resources that they otherwise do not control, thus improving their business performance [2, 3, 6, 7]. With the formation of business networks companies can reduce risk levels and production costs, increase flexibility, efficiency and knowledge capacity, which in turn leads to higher performance results [8-10]. Through strategic networks companies are able to better predict, prevent and absorb market uncertainties that affect their operations [8, 11] and can jointly access previously inaccessible market segments [12].

Literature has confirmed that the extent of the relationship between strategic orientation and business performance is contingent on the industry in which the company operates, and additionally depends on various internal and external factors [4]. Therefore, this article contributes to the existing body of literature with the outcomes of the multidimensional analysis of the relationship between strategic networking (SN) and small business performance within manufacturing sector, specifically by taking into an account the moderating effect of the external environment (EE). Moreover, since SN has been investigated not only as a unidimensional but also as a multidimensional construct - and its influence on business performance has been further tested regarding the financial and non-financial aspects of business performance – this article attempts to integrate such findings into the present analysis.

In methodological terms, the research has been conducted among 105 manufacturing SMEs using multiple and hierarchical linear regression analysis to test the relationships between SN, EE and business performance and to test the SN-business performance interaction effect. From the analysis can be concluded that SN positively influences small business performance, while the EE has a negative impact on the firm's SN posture. Regarding the interaction effect of EE the findings are inconclusive as no evidence with regards to supporting the notion of the influence of EE on the relationship between SN and business performance could be extracted.

LITERATURE REVIEW AND HYPOTHESES

The notion of networks and networking is still ambiguous and contradictory when applied to the analysis of small business networks. Most studies of SMEs and their networks have mainly focused on the entrepreneur and his/her relationships with the rest of the network [1, 6, 13-16] and not enough studies focused on the long-term implications of such relationships. Therefore, strategic network can be defined as the composite of firm's relationships with market players, including the long-term perspective in regards to the relationships between business owner and external players (individuals and firms) whereby the owner acquires information and resources while at the same time receives requisite support from his partners [10, 17, 18]. When looking at SN in particular as a multidimensional construct various authors have further refined this concept through its antecedents. Most common antecedents stated in the literature are: (a) trust, (b) commitment, (c) reputation, (d) communication and (e) cooperation [11, 19-23]. Many view trusts as the most important antecedent that significantly contributes to the success of strategic network [19, 22, 24-26], as trust represents the basis for the development of social ties among network members [10, 27].

Trust develops from personal relationships and connections, and can be seen as the controlling mechanism for the opportunistic behavior among partners and as a platform for knowledge and information exchange [10-11, 22, 28-30].

Commitment positively affects business performance as an element that maintains successful development of long-term business relationship [21, 30, 31] and therefore results in the willingness to endure short-term sacrifices in order for realizing long-term benefits [22, 32]. Reputation represents an important antecedent of the strategic network, as well, since good and positive reputation is proxied by firm's willingness and ability to provide quality products and services [11, 25]. If the firm is highly valued and respected, this consequently represents valuable intangible resource [33], especially in the strategic network context, where good reputation not only encourages business partners for further cooperation, but it also leads to the reduction in transactional costs as there is no longer need to seek "better" deals from other players outside strategic network, i.e. there is no need to seek new partners [11]. Therefore, reputation remains a key factor required for development of long-term business relationships, as it leads to reduction of overall uncertainty in the firm's business environment [34, 35].

Frequent communication between partners allows both parties to get better acquainted and to quickly exchange information in order to achieve common goals [36]. Specifically, intensive two-way communication allows resolution of disputes and facilitates coordination in respect to the execution of plans and programs, manages expectations, and helps with design of goals and performance evaluation metrics [37]. Thus, smooth communication process and the high quality of information exchange represent the basis for successful network performance [11, 38]. On the other hand, cooperation represents joint planning, i.e. coordinated management, of similar or complementary activities to achieve superior mutual benefits [39]. Cooperation allows each network partner to have its own, albeit common and compatible goals, and to give up some part of autonomy in favor of mutual success [23, 40]. By working together on specific goals, firms can develop such competences which otherwise would not be able to develop independently [23, 41]. Consequently, joint participation in various business activities is a requisite for network partners to develop and improve their operations [21]. Therefore, SN provides access to much needed resources which reside outside of firm's core capabilities [9, 42], improves decision making process and increases firm's operational flexibility and efficiency [9, 43]. Moreover, SN has a positive effect on growth, both in terms of revenue and customer base, and increased profitability [1, 44, 45]. However, literature states some contrary findings as well, where SN has been identified as the cause for firm's underperformance [45-47] mainly as competition in strategic networks creates omnipresent possibility that partners could start utilizing opportunistic and self-interest behavior [48, 49]. It is henceforth paramount to further test the relationship between SN and business performance via multidimensional approach where financial and non-financial performance implications would be further investigated. We thus propose to test the following hypotheses and their corollaries:

H₁: Strategic networking has a positive effect on business performance.

H_{1a}: Commitment has a positive effect on business performance.

H_{1b}: Trust has a positive effect on business performance.

H_{1c}: Reputation has a positive effect on business performance.

H_{1d}: Communication has a positive effect on business performance.

H_{1e}: Cooperation has a positive effect on business performance.

SN-business performance relationship generally has been tested by focusing on financial performance since increased networking activity allows firms to achieve economies of scale and scope, share mutually transferable costs and decrease overall exposure to various market

related risks which in turn lead to increased financial results [12, 44, 45, 50-52]. Therefore, we propose to further test the following hypotheses:

H_{1.1}: Strategic networking has a positive effect on business financial performance.

H_{1.1a}: Commitment has a positive effect on business financial performance.

H_{1.1b}: Trust has a positive effect on business financial performance.

H_{1.1c}: Reputation has a positive effect on business financial performance.

H_{1.1d}: Communication has a positive effect on business financial performance.

H_{1.1e}: Cooperation has a positive effect on business financial performance.

On the other hand, relationship between SN and non-financial performance is not so grounded in the literature since there are contradictory findings where some scholars have determined positive relationship [1, 12, 16, 53], while others have not [7, 46-47]. To that end, we propose to test the following hypotheses:

H_{1.2}: Strategic networking has a positive effect on business non-financial performance.

H_{1.2a}: Commitment has a positive effect on business non-financial performance.

H_{1.2b}: Trust has a positive effect on business non-financial performance.

H_{1.2c}: Reputation has a positive effect on business non-financial performance.

H_{1.2d}: Communication has a positive effect on business non-financial performance.

H_{1.2e}: Cooperation has a positive effect on business non-financial performance.

Contemporary business landscape is characterized by a high degree of complexity, unpredictability and volatility which is placing ever more pressure on entrepreneurs/managers to constantly search for new opportunities, lean process enabling technologies and cost optimization strategies, all with the single purpose of generating new value added to the business [54-56]. Most scholars depict EE as being turbulent [57, 58], dynamic [59-61], and hostile [60, 62].

Turbulent environment is mostly described as continuous and substantial changes characterized by high degrees of uncertainty and unpredictability in which becomes extremely difficult to predict the outcomes of implemented actions [57, 63]. Hostile environment is characterized by a high level of competitiveness among market players which is reflected through the intense price, product, and technology competition. Hostile environments usually have a lack of resources, are subject to unexpected governmental interventions and have relatively limited growth opportunities [64-66]. Environmental dynamism represents degree, velocity, and predictability of the market changes and can be described as the overall level of uncertainty in the environment. Moreover, environmental dynamism may manifest itself in the form of market and innovation volatility, unexpected changes in consumers' preferences and competitors' behaviors, and disruptive innovations in production and service technologies [60, 61, 63, 67].

Therefore, turbulent, dynamic and hostile environments have a profound effect on networking activities among SMEs since operating in highly uncertain environments drives firms to reshape their market position, operating practices and competitive strategies, which is why we propose to test the following hypotheses:

H₂: External environment has a positive effect on strategic networking.

H_{2a}: Turbulence has a positive effect on strategic networking.

H_{2b}: Rivalry has a positive effect on strategic networking.

H_{2c}: Dynamism has a positive effect on strategic networking.

Uncertainty in the business environment is usually characterized as the risk emanating from incomplete information and as such affects the firm's decision-making process with respect to the firm's market position, structure and strategy [61, 67-68]. External environment, mostly characterized as turbulence, hostility and dynamism, has an influence on the complexity of decision-making process which in turn drives management to focus more on improving organizational, day to day efficiencies [63]. Moreover, literature provides ample empirical evidence about the existence and broad extent of moderating effect EE has on the design of firm's strategy and operational execution [62, 69]. More specifically, contrary to the stable business environment, unpredictability and ambiguity would result in the firm's extensive and profound search for suitable industry players in order to link and connect its activities in a competitive manner. Therefore, to that effect we propose to test the following hypotheses:

H₃: External environment has a moderating effect on the relationship between strategic networking and business performance.

METHODOLOGY

RESEARCH INSTRUMENT

In order to conceptualize observed variables and measure their inter-relationships, strategic networking was conceptualized by five variables (commitment, trust, reputation, communication and cooperation), external environment by three variables (turbulence, hostility and dynamism), while business performance was conceptualized by two variables (financial and non-financial performance). Each of these variables were then operationalized and measured by a set of scales deeply grounded in the literature. Therefore, commitment as a variable depicting strategic networking was measured using the [70] scale, trust using the [31] scale, reputation using the [33] scale, communication using the [71] scale, and cooperation using the [72] scale. Turbulence, hostility and dynamism as variables depicting external environment were measured via [58] scale. Business performance, both financial and non-financial, has been measured by [73] scale.

DATA

A random sample of 1000 independent firms from the manufacturing sector was taken from the database of the Croatian Chamber of Economy and contacted in June and July of 2011 of which 500 represented firms with 1 to 49 employees (small firms) and the other 500 firms with 50 to 249 employees (medium-sized firms). From the sampling frame 105 business owners/managers responded to the mail questionnaire resulting in a response rate of 10,5 %. Regarding the business size of the respondents, 70 % were small firms, while 30 % ($n = 32$) were medium-sized firms.

STATISTICAL METHODS

Multiple linear regression analysis was used to test the relationships between strategic networking, external environment and business performance, while hierarchical linear regression analysis was used to test whether there exists an interaction effect of the external environment on the relationship between strategic networking and business performance.

RESULTS

In order to ensure multicollinearity would not have an influence on the results, means of the interaction variables were centered and multicollinearity diagnosis was applied, wherein variance inflation factors were well below critical values. As can be seen in Table 1, correlations among independent variables are relatively modest, ranging from -0,094 to

Table 1. Means, S.D.s, and Correlations ($n = 105$).

	Mean	S.D.	1	2	3	4	5	6
1. Performance	24,24	8,12	1,00					
2. Financial performance	24,18	8,40	0,909**	1,00				
3. Non-financial performance	24,30	9,29	0,926**	0,685**	1,00			
4. Strategic networking (SN)	4,97	1,00	0,496**	0,419**	0,489**	1,00		
5. External environment (EE)	4,49	0,94	-0,094	-0,073	-0,098	0,045	1,00	
6. SNxEE			0,124	0,082	0,143	0,256**	-0,061	1,00

*+significant at 0,1 % probability level (2-tailed)

*significant at 0,05 % probability level (2-tailed)

**significant at 0,01 % probability level (2-tailed)

0,496. Strategic networking, as a first order variable, has a significantly positive effect on business performance ($r = 0,496$, $p < 0,01$), financial business performance ($r = ,419$, $p < 0,01$) and non-financial business performance ($r = 0,489$, $p < 0,01$) which provides support for hypotheses 1, 1,1 and 1,2.

Correlations among the second-order independent variables are again relatively modest, ranging from $-0,256$ to $0,448$ (shown in table 2). Table 3 shows that from the second order variables that conceptualize strategic networking only reputation ($b = 0,21$, $p < 0,10$) has a significantly positive effect on the overall business performance and financial performance ($b = 0,26$, $p < 0,05$), while none of the observed variables have significantly positive effect on non-financial business performance. Therefore, the findings support hypotheses 1c and 1,1c.

The external environment does not have any positive influence on strategic networking; we are thus rejecting hypothesis 2, while only hostility as a second-order variable that conceptualizes

Table 2. Means, Standard Deviations (S.D.), and Correlations ($n = 105$).

	Mean	S.D.	1	2	3	4	5	6	7	8
1. Performance	24,24	8,12	1,00							
2. Financial performance	24,18	8,40	,909**	1,00						
3. Non-financial performance	24,30	9,29	,926**	,685**	1,00					
4. Commitment	4,08	1,63	,378**	,315**	,376**	1,00				
5. Trust	5,84	1,12	,448**	,417**	,407**	,526**	1,00			
6. Reputation	5,79	,92	,427**	,424**	,363**	,406**	,639**	1,00		
7. Communication	5,13	1,25	,378**	,277**	,410**	,546**	,564**	,469**	1,00	
8. Cooperation	4,01	1,43	,358**	,271**	,380**	,578**	,512**	,340**	,648**	1,00
9. Turbulence	4,97	1,24	-,080	-,022	-,119	,088	,019	-,095	,020	-,047
10. Hostility	4,68	1,04	,148	,116	,154	+,166	,081	,150	,141	,088
11. Dynamism	3,83	1,26	-,256**	-,239*	-,231*	,050	-,103	-,086	-,098	-,086

*+significant at 0,1 % probability level (2-tailed)

*significant at 0,05 % probability level (2-tailed)

**significant at 0,01 % probability level (2-tailed)

Table 3. Results of Multiple Linear Regression Analysis ($n = 105$).

	H1		H1.1.		H1.2.		H2		H3	
	Performance		Financial performance		Non-financial performance		Strategic networking		Performance (interaction)	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Commitment	,11	,56	,09	,60	,11	,65				
Trust	,17	,91	,19	,97	,12	1,06				
Reputation	,21*	1,00	,26**	1,06	,13	1,16				
Communication	,05	,80	-,04	,85	,14	,93				
Cooperation	,09	,69	,05	,73	,11	,80				
Turbulence							-,04	,09		
Hostility							,26**	,12		
Dynamism							-,17	-,08		
Strategic networking (SN)									,50***	,71
External environment (EE)									-,11	,73
SNxEE									-,01	,70
R square (R²)	,26***		,22***		,24***		,05		,26***	
Adjusted R square	,22***		,18***		,20***		,02		,23***	

*significant at 0,1 % probability level (2-tailed)

**significant at 0,05 % probability level (2-tailed)

***significant at 0,01 % probability level (2-tailed)

external environment has a significantly positive effect on strategic networking ($b = 0,26$, $p < 0,05$), which supports hypothesis 2.b. From Table 3, can be seen that moderating effect of external environment on the relationship between strategic networking and business performance does not exist, which implies that there is not enough evidence to support hypothesis 3.

CONCLUSION

Investigating the interdependence of strategic networking and business performance among Croatian manufacturing SMEs revealed somewhat surprising results, especially by exploring uni and multidimensional aspects of the observed relationship, and more so, when including the moderating effect of the external environment to the model. Results of this analysis, which are analogous to the literature, showed that strategic networking, observed as unidimensional construct, enhances both financial and non-financial performance of Croatian manufacturing SMEs. On the other hand, when observed as multidimensional construct, among all five antecedents of strategic networking only reputation has a positive influence on business performance. More precisely, reputation has positive influence only on financial performance, while there is no evidence supporting the notion that any of strategic networking antecedents have positive influence on non-financial performance. There are many evidences in the literature implying that SN-performance relationship differs depending on various external factors and market conditions, therefore, our in-depth analysis revealed that external environment does not have positive influence on driving manufacturing SMEs towards extensive formation of strategic networks. Only hostility as one of external environmental antecedents has positive influence on strategic networking. More importantly, when investigating the effect external environment could have on SN-performance relationship it can be concluded that moderation effect is nonexistent.

IMPLICATIONS FOR RESEARCH AND MANAGEMENT

Researching the influence strategic networking, and its antecedents, on performance of manufacturing SMEs, operating in the context of a small, still developing and lagging

economy highly dependent on its service industry, such as Croatia, this study has extended the existing body of literature abundant with findings based on the research conducted mostly in large and developed economies. More specifically, this article contributes to existing literature by analyzing the effect external organizational environment has on the relationship between strategic networking and business performance of small manufacturing firms operating in the small, transitional and open economy context. Therefore, this analysis embedded in the manufacturing sector context, extends previously explored perspectives and, furthermore, by integrating moderating effect of the external environment into the analysis contributes to unraveling the complex connotations strategic networking has in contemporary business literature.

Research results imply that Croatian manufacturing SMEs rely extensively on their business partners and the benefits which such network provides, while reputation is the key indicator business owners and their management take into account when considering the potential partnering effects on their business performance; which is in line with the fact that traditionally Croatian SMEs rely on owner's interpersonal relationships with various market players where owner's reputation signals to other market players the potential of new venture's business success. Moreover, this finding is not surprising considering Croatian economy is still going through transitional process in various business sectors (especially within manufacturing ones), where insolvency represents one of the main road-blocks for more efficient and extensive way of doing business; hence good business reputation enhances the chances for growing the business. Moreover, on the other hand, non-existing effect of external environment on strategic networking process and business performance indicates that Croatian manufacturing SMEs are heavily entrenched within their market shares and most likely even more heavily dependent on their strategic partners. Therefore, small business owners and their management should recognize the importance that antecedents of strategic networking have on business performance and should take them into account while designing their business strategies; even more so if operating in manufacturing sector within a transitional economy context. Said differently, by establishing sophisticated long-term network relationships, manufacturing SMEs can achieve a whole array of benefits and in turn be better positioned on both domestic and global markets.

LIMITATIONS

There are several limitations of this study, more specifically relating to the sample size and the rate of return, respondents' potential subjectivity when providing feedback about the state of their business, and focusing only on one focal point and not including several respondents from the same company to participate in the research. More precisely, sample size is rather small since only 1000 manufacturing SMEs were contacted, out of which 70 % of respondents were small firms, while only 30 % were medium sized firms. Moreover, rate of return was only 10,5 % which could be argued to be technically satisfactory and in line with international publication standards, however, it raises a concern if these findings could be generalized to the entire population. Therefore, future research should be operationalized on a much larger sample size, in order to enhance the contribution to the understanding of the research issues. Moreover, future research should be continued over a longer time period, because longitudinal research would provide clearer insights into the relationship of strategic networking antecedents and business performance as related to the different environment contexts. As stated earlier, study design is based on a subjective perception of firms' representatives, mostly comprised out of senior management, where they may be personally biased while assessing internal and external organizational environment and business performance. Therefore, metrics need to be developed and appropriate proxies must be operationalized in order to serve as a reference with respect to the subjective measures, and in turn minimize potential subjectivity of the respondents. This in turn would provide a more

robust understanding of the observed relationships and an increase in the overall reliability of the analysis. Lastly, research design could be further improved if the study would focus on several representatives from each of the observed firms and not solely rely on the answers provided by one of the company representatives.

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CLUSTER ANALYSIS OF NEW EU MEMBER STATES' PENSION SYSTEMS

Mira Krpan*, Ana Pavković and Berislav Žmuk

University of Zagreb, Faculty of Economics and Business
Zagreb, Croatia

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ABSTRACT

The aging of European societies is reshaping their population pyramids. The increase in life expectancy and the decrease in the fertility rate lead to an increasing share of the elderly population. This leads to rising age-related expenditures, especially public pension expenditures to GDP. Consequently, economies are reforming their pension systems to make them more sustainable. Next to the aging-related challenges, the new EU members, eleven post-socialist economies: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia share a similar history of restructuring of their pension systems and establishment of a multi-pillar system. The objective of this article is to examine the similarities and differences between the pension systems of the selected post-transition economies of the European Union to establish the basis for further research, simulations, and assumptions on the impact of future pension reforms. For that purpose, we apply Ward's clustering methodology on three variable groups in three selected years: 1996, 2006, and 2016. The idea of clustering economies in three years with a 10-year gap is relevant since it reveals how the cluster structure is changing over time. Additionally, three periods represent three different phases in the pension systems' development. Three groups of variables were used for cluster analysis. First, pension systems' characteristics include average effective retirement age, pension expenditure, and replacement rate. Second, demographics encompass fertility rate, life expectancy at the age of 65, net migration rate, and old-age dependency ratio. Third, the macroeconomics and labour market variables refer to the GDP growth rate, real labour productivity, labour force participation rate, and the unemployment rate. Results of cluster analysis show that the composition of the countries in the extracted clusters changes significantly, both throughout the observed period and when looking at different variable groups. Our results revealed that the pension systems of economies with later retirement proved to be more sustainable, during the three observed periods, due to lower pension expenditures that are in turn positively reflected in the favourable economic conditions and their labour market.

KEYWORDS

pension sustainability, pension systems, hierarchical cluster analysis, New Member States, Ward's method

CLASSIFICATION

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*Corresponding author, *η*: mira.krpan@efzg.hr; +385 1 2383 155;
Faculty of Economics and Business, J.F. Kennedy Square 6, HR – 10 000 Zagreb, Croatia

INTRODUCTION

As aging societies become a worldwide issue, more attention has been paid to the sustainability of public finances. With the increasing proportion of elderly and decreasing birth and fertility rates, special pressure is created on the social security systems, and the pension systems, in particular. The challenges are even greater if the working-age population emigrates, which reduces the proportion of individuals paying social contributions. Consequently, economies are reforming their pension systems to make them more sustainable. The unsustainability of the system, with adverse demographic trends, further increases with the growth of basic pensions, conditioned on the choice of the indexation of pensions, and the provision of benefits to special groups of retirees.

A large number of existing studies in the broader literature have examined the sustainability of pension systems, such as Pallares-Miralles, Romero, and Whitehouse [1], Marcinkiewicz, and Chybalski [2], Verbič and Špruk [3], and De la Fuente [4]. One of the most used indicators for the assessment of the sustainability of the public pension systems which are based on a pay-as-you-go (PAYG) social security scheme is public pension expenditure expressed as a share of GDP. Previous research has empirically assessed its main determinants, which can be classified into three categories: demographic, macroeconomic, and characteristics representing the design features of the public pension system, mostly determined by the government policies [3].

This study focuses on the pension systems of eleven economies usually grouped as the New Member States of the European Union (NMS): Bulgaria, Croatia, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, and Slovenia, excluding Cyprus and Malta. In response to many of the challenges of public pension systems: population aging, growing public debts, financial crisis, and many others, NMS has been reforming their pension systems. Therefore, our research question focuses on clustering these eleven newest member states of the European Union according to three perspectives of the pension system analysis: characteristics of the pension system, demography, and the third category points out to macroeconomics and the labor market. Cluster analysis is employed for the three selected years: 1996, 2006, and 2016. The idea of clustering economies in three years with a 10-year gap seemed particularly interesting since it reveals how the cluster structure is changing over time. Additionally, they represent three different phases in the pension systems' development: 1996 represents the phase before the multi-pillar introduction, 2006 the period of economic boom, after pension privatization, and 2016 the most recent year, characterized by adverse demographic trends and rising pension expenditure. Moreover, the cross-section of the cluster in a particular year reveals which economies are better coping with the aging population, which of them have fewer problems with the sustainability of pension systems and better economic and labor market conditions. Such an approach is a novel in comparison to previous research, and it is the main contribution of this article. Many studies have attempted to rank and classify pension systems, but the research of pension systems is mostly concerned with OECD countries, due to data availability, and often only theoretical. The findings of this expanded study [5] provide guidelines for future pension reforms because they show which countries' experiences and challenges could be valuable in defining certain policy measures.

The rest of the article is structured as follows. Section 2 presents previous research. Section 3 describes the selection of variables and the model. Section 4 presents our findings and comments on the limitations of this research. Section 5 concludes.

PREVIOUS RESEARCH

The similarity of pension systems is analyzed in empirical research and professional publications of world research institutions - institutes, banks, supervisory and regulatory bodies, national

bodies, and so on [1]. Despite the conventional wisdom to use the World Bank's "three-pillar" classification, many institutions offer their classification [1, 6]. For example, OECD has developed a taxonomy that avoids the concept of pillars altogether. It offers, instead, a global classification for pension plans, pension funds, and pension entities that is descriptive and consistent over a range of economies with different retirement-income systems [7]. OECD collects and analyses data on major insurance and pensions' statistics. This allows cross-country comparisons and provides a valuable tool for measuring and monitoring the insurance and pensions industries. Social protection makes a focus area for the World Bank which publishes many studies on pension systems, as well as being involved in pension reforms of almost a hundred countries and providing them financial support for reforms. In the European Union, a method of soft governance in socioeconomic policies called The Open Method of Coordination (OMC) is established between the member states [6]. Three main objectives that should be realized by pension systems in the long term include the adequacy of pensions, financial sustainability, and modernization of pension systems. Its indicator portfolio, made available by Eurostat, is structured along with these objectives and it provides a basis for many empirical studies [6].

Much of the empirical research on pension systems are concerned with their classification and differences. The majority of the relevant literature investigates the typology of pension regimes, both empirical and theoretical work [8-10]. Esping-Andersen analyzed the relationship between public and private pensions, distinguishing three pension regime types: a corporatist state-dominant insurance system, a residualist, and a universalistic state-dominated system in 1990 [8]. This classification largely corresponds to his general typology of welfare regimes. Lately, Esping-Andersen's typology has been debated widely, with many studies replicating the analyses and making new classifications. Soede and Vrooman conducted an empirical study of the categorization of pension systems of the European Union economies, the United States, Australia, Canada, and Norway in 2008 [9]. They compare the systems using thirty-four quantitative and qualitative characteristics of the mandatory parts of the pension systems. The authors conclude that Esping-Andersen's categorization of welfare regimes is not entirely valid for pension systems.

Kim and Lee suggest a classification of strategies of the developed countries for coping with aging societies and analyze the implications of the related causal variables in 2008 [10]. Using two dimensions, employment- and income security, they classify countries into welfare-to-work types, welfare-emphasis type, labor-emphasis type, and market-emphasis type. The authors argued that the advanced strategy in dealing effectively with aging is placing equal emphasis on income and employment guarantees. Mikulec investigates the level of pension systems' efficiency and classifies EU and EFTA countries in the years 2005-2007 [11]. The author's results indicate that countries of Central and Eastern Europe show similar pension systems' efficiency. Aysan analyzes nineteen OECD economies to create a pension regime classification and to reveal the place of Turkey among these countries [12]. The findings of the cluster analysis prove that pension regimes can be classified into three broad clusters: Southern European, Continental European, and social-liberal.

Marcinkiewicz and Chybalski introduce a new pension systems' typology based on two main criteria: (1) the relation between state and market in the pension system, and (2) the share of voluntary and mandatory schemes using cluster analysis [13]. The results confirm the theoretical typology they proposed: the first regime is similar to the voluntary private regime, the second to the mandatory private regime, whereas the third to the mandatory public one. Marcinkiewicz classifies thirty OECD countries into three pension regimes using Kendall's *W* concordance coefficient to measure intra-group similarity [14]. The author argues that the extent of the state's involvement in the pension system and level of voluntariness are the basic dimensions for distinguishing social policy models concerning old-age pensions.

Chybalski pays attention to four dimensions of the pension system efficiency, which refer to the GDP distribution, the pension adequacy, the labor market influence, and the administrative costs [15]. Based on Spearman's rank correlation coefficient and cluster analysis he analyses twenty-eight European Union countries during the 2007-2011 period. His results showed that Norwegian and the Icelandic pension systems prove to be the most efficient in the observed group. Roman, Toma, and Tuchiluş use Chybalski's approach to compare the efficiency of the pension systems in twenty-six member states of the European Union [16]. They use cluster analysis to group the countries by their pension systems' efficiency. The results suggest that Hungary, Luxembourg, and Romania have the most efficient pension systems.

In a cross-country study, Chybalski and Gumola investigate whether European pension systems have become more similar and convergent in the sense of the three main objectives of the Open Method of Coordination (OMC): adequacy, sustainability, and modernization of pensions [17]. Their sample consists of twenty-seven countries in the years 2005, 2010, and 2015. Using synthetic indicators and agglomerative hierarchical clustering, the authors conclude that the OMC is not an effective means of making European pension systems more convergent and better in terms of adequacy, efficiency, and modernization.

The mentioned articles have shown that a comparison of countries according to their different characteristics can be conducted in many different ways. However, the latest studies, like [17] and [18], have indicated that cluster analysis is one of the most appropriate statistical methods to do that. Also, it has been shown that this statistical method is generally well accepted in economic research [18]. This approach remains only briefly addressed in previous research. To fill this literature gap, this article clusters economies that are facing similar challenges of the unsustainability of pension systems, to lay the foundations for future comparisons and more detailed analyses of pension systems.

METHODOLOGY

RESEARCH INSTRUMENT AND DATA

The focus of the article is on the similarity assessment of the pension systems of eleven new EU members: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. Next to similar demographic challenges, that is a declining share of the working-age population in the number of people aged over 65, or the old-age dependency ratio, the pension systems of the chosen economies are dominated by pay-as-you-go (PAYG) social security scheme [19]. In this kind of pension system organization, current workers pay contributions from which pensions are paid to current retirees [20]. This makes them sensitive to changes in demographic, macroeconomic, and institutional factors. Moreover, these New Member States of the European Union are all post-socialist economies, whose pension systems share poor design characteristics in the transition period. One of them is certainly encouraging early retirement, which was seen as a resolution to mass redundancies in the labor market due to the privatization of state-owned companies [21]. As a result, the ratio of retirees to workers, called the system dependency ratio, was rising. Consequently, the pension systems of the chosen new EU members have been going through the process of restructuring and establishment of the multi-pillar pension system. The introduction of new pillars into the pension system constitutes a systematic reform of the system. Most pension reforms are parametric, whose main objective is to maintain the trend of public pension expenditure to GDP within the European Union, and are called the "sustainability-enhancing" pension reforms [22]. Therefore, these kinds of reforms are gradual and include changing the parameters and rules of the pension system, such as statutory retirement age, pension indexation, and calculation, contribution rates, adjusting pension parameters to demographic trends, harmonization of the retirement age between men and women [22].

Following the above mentioned three perspectives of the public pension system of the New Members of the European Union, demographic, macroeconomic, and institutional, we were interested in identifying the group of economies, which are better coping with every of the mentioned aspect of the pension system. Therefore, our research question focuses on clustering eleven newest member states of the European Union from these three perspectives. Consequently, cluster analysis is employed. The cross-section of the cluster in a particular year reveals which economies have fewer problems with the sustainability of pension systems and demographics, and better economic and labor market conditions. Three years were selected: 1996, 2006, and 2016, which represent three different phases in the pension systems' development. Additionally, the idea of clustering economies in three years with a 10-year gap seemed particularly interesting since it reveals how the cluster structure is changing over time.

It remains to choose the group of variables that will reflect those perspectives. In this context, previous research was explored [3], supplemented by additional variables that were considered important for representing pension systems, macroeconomics, and demographics. Pension systems' characteristics include average effective retirement age, pension expenditure as a share of GDP, and replacement rate. The average effective retirement age represents the average age of exit from the labor force for 5 years. Weights were obtained using data on the number of men and women aged 55-69, which is considered to be an early retirement "window" when all the countries are jointly observed. Replacement rate refers to the percentage of an employee's pre-retirement monthly income that an employee receives after retiring. Due to limited data for 1996, the ratio of average pension to average wage served as a proxy for this variable [3].

Demographics encompass fertility rate, life expectancy at the age of 65, net migration rate, and old-age dependency ratio. Life expectancy at the age of 65 is the average number of years a person at that age is expected to live, assuming constant age-specific mortality levels. Here weights were calculated as a share of men and women of that age in each year, each country.

Table 1. Selected variables.

Variable group	Variable code	Mutable description	Measurement	Source
Characteristics of pension systems	AERA	Average effective retirement age-weighted	Years	OECD, Eurostat
	PPEXP	Public pension expenditure as % of GDP	Percentages	Eurostat
	RRATE	Replacement rate	Ratio	Eurostat
Demographics	FRATE	Fertility rate	The number of children per woman	World Bank
	LEA65	Life expectancy at the age of 65 – weighted	Years	World Health Organization
	NETMR	Net migration rate	Per 1000 inhabitants	Eurostat
	OADR	Old-age dependency ratio	Ratio	World Bank
Macroeconomics and the labor market	GDPGR	GDP growth rate, in %	Percentages	World Bank
	LABPR	Real labor productivity per person employed - annual data (2010 = 100)	Index in percentages	Eurostat
	LFPR	Labor force participation rate	Percentages	World Bank
	UNEMP	The unemployment rate	Percentages	World Bank

The net migration rate is obtained as the difference between the immigrants and emigrants during the year, expressed per 1,000 inhabitants. It is based on a mid-year population.

Finally, the macroeconomics and labor market group refer to the GDP growth rate, real labor productivity, labor force participation rate, and the unemployment rate. These variables are listed in Table 1. Moreover, the table shows abbreviations for variable names and data sources. Therefore, data on all variables were collected from the sources listed in Table 1 for the selected three years: 1996, 2006, and 2016. However, data for some variables were missing for 1996. In such cases, the data for that variable was taken from 1997 or 1998 as approximation values for 1996 [17]. In particular, labor force participation data for 1996 is not available for Bulgaria, Romania, and Croatia. So instead, the value for the same variable for 1997 (for Bulgaria and Romania) and 1998 for Croatia is used.

STATISTICAL METHODS

In the first step, the results of descriptive statistics for selected variables individually per year are given. This is followed by the results of the cluster analysis, as the statistical method that enables the identification of similar groups of statistical units. Those groups consist of homogeneous units but the units between different groups are heterogeneous [23]. Our choice of the cluster analysis is partially substantiated by previous literature, which has already shown that a comparison of countries according to their different characteristics can be conducted in many different ways. However, the latest studies, like [17] and [18], have indicated that cluster analysis is one of the most appropriate statistical methods to do that. Also, it has been shown that this statistical method is generally well accepted in economic research [18].

In the analysis, hierarchical cluster approach was used, which is usually combined with Ward's method of clustering [24]. As a cluster distance measure, Euclidean distance is used, as is usually the case. For each group of variables and each year only two clusters of economies are considered in line with the dendrograms of hierarchical cluster analysis. Also, by presenting solutions with the same number of clusters for different years, direct comparability between the years is enabled. As a result, 9 cluster analyses are conducted. Whereas variables are measured in different units of measurement, clustering is carried out on standardized values of the observed variables. However, the interpretation of the results is given in the original units. To better understand the differences between the economies in each cluster in each year, profile diagrams, based on standardized values are given in Figures 1, 2, and 3.

RESULTS

DESCRIPTIVE ANALYSIS

Table 2 delivers the results of descriptive statistics for selected variables individually per year.

By comparing all three years, the upward trend of the average effective retirement age is evident (Table 2). This is in line with reforms aimed at prolonging the working age of the population, as a result of the aging phenomenon [25]. Growth of average effective retirement age has been recorded in all observed economies, except in Poland, where the average effective retirement age decreased from 61,68 in 1996 to 59,30 in 2006 and was raised to 61,13 in 2016. Significant growth of the average effective retirement age has been recorded in Bulgaria, from 56,7 in 1996 to 61,83 in 2016, and Romania, from 60,2 in 1996 to 67,16 in 2016.

The disparity between the economies according to average exit from the labor market decreased in time, measured by the coefficient of variation, especially by comparing 2006 and 2016. Therefore, we can conclude that workers of the observed economies are on average

Table 2. Basic descriptive statistics results, $n = 11$ European Union member states, data for 1996, 2006, and 2016.

Year	Variable group	Variable code	Statistics					
			Average	Stan. Dev.	Coeff. of var.	Min.	Median	Max.
1996	Characteristics of pension systems	AERA	59,82	1,90	3,17	56,67	59,74	63,51
		PPEXP	8,95	2,53	28,31	6,49	7,30	13,90
		RRATE	0,47	0,14	29,84	0,25	0,46	0,66
	Demographics	FRATE	1,38	0,17	12,16	1,16	1,37	1,67
		LEA65	14,91	0,72	4,86	13,79	14,97	16,17
		NETMR	-2,82	4,43	-157,27	-11,26	-0,86	1,73
		OADR	19,66	2,10	10,69	16,25	19,55	23,07
	Macroeconomics and the labor market	GDPGR	3,99	2,19	55,05	0,01	4,22	6,76
		LABPR	62,74	11,27	17,97	45,60	68,80	76,30
		LFPR	56,97	7,78	13,66	38,90	59,76	64,80
UNEMP		10,25	3,39	33,08	3,90	10,00	15,60	
2006	Characteristics of pension systems	AERA	60,63	3,34	5,50	57,03	59,87	68,82
		PPEXP	7,96	2,20	27,58	5,70	7,19	12,43
		RRATE	0,49	0,07	14,97	0,37	0,49	0,59
	Demographics	FRATE	1,38	0,10	7,20	1,25	1,34	1,58
		LEA65	16,07	0,92	5,70	14,87	16,00	18,07
		NETMR	-1,14	3,54	-311,48	-7,54	-0,95	3,12
		OADR	22,59	3,09	13,68	16,40	22,84	25,93
	Macroeconomics and the labor market	GDPGR	7,30	2,33	31,95	3,85	6,87	11,89
		LABPR	94,15	4,92	5,23	87,50	94,40	102,60
		LFPR	55,71	4,05	7,28	49,19	55,25	60,64
UNEMP		8,48	2,95	34,73	5,60	7,30	13,80	
2016	Characteristics of pension systems	AERA	62,35	1,99	3,20	60,11	61,82	67,16
		PPEXP	9,01	1,49	16,49	6,84	8,74	11,20
		RRATE	0,52	0,10	19,79	0,40	0,47	0,67
	Demographics	FRATE	1,53	0,12	8,02	1,32	1,57	1,70
		LEA65	17,53	0,93	5,28	16,29	17,30	19,55
		NETMR	-2,03	3,86	-189,95	-10,52	-0,12	1,90
		OADR	27,36	3,07	11,21	20,74	27,98	31,29
	Macroeconomics and the labor market	GDPGR	2,97	0,84	28,32	2,06	2,86	4,82
		LABPR	111,99	8,11	7,24	100,60	109,50	131,80
		LFPR	57,32	3,65	6,36	51,32	56,60	62,87
UNEMP		8,00	2,65	33,09	4,05	8,00	13,48	

retiring later, with the average effective retirement age of 62 in 2016. Slovaks retire early, at the age of 60 in 2016, and Romanians at the latest, at the age of 67.

New member states spend on average 9 % of GDP on public pensions, with a significant decrease of variability among the economies. The coefficient of variation for public pension expenditure as a share of GDP decreased from 28 % in 1996 and 2006 to 17 % in 2016. In all three years Poland remained the leader in spending on pensions, although it has reduced spending over the years, from 13,9 % in 1996 to 11,2 % in 2016. On the other hand, the countries that least spend on pensions, expressed as a percentage of GDP, are Lithuania, Estonia, and Romania, registering average values of below 7 % in all three years.

The levels of pension expenditures are significantly determined, among others, by the replacement rate. This variable was approximated by the ratio of average pension and the average wage for the beginning of the observed period. It is interpreted as an indicator of the generosity of the pension system [4]. A slight increase in the average replacement rates may be noted, with reduced variability between countries. The most generous pensions in 1996 were registered in the pension systems of Slovenia (0,66), Poland (0,63), the Czech Republic (0,59), and Hungary (0,58). Bulgaria (0,29) and Lithuania (0,25) on the other hand recorded the lowest values of the replacement rates. In 2016 the highest replacement rate was recorded in Hungary (0,67), Romania (0,66), Poland, and Slovakia (0,62). Croatia (0,4) and Latvia (0,42) registered the least generous pensions.

Next to the pension system's design characteristics, the sustainability of pension systems is largely affected by demographics. The New Member States are facing the aging of the population, with the average old-age dependency ratio rising from 19,66 % in 1996 to 27,36 % in 2016. The old-age dependency ratio is a crucial factor in determining the system dependency ratio (the number of pensioners divided by the number of workers). Additionally, the time spent in retirement increased on average from 14,91 in 1996 to 17,53 in 2016, represented by the life expectancy at 65. Unfavorable demographics are further aggravated by large emigration flows in the majority of New Member States. Except for the Czech Republic, Estonia, Poland, Slovakia, and Slovenia, all economies experienced negative net migration. The average fertility rate rose from 1,38 in 1996 to 1,53 in 2016, with decreased variability among countries.

Selected years were characterized by positive and high average GDP growth rates. While in 1996 there were large differences between the economies, ranging from almost stagnation in Hungary (0,01) to 6,8 % in Slovakia, relatively high growth rates marked 2006, with Latvia and Estonia recording 1,89 % and 10,27 % respectively. The economic performance with positive GDP growth rates made an influence on the labor market with decreasing average unemployment rates. The unemployment rate ranged in 2016 between 4 % in the Czech Republic and 13,5 % in Croatia. The average labor force participation rate recorded a slight increase, taking a value of 57,3 % in 2016. The significant rise of average labor productivity to 2010 was detected, from 62,74 % in 1996 to 111,49 % in 2016, whereby labor productivity was the highest in Romania, 131,8 % to 2010.

The conducted outlier analysis shows no values that are significantly different from the other values for all selected variables in any particular year.

CLUSTER ANALYSIS BASED ON DATA FOR 1996

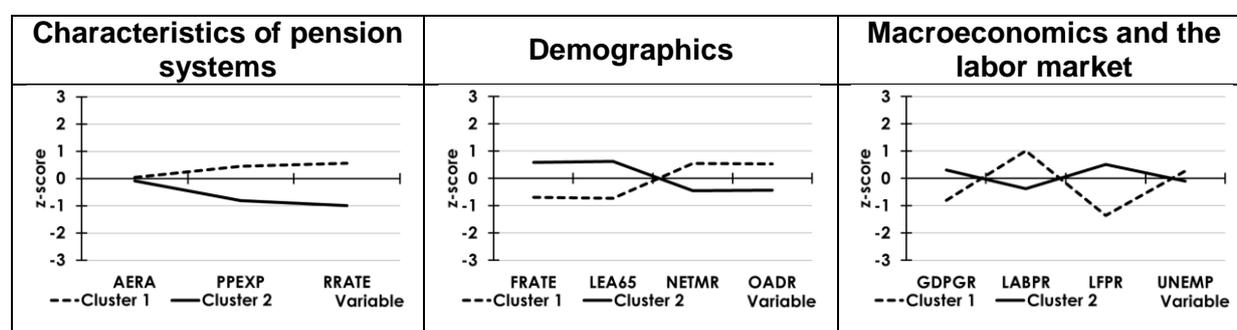
Results of the hierarchical cluster analysis for each year are presented in Tables 3, 4, and 5. To better understand the differences between the economies in each cluster in each year, profile diagrams, based on standardized values are given in Figures 1, 2, and 3.

In 1996, according to the characteristics of pension systems 2 clusters are formed. Cluster 1 is composed of countries with higher pension expenditures and more generous pensions: Croatia, Czech Republic, Hungary, Latvia, Poland, Romania, and Slovenia. On the other hand, economies such as Bulgaria, Estonia, Lithuania, and Slovakia were characterized by less generous pensions and less spending on pensions, as a share of GDP in 1996. While the pension beneficiaries of the economies making the Cluster 1 got on average half the wage, the ones of the second cluster obtained only one third. The workers of both clusters in 1996 went to retirement at approximately the same age.

When the criterion is demographics, Cluster 1 with younger economies, higher fertility rates and higher life expectancy at 65 in 1996 is composed of Croatia, Estonia, Lithuania, Poland, Slovakia, and Slovenia. All economies recorded relatively high negative net migration rates,

Table 3. Hierarchical cluster results for two cluster solutions, Ward's clustering method, squared Euclidean distances, $n = 11$ European Union member states, data for 1996.

Variable group	Cluster	Country	Variable code	Variable average
Characteristics of pension systems	1	Croatia, Czech Republic, Hungary, Latvia, Poland, Romania, Slovenia	AERA	59,92
			PPEXP	10,11
			RRATE	0,55
	2	Bulgaria, Estonia, Lithuania, Slovakia	AERA	59,65
			PPEXP	6,93
			RRATE	0,33
Demographics	1	Bulgaria, Czech Republic, Hungary, Latvia, Romania	FRATE	1,27
			LEA65	14,37
			NETMR	-0,42
			OADR	20,76
	2	Croatia, Estonia, Lithuania, Poland, Slovakia, Slovenia	FRATE	1,48
			LEA65	15,35
			NETMR	-4,81
			OADR	18,75
Macroeconomics and the labor market	1	Bulgaria, Croatia, Hungary	GDPGR	2,20
			LABPR	74,03
			LFPR	46,34
			UNEMP	11,13
	2	Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia	GDPGR	4,66
			LABPR	58,50
			LFPR	60,95
			UNEMP	9,91

**Figure 1.** Profile diagrams of clusters, average standardized values, data for 1996.

except for Slovakia. On the other hand, Bulgaria, Czech Republic, Hungary, Latvia, Romania make Cluster 2, composed of economies with a higher share of the elderly in the working-age population and lower fertility rates. Their pensioners live shorter in retirement. Except for Latvia and Romania, this cluster is made of net immigration economies. When the macroeconomics and the labor market of the observed economies in 1996 is concerned Cluster 1 with less favorable macroeconomic performance is formed. It is composed of economies with lower GDP growth rates, higher unemployment rates, lower labor force participation rates, but higher labor productivity to 2010. These economies were Bulgaria, Croatia, and Hungary. On the other hand, Czech Republic, Estonia, Latvia, Lithuania, Romania, and Slovenia make Cluster 2, characterized by higher GDP growth rates, lower unemployment rates, higher labor force participation rates, and lower labor productivity to 2010.

CLUSTER ANALYSIS BASED ON DATA FOR 2006

According to the characteristics of pension systems, it is interesting how the structure of the clusters changed in 2006 compared to 1996. In 2006 all economies recorded approximately the same replacement rate, as opposed to 1996, but now the cluster (Cluster 1) with more active aging (meaning that workers go to retirement later) and lower expenditures on pensions is formed. It includes Estonia, Latvia, Lithuania, and Romania. The workers of these economies go to retirement later, on average at the age of 63,79, and the economies spent on average 6 % of GDP on pensions. On the other hand, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Slovakia, and Slovenia belong to the group of economies that on average spent more on pensions, round 9 % of GDP and go to retirement earlier, at the age of 58,83.

Finally, according to macroeconomics and labor market performance in 2006, a group of countries with lower GDP growth rates, higher unemployment rates, lower labor force participation rates, and higher labor productivity to 2010 make Cluster 1. These economies are Croatia and Hungary. The remaining economies (Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia) form Cluster 2. Based on the intersection of the cluster structure concerning all three criteria in 2006, it is evident that Bulgaria and Croatia had the biggest problems with the aging society, recording the highest share of 65+ population in the working-age population, early retirement, relatively high share of pension spending in GDP and the unfavorable situation on the labor market. A relatively low participation rate in 2006 and a relatively high unemployment rate characterized the labor markets of these two economies.

Table 4. Hierarchical cluster results for two cluster solutions, Ward's clustering method, squared Euclidean distances, $n = 11$ European Union member states, data for 2006.

Variable group	Cluster	Country	Variable code	Variable average
Characteristics of pension systems	1	Estonia, Latvia, Lithuania, Romania	AERA	63,79
			PPEXP	5,96
			RRATE	0,49
	2	Bulgaria, Croatia, Czech Republic, Hungary, Poland, Slovakia, Slovenia	AERA	58,83
			PPEXP	9,11
			RRATE	0,49
Demographics	1	Czech Republic, Hungary, Poland, Slovakia, Slovenia	FRATE	1,30
			LEA65	16,64
			NETMR	1,42
			OADR	20,06
	2	Bulgaria, Croatia, Estonia, Latvia Lithuania, Romania	FRATE	1,45
			LEA65	15,60
			NETMR	-3,26
			OADR	24,70
Macroeconomics and the labor market	1	Croatia, Hungary	GDPGR	4,32
			LABPR	101,00
			LFPR	49,92
			UNEMP	9,30
	2	Bulgaria, Czech Republic, Estonia Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia	GDPGR	7,96
			LABPR	92,62
			LFPR	57,00
			UNEMP	8,30

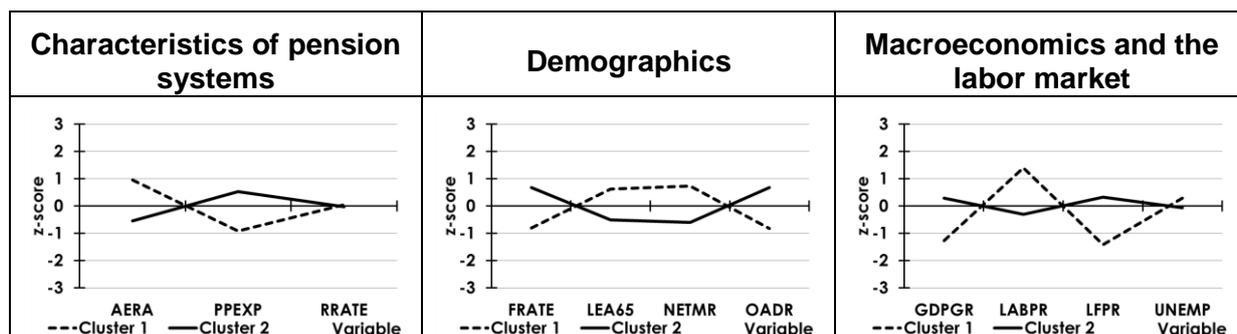


Figure 2. Profile diagrams of clusters, average standardized values, data for 2006.

CLUSTER ANALYSIS BASED ON DATA FOR 2016

According to the characteristics of pension systems, the cluster structure in 2016 remains the same as in 2006. It means that the Baltic economies and Romania spent less on pensions and their workers go to retirement later on average. Less active aging and higher pension spending recorded Bulgaria, Croatia, Czech Republic, Hungary, Poland, Slovakia, and Slovenia. The pension beneficiaries of all observed economies recorded similar replacement rates as Figure 3 shows.

According to demographics, Bulgaria, Croatia, Latvia, Lithuania, and Romania remained in Cluster 1 with a higher share of the elderly in the working-age population compared to 2006. All economies registered relatively high negative net migration rates. Unlike 1996 and 2006, Estonia recorded positive net migration in 2016 and joined Cluster 2. Additionally, Hungary

Table 5. Hierarchical cluster results for two cluster solutions, Ward's clustering method, squared Euclidean distances, $n = 11$ European Union member states, data for 2016.

Variable group	Cluster	Country	Variable code	Variable average
Characteristics of pension systems	1	Bulgaria, Croatia, Czech Republic, Hungary, Poland, Slovakia, Slovenia	AERA	61,47
			PPEXP	9,89
			RRATE	0,53
	2	Estonia, Latvia, Lithuania, Romania	AERA	63,90
			PPEXP	7,46
			RRATE	0,50
Demographics	1	Bulgaria, Croatia, Hungary, Latvia, Lithuania, Romania	FRATE	1,56
			LEA65	16,92
			NETMR	-4,43
			OADR	28,56
	2	Czech Republic, Estonia, Poland, Slovakia, Slovenia	FRATE	1,49
			LEA65	18,28
			NETMR	0,84
			OADR	25,91
Macroeconomics and the labor market	1	Romania	GDPGR	4,82
			LABPR	131,80
			LFPR	53,72
			UNEMP	6,42
	2	Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia	GDPGR	2,79
			LABPR	110,01
			LFPR	57,67
			UNEMP	8,15

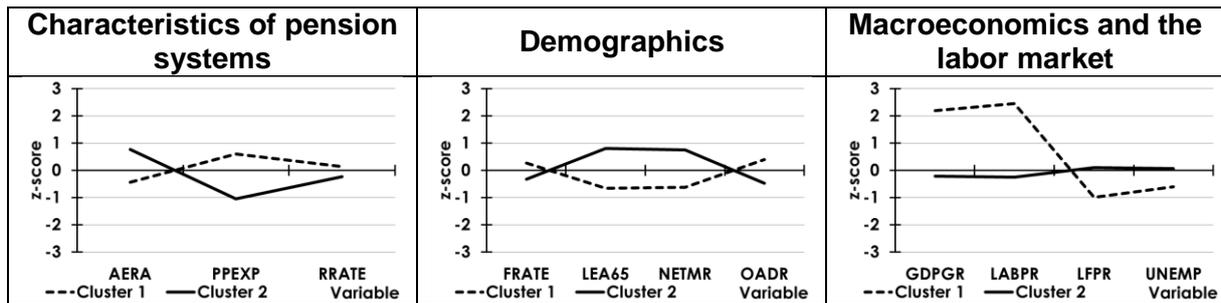


Figure 3. Profile diagrams of clusters, average standardized values, data for 2016.

joined Cluster 1 due to the net emigration rate in 2016. Cluster 2 is composed of net immigration economies, with a relatively younger population, higher life expectancy at 65, and relatively lower fertility rates: Czech Republic, Estonia, Poland, Slovakia, and Slovenia.

When macroeconomic and labor market performance is used as a criterion, it is interesting how Romania, due to exceptional macroeconomic and labor market performances in 2016, remained a sole member in Cluster 1, recording below-average unemployment rate in 2016, fourth-lowest, of 6,42 %, the highest GDP growth rate, of 4,82 %, and the highest labor productivity to 2010. On the other hand, its labor force participation rate was below average. Other economies make Cluster 2 with relatively higher labor force participation rates, relatively higher unemployment rates, lower labor productivity to 2010, and lower GDP growth rates in 2016.

CONCLUSIONS

The pension systems of the New Member States of the European Union: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia are dominated by the pay-as-you-go (PAYG) social security scheme. Due to its structural design, there are sensitive to changes in demographics, macroeconomics, and design features of pension systems. Sustainability issues of pension systems are especially under pressure nowadays due to the aging phenomenon, in which the proportion of elderly is increasing. Economies worldwide are responding to these challenges by reforming their pension systems. In that environment, it is especially important to detect which economies are coping more successfully with aging, which of the analyzed economies have fewer problems with the sustainability of pension systems and better economic and labor market conditions. Therefore, our goal was to cluster the newest Member States of the European Union according to the above mentioned three perspectives of the pension system analysis: the characteristics of pension systems, demographics and the third category points out to macroeconomics and the labor market. In choosing the variables, which reflect those perspectives, the previous literature was consulted, but also supplemented by additional variables that were considered important for representing pension systems, macroeconomics, and demographics. Cluster analysis is employed for the three selected years: 1996, 2006, and 2016. The idea of clustering economies in three years with a 10-year gap seemed particularly interesting since it reveals how the cluster structure is changing over time. Additionally, they represent three different phases in the pension systems' development. Moreover, the cross-section of the cluster in a particular year reveals which economies are better coping with the aging population, which of them have fewer problems with the sustainability of pension systems and better economic and labor market conditions.

In line with reforms aimed at prolonging the working age of the population, all economies record an increasing trend of the average exit from the labor market, as a result of the aging phenomenon. The intersection of the cluster structure according to the chosen characteristics per year implies that Bulgaria and Croatia are groups of economies that have the least active

aging, meaning that their workers go to retirement earlier. At the same time they record relatively high proportions of the population over 65 in the working-age population. Furthermore, these countries spend relatively more on pensions, expressed as a proportion of GDP. Relatively low participation and high unemployment rates describe adverse conditions in the labor markets of these economies. Besides, unfavorable demographics and pension system design is exacerbated by relatively high emigration rates. On the other hand, the Baltic economies and Romania are identified as a group of economies with more active aging, meaning that their workers go to retirement later. Pension systems of these economies are more sustainable, due to lower spending on pensions and more favorable economic conditions that are positively reflected in the labor market.

Our idea of clustering NMS in three years with a 10-year gap, from three perspectives, that are shown to be important for the sustainability issues of pension systems, is a novelty in comparison to previous research and it is the main contribution of this article. Many studies have attempted to rank and classify pension systems, but the research of pension systems is mostly concerned with OECD countries, due to data availability, and often only theoretical.

The findings of this article provide a guideline for future pension reforms because they show which countries' experiences and challenges could be valuable in defining certain policy measures. For example, pension systems of the Baltic economies and Romania stand out as more sustainable in comparison to other analyzed economies.

However, several limitations should be taken into account regarding this research. First, the research is concentrated on public pension expenditures of analyzed economies, but at the same time, it excludes private pension schemes, which are especially important for the long-term sustainability of pension systems. Second, the results of our investigation are sensitive to the choice of variables used for the cluster analysis, as well as a selection of observation years. Finally, due to some missing data, the values of the corresponding variables for the next year were used as approximations, although we believe that such an approach has not significantly affected the structure of the clusters. Based on these limitations, future research could focus on private pension schemes, and researchers are encouraged to make experiments with different sets of variables and periods.

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HOW ORGANIZATIONAL CULTURE INFLUENCES SATISFACTION OF EMPLOYEES SHOWN ON THE EXAMPLE OF TOURISM BUSINESSES IN MONTENEGRO

Olivera Simovic, Djurdjica Perovic and Milica Raicevic*

University of Montenegro – Faculty of Tourism and Hotel Management
Kotor, Montenegro

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ABSTRACT

Being a complex system of mutual values that makes an organization's identity, organizational culture is what makes an organization different from the competition. Creating an adequate approach for improving competitive advantages and better performance of Montenegro's tourism businesses through improving the business environment as one of the competitiveness factors is the aim of this article. What this research focuses on is to determine and analyse the relationship and influence between the type of organisational culture and employees' satisfaction, through different dimensions of the work they are doing. This work was done in the form of a quantitative exploratory research using questionnaire surveys, precisely the Organizational Culture Assessment Instrument and the Test for measuring employees' satisfaction. The obtained results show us the type of organizational culture that is typical for tourism businesses in Montenegro, as well as the influence it has on the level of employees' satisfaction, through different dimensions. Achieving better results in tourism businesses is easier with a business environment that increases the level of job satisfaction of employees, which contributes to loyalty as well.

KEY WORDS

organizational culture, management, employees' satisfaction, tourism businesses

CLASSIFICATION

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*Corresponding author, *η*: milica.raicevic@unimediterranean.net; +382 67 420 700;
Faculty of Tourism and Hotel Management, Josipa Broza bb, ME – 81000 Podgorica, Montenegro

INTRODUCTION

Organizational culture is an organizational factor which has influence on job satisfaction. Organizational culture is an important factor which determines internal environment of the organization in which members of the organization perform their work and achieve wanted results [1]. Job satisfaction and organizational culture are in an interconnection, so many researchers of organizational culture observe it as a factor which affects the degree of job satisfaction [2-8]. Evaluation of different work aspects from the employees is very subjective and individuals show different levels of satisfaction from the same factors. Janićijević, Nikčević and Vasić [9] refer that organizational cultures should be included in organizational factors which effect job satisfaction, because values and norms which are formed in a certain organizational culture become a part of organizational context in which work is being done, given that these values influence the quality of relationships and processes inside the organization. It stems that they influence on a degree that organizational cultures create a favorable or unfavorable business environment. Furthermore, the results of Meng and Berger's study [10] confirm that organizational culture together with the leaders' performances have a strong influence in employees' job satisfaction. In this matter, it is important to point out the results obtained by Bavika [11] who claims that a strong organizational culture can offer sustainable competitive advantages to organizations in the tourism industry. Dawson and Abbott claim that organizational culture in tourism is unique because the product and the service are integrated and create an unique experience for the guest [12]. Consequently, the employees' characteristics are considered crucial while having that experience [13].

Organizational culture is a complex system of common values which the members of an organization lead on their actions and activities [14]. Values like unity, creativity, performances and efficiency seem like the base of an organization's culture, which creates the organization's identity and separates from the competition [15, 16]. Quinn and Cameron, identify 4 types of organizational culture: clan culture, hierarchy culture, market culture, adhocracy culture [17]. Nam and Kim (2016) questioned whether there is a difference in the level of employees' job satisfaction depending on different types of organizational culture. With this study they tried to understand if the type of organizational culture influences employees' job satisfaction. They suggest a practical way of combining organizational cultures in similar industries, and point out that more and more companies are embracing fusion as a management strategy, as a part of creative economy. Still, the use of fusions is not that developed despite the growing interest in that type of management strategy [18, 19]. In her research Rosemary (2019) indicates that a stable and strong organizational culture is central to organizational effectiveness and performance, as well as that leaders are key players when it comes to the establishment of the organizational culture within companies in the tourism industry [20].

Determinating the dominant type of organizational culture in the tourism and hospitality sector in Montenegro, was set as the primary goal of this research, as well as the influence that organisational culture has on the satisfaction of employees in tourism businesses.

For work requirements quantitative exploratory research was conducted, using method of survey. The survey used instruments for determining organization culture, the Organizational Culture Assessment Instrument (OCAI) and a Test for measuring employee satisfaction in different dimensions of work. When it comes to research techniques, we will be using the survey method.

The research was conducted in the period January - May 2019 on the territory of Montenegro. The respondents are employed in Montenegrin tourism companies (hotels, restaurants, travel

agencies) in the northern, central and southern regions, which contributes to the representativeness of the sample itself.

The derived results show the type of organization culture which characterizes touristic enterprises in Montenegro and its influence on the degree of employee satisfaction which work in given business environment, through different dimensions. The data was processed in SPSS, except descriptive statistics, which was used in correlation and Kruskal-Wallis for analysis of connection and differences.

The results of the researches done so far point out that most of the authors agree that what affects job satisfaction is: the job itself [21], wages [22], advancement [23], working condition [24], the work group and relationships within it [25].

In order to be satisfied with their job, it is important for the employees to have competent and reliable colleagues, and be able to communicate properly with them, with no conflicts, resulting in a friendly work atmosphere. This factor appeared in earlier researches on job satisfaction done by Luthans [26].

Since organizational culture creates an environment in which employees work and it represents the way of life and work of the company, following recent research, we have included organizational culture as a factor of importance that influences employee satisfaction [9]. In addition, in the conducted research we have included the process of transition through which tourism business in Montenegro has undergone, while the main contribution is in identifying the dominant type of organizational culture in tourism companies in Montenegro. Reviewing the literature, we have found that so far no diagnosis has been made as of the type of organizational culture in tourism companies in Montenegro and the influence of the dominant type of organizational culture on the satisfaction of employees in the tourism industry.

The article starts from the theoretical framework of organizational culture and employee satisfaction. The second part of the article presents an overview of previous research, points out the importance of organizational culture in tourism companies, the specificity of the tourism economy, as well as the process of transition of the tourism economy in Montenegro. The empirical part of the article describes the sample, the methods used in the research, and the interpretation of the results obtained. Finally, the conclusion is given with practical implications of the results, limitations of the work, and a proposal for future research.

The research question in the article is: What the type of organizational culture is dominant in Montenegrin tourism companies and what is its impact on employee satisfaction?

The article is organised into five sections. After the introduction, a research model is set and research propositions are developed. This is followed by the presentation of methodology used in the research, data analyses and discussion of the main research findings. Finally, research results are analysed from the theoretical and practical standpoint, together with their implications, limitations of the study and future research possibilities.

LITERATURE REVIEW

Individual's job satisfaction itself sublimates cognitive and evaluation components, which stems a complex view of dimensions of the work that the person is doing on a daily basis [26, 27]. The individual's satisfaction with the work they perform, is influenced not only by the specific characteristics of the work they do, but also by the importance that these characteristics have, from the individual's aspect. Llorente and Macias [28] have studied the relation between the characteristics of the job performed and the level of the employees' subjective satisfaction. In other words, they researched whether job satisfaction reflects the jobs' characteristics, which makes it useful as an indicator of job quality. The results of their article revealed that job satisfaction is not a valid measure of job quality [28].

Job satisfaction is the result of individual experience. The meaning of the concept of job satisfaction comes from a positive influence of work satisfaction on the increase in employee productivity [29]. If personal values of the employees are connected to their career, plans for future adaptability to organizations' corporative culture, employees' intention to leave is reduced and at the same time positively influences job satisfaction [30]. Luthans (2005) has defined factors which affect the job satisfaction with aspects of organizational and individual levels. The organizational level factors include: job characteristics, wage system, work conditions, style of managing an organizational structure and colleges. Individual-level factors include the following relationships: balance between personal interest and work; work experience and age; hierarchical positions and collective life satisfaction [26].

Robbins [31] and Hutcheson [32] suggest that, since the dimensions of job satisfaction are components to organizational culture, job satisfaction can be served to evaluate the organizational culture. They describe work satisfaction as a remainder between the outcome that the employee expects from the job and the outcome which they receive in reality.

More recent research indicates that organizational culture is a factor that influences employee satisfaction because the values and norms that are formed in the organizational culture represent the organizational context in which the work is performed [9].

The most representative definition in literature is considered Edgar's Schein according to which organizational culture represents a form of common basic assumptions which a group has learned by solving a problem external adaptation and internal integrations and which function good enough to be considered valid and to be transferred to new members of the organisation as a correct way of perception, thoughts and feelings in relation to those problems [33].

Among the authors studying the organizational culture, there is a consensus regarding the explanation of the process of making the culture, where the cognitive approach, shaped by Schein prevails; in his opinion organizational culture is born in the process of solving problems that members of a group or an organization are dealing with, in a group [34].

Classification of organizational cultures was created as a result of generalization of author's experiences, like in the case of Handy's classification [35], or as a result of empirical research, as in the case of the classification of Quinn and Cameron [36]. The mentioned authors classify organizational culture in 4 main categories. Quinn and Cameron, identify 4 types of organizational culture: clan culture, hierarchy culture, market culture, adhocracy culture. The criteria used for identifying these 4 types of cultures are: flexibility, changes, dynamism in contrast to stability and predictability, internal orientation, integration, harmony in contrast to external orientation, differentiation and competition [17]. Clan culture prioritizes flexibility and autonomy in contrast to stability and control. This culture is characterized by an organization that for its members represents a very friendly place. This implies strong relations among members, where friendship, mutual support and team work are highly valued. At the same time, the leader is greatly respected, and his role is double: as a leader and as a mentor.

In hierarchy culture the accent is on internal orientation. This culture is characterized by strictly formal and structured environment, targeted at achieving better efficiency. Hierarchy is a type of organizational structure in which items are ranked according to their level of importance. In an organization, hierarchy depends on structure, rules, control conducted top to bottom in order to run business practices and activities. Complete work in the organization is under strictly formalized rules and procedures aimed at achieving better efficiency. In this culture in order to achieve productivity and success, it is necessary to control all the processes and carry out constant monitoring.

Adhocracy culture is a flexible, adjustable, and an informal type of organization, characterized by entrepreneurial spirit and innovativeness in solving problems.

Market culture is characterized by external orientation combined with stability and control. With market culture the organization's main orientation is on achieving a better result. There is, however, an important difference in contrast to hierarchy culture; while in organizations with hierarchy culture stability and control are realized through set of rules, standard procedures and centralized decisions, market oriented organizations are much more flexible since they have to adapt to the existing conditions in the market [37].

Cultural factors are significant predictors of overall perceptions towards quality exhibited by managers. Managers from cultures with high levels of individualism and hierarchy tend to perceive quality processes differently than do their counterparts in other culture [38].

With the exception of a handful of articles [12, 13, 39] dealing with a similar topic, the importance of industry in defining and differentiating organizational culture is undoubtedly an under-researched phenomenon. This is especially true of the hospitality industry where little attention is paid to organizational culture. This is surprising because human resources are an inherent and integral feature of the hospitality industry [40]. In other words, the host-guest connection is more frequent than in other industries.

Current tourism literature has also paid little attention to the macro-level and micro-level determinants of corporate hotel performance in developing and less-developed countries. Most previous studies are based primarily on developed economies. This, therefore, increases our concern about the generalizability of the existing findings. With regard to the tourism growth, the existing studies have shown that an expansion of the tourism industry has the tendency to enhance the state of the economy and thereby improve the performance of hotels.

When it comes to Montenegro, there are not many researches done regarding organizational culture in tourism business, which is rather surprising considering the importance tourism has in the country's industry and economy.

When speaking of the structure of the tourism sector in Montenegro that is today, it is a product of a process of transition from the socialist system of self-government into a system of market economy. The biggest change that occurred in that process was in ownership and organizational structure of tourism businesses which were transformed from self-governing working organizations in social ownership into different types of private companies with the participation of domestic and foreign capital.

Even though in the former socialist economy of Montenegro there were examples of successful tourism businesses (the town-hotel of Saint Stefan, Ada Bojana, hotel complex in Becici), too much interference of the state and politics in the country's economy, bureaucratization, political party dependent advancement, insufficient knowledge and appreciation of the laws of the market, have led to it that the socialist self-governance turned out to be an unsuccessful experiment [40].

It is clear that in that period organizational culture in tourism businesses was characterized by high levels of democratization, general uncertainty, latent dissatisfaction of employees due to low incomes and the fear of losing their job because of reduced capacity. At the same time, it became clear that the existing organizational structure of tourism businesses and the economy, could not comply with the demands of that time.

The changes in types of ownerships, entrance of famous hotel brands, but also numerous privatizations by subjects of suspicious capital origin and/or without previous experience in the hotel business, opening of new as well as destruction of existing hotels, are only a few indicators characterizing the development of the hotel sector in Montenegro ever since it

regained its full state sovereignty and took over the management of the economy. If you add to it the mismatch in the development of the north and the south of Montenegro, marked by distinctive lag of the hotel sector in the heartland of the country compared to the south part of country, it is hard to give a general image of the current situation in the hotel industry in Montenegro.

It was expected that the Government's policy related to the development of tourism, and especially of the hotel accommodation, will lead to a general growth of the social standard, but it did not happen, not even inside the hotel industry itself, where the net earnings are still quite low and notably under the state average. According to MONSTAT, average gross earnings per employee in the sector of accommodation and food and beverage in the period from 2012 to 2017 was in the range from 570-580 €, which means that an average earning without taxes and contributions was around 385 € [41]. There is no good tourism with poor wages, seasonal employments lasting for two to three months, inadequate accommodation etc. In that way "you can not get anything expect unreliable and low-grade work force, a work force that will get to you and lurk to find a better job (...). We can not expect to have good service with such low motivation. There is this rule among hoteliers that the worse worker is a poor paid worker. There is no good tourism without good wages [40].

The study [42] indicated that Croatian business and economic bachelor graduates have a suitable level of specific competencies. The lack of available vacancies and small wages compared to more developed Western EU countries for bachelors with high levels of employers' satisfaction on specific competencies may encourage emigration. This can lead to a conclusion of existing interdependence between negative demographic trends and the labour market.

It is important to know that when the external context is dramatically changed, it is not possible to create value in the way organisations are used to. For this reason, it is important to identify the critical factors affecting business models in knowledge society and encourage managers to be aware of them while planning for the future of the organization [43].

The world is rapidly changing, and the systemic shifts have the potential to affect the nature of work. To prepare the workforce, it is crucial to develop the skills that will be necessary for the unpredictable landscape of the future [44].

A productive work environment potentiates the building of a specific organizational culture which creates a satisfactory experience with employees at work [45, 46]. Some of the previous studies [27] have shown that employees especially consider the wage, associates, supervision, possibility of a promotion as well as the work itself, in assessing the work itself and satisfaction itself. In a research conducted for needs of this work it is taken into consideration the next dimensions of work: height and regularity of wages, benefits, teamwork, independence during work, job security, possibility of a promotion and professional development, relationships with colleagues and supervisors, challenging work, good physical working conditions, care of employees for employees, as well as how much the work we do is important not only for the company but overall the society.

Tourism represents a motor power for the economic development of Montenegro. Montenegro's industry is mainly focused on tourism sector, which is why our research will focus on analyzing organizational culture in those businesses, and their effect on employees' satisfaction.

METHODOLOGY

RESEARCH INSTRUMENT AND STATISTICAL METHODS

Determinating the dominant type of organizational culture in the tourism and hospitality sector in Montenegro, was set as the primary goal of this research, as well as the influence that organisational culture has on the satisfaction of employees in tourism businesses.

The research question in the article is: What the type of organizational culture is dominant in Montenegrin tourism companies and what is its impact on employee satisfaction?

For work requirements quantitative exploratory research was conducted, using method of survey. The survey used instruments for determining organization culture (OCAI) and a Test for measuring employee satisfaction in different dimensions of work. When it comes to research techniques, we use the survey method, within which a questionnaire is prepared that consists of two parts:

1. Standardized questionnaire developed by Cameron and Quinn (OCAI) a method for assessing organizational culture. It belongs to the typological group of questionnaires, since using it classifies the organizational culture in one of four types: clan culture, hierarchy culture, market culture and adhocracy culture. Questions refer to dominant characteristics of the organization, strategic focus and success criteria [36]. In every question, the respondent should distribute a total number of 100 points on 4 given answers, so that the biggest number of points goes to the answer that best describes his organization. The respondents answer every question twice, once having the real condition of the organization in mind, and the second time taking into consideration the desired state of the organization.

OCAI assesses the following dimensions: the dominant characteristic of the organization; leadership in the organization; people management; unity of the organization; strategic focus and success criterion. For each of these six dimensions, four answers are offered, which best represent the four types of organizational culture. The respondents distributed the points according to their own opinion, then the average is calculated for each answer and each dimension individually. Depending on where the respondents distributed the most points, we can determine what type of organizational culture prevails in the company: clan culture, hierarchy, market or adhocracy.

2. Questionnaire on employees' satisfaction, adjusted based on the questionnaire developed Janićijević, Kovačević and Petrović [47]. The questionnaire refers to different dimensions of job: the amount and regularity of the salary, benefits, team work, independence, safety of hiring, possibility of advancement and vocational training, interpersonal relations with colleagues and superiors, the challenge of the job, good physical conditions, company's concern for the employees, how important is the job that we do for the company and the society itself. Every claim in the second part of the questionnaire is followed by the five levelled Likert's scale, used to express the level of satisfaction, or dissatisfaction (1 meaning not satisfied, and 5 meaning very satisfied) [48]. The survey was conducted in tourism businesses in the southern, central and northern region of Montenegro.

The derived results show the type of organization culture which characterizes touristic enterprises in Montenegro and its influence on the degree of employee satisfaction which work in given business environment, through different dimensions. The data was processed in SPSS, except descriptive statistics, which was used in correlation and Kruskal –Wallis test for analysis of connection and differences. Work ambient which increases employee satisfaction while doing business tasks, contributes loyalty and better business result in touristic enterprises.

THE PROCESS OF DEFINING A RESEARCH SAMPLE

In the current "Rulebook on Types, Minimum Technical Conditions and Categorization of Catering Facilities" available on the Ministry of Sustainable Development and Tourism website, catering establishments are classified according to the type and manner of providing catering services: (1) catering facilities for the provision of accommodation services and the

preparation and serving of food and beverages; (2) catering facilities for the provision of food and beverage preparation and serving services [48].

The Central Registry of Business Entities (CRPS) of Montenegro has in its database a total of 1228 business entities registered under the code 5610 of the tourist industry. Businesses are categorized according to the activity they perform in three main categories: hotel companies (423), restaurant businesses (470), and businesses that operate as travel agencies (335).

In this study, we analyzed a total of 74 tourism companies, of which 26 hotels, 28 restaurants and 20 travel agencies. All three regions of Montenegro are represented in the sample: the coastal, central and northern regions. The sample is designed to cover slightly more than 5 % of the total population, which will ensure the representativeness of the sample. Using proportional allocation methods, the size of the sample stratum will be proportional to the size of the population stratum, thus ensuring generalization of conclusions after the research has been conducted [49].

RESULTS

In this study we analyzed 74 companies and in total 1312 employees, which mean in average 17,73 (min = 1, max = 30) employees from each company.

The descriptive statistics shows that 634 male respondents participated in the study or 48,32 % and 678 female respondents or 51,67 %, so we have a gender balance. The respondents were divided into five age groups: the respondents younger than 25, comprising 249 respondents or 18,97 % of the sample, the respondents aged 26-35 make up 29,03 % of the sample or 381 respondents, the respondents aged 36-45 make up 32,01 % of the sample or 420 respondents, aged 46-55 make up 16,99 % of the respondents or 223 respondents, while the smallest number of the respondents (39 or 2,97 %) are over 65.

Regarding education, the respondents were divided into four categories: lower (primary school); medium (secondary school); higher; high education (faculty, master, doctor degree). The survey presents the highest number of respondents with secondary education and higher education: 45,96 % with high school and 39,02 % of respondents with higher education. Only 1,98 % of the respondents had primary school education, while the rest of the respondents or 13,03 % had a high school diploma or a master's or doctoral level of studies.

For the purposes of the survey, we also took into account the years of work experience of the respondents, and divided them into 6 categories: up to 5 years of work experience are 23,01 % of the respondents, 27,97 % of respondents have 5-10 years of work experience, 33,99 % of respondents have 11-20 years of work experience, 10,97 % of respondents have 21-30 years of work experience, 3,12 % of those with work experience of 30-40 years of service, and among the respondents there were only two respondents with more than 40 years of work experience, or 1,21 %. The level of workplace included managerial and executive, of which 30,33 % were managers and 69,66 % of executives in the sample.

The research question in the article is: What the type of organizational culture is dominant in Montenegrin tourism companies and what is its impact on employee satisfaction?

It can be seen that majority of companies have organization culture of Clan (Table 1), which implies good interpersonal relations, in which friendliness, mutual support and teamwork prevail. At the same time the leader of the organization which has the role of a mentor and leader is respected. Clan culture, by definition, is characterized by tradition, loyalty, team work, personal commitment and close interpersonal relationships. This is what makes this culture the most similar one to the culture of organizations inherited from the period of socialist self-governance, in which workers, even though often only formally, had the right to be involved in decision making when it came to issues of great importance for the business.

Table 1. Characterization of companies regarding organization culture.

Type of organization culture	Diagnosis of organizational culture					
	Dominant organization characteristic	Leadership in organization	Human resource management	Unity of organization	Strategical focus	Criteria for success
Clan	55 (74,32 %)	54 (72,97 %)	65 (87,84 %)	52 (70,27 %)	52 (70,27 %)	51 (68,92 %)
Adherence	8 (10,81 %)	8 (10,81 %)	2 (2,70 %)	10 (13,51 %)	11 (14,86 %)	9 (12,16 %)
Market	7 (9,46 %)	1 (1,35 %)	3 (4,05 %)	3 (4,05 %)	4 (5,40 %)	2 (2,70 %)
Hierarchy	4 (5,40 %)	11 (14,86 %)	4 (5,40 %)	9 (12,16 %)	7 (9,46 %)	12 (16,22 %)

Table 2. Analyses of correlation in the level of satisfaction with different dimensions (part I).

	Absence of conflict in the company	Employee care for employees	A challenging job	Good physical working conditions	Good relations with the immediate manager	Benefits: recovery, transportation, phone	A job important for the company and society
Salary	0,410 (p<0,000)	0,450 (p<0,000)	0,301 (p<0,000)	0,434 (p<0,000)	0,432 (p<0,000)	0,418 (p<0,000)	0,465 (p<0,000)
Teamwork	0,580 (p<0,000)	0,548 (p<0,000)	0,391 (p<0,000)	0,535 (p<0,000)	0,553 (p<0,000)	0,305 (p<0,000)	0,435 (p<0,000)
Independence in business	0,556 (p<0,000)	0,530 (p<0,000)	0,411 (p<0,000)	0,544 (p<0,000)	0,536 (p<0,000)	0,323 (p<0,000)	0,443 (p<0,000)
Security of employment	0,491 (p<0,000)	0,547 (p<0,000)	0,414 (p<0,000)	0,554 (p<0,000)	0,570 (p<0,000)	0,409 (p<0,000)	0,452 (p<0,000)
Regularity of pay	0,506 (p<0,000)	0,516 (p<0,000)	0,392 (p<0,000)	0,564 (p<0,000)	0,601 (p<0,000)	0,361 (p<0,000)	0,451 (p<0,000)
Possibility of professional development	0,479 (p<0,000)	0,538 (p<0,000)	0,486 (p<0,000)	0,580 (p<0,000)	0,579 (p<0,000)	0,480 (p<0,000)	0,519 (p<0,000)
Possibility of promotion at work	0,524 (p<0,000)	0,525 (p<0,000)	0,444 (p<0,000)	0,560 (p<0,000)	0,525 (p<0,000)	0,447 (p<0,000)	0,499 (p<0,000)
Good relationships with colleagues	0,722 (p<0,000)	0,549 (p<0,000)	0,377 (p<0,000)	0,524 (p<0,000)	0,541 (p<0,000)	0,278 (p<0,000)	0,442 (p<0,000)

The analysis of the results of total employee satisfaction shows overall satisfaction in companies, where majority of employees are satisfied (51 %), while 11 % are very satisfied. It is important to highlight the number of employees who are neither satisfied nor unsatisfied (37 %), which means that almost each third employee belongs to this category.

Furthermore, the Tables 2-4 present correlation coefficient between 15 different dimensions of satisfaction, with bolded values of medium intensity of correlation (range values: 0,5-0,8).

It can be seen (Table 3) that dimensions of Teamwork, Independence in business, Security of employment, Regularity of pay, Possibility of professional development, and Possibility of promotion at work are significantly correlated between each other.

The analysis of the results of total employee satisfaction shows overall satisfaction in companies, where majority of employees are satisfied (51 %), while 11 % are very satisfied. It is important to highlight the number of employees who are neither satisfied nor unsatisfied (37 %), which means that almost each third employee belongs to this category.

Table 3. Analyses of correlation in the level of satisfaction with different dimensions (part II).

	Teamwork	Independence in business	Security of employment	Regularity of pay	Possibility of professional development	Possibility of promotion at work	Good relationships with colleagues
Salary	0,604 (p<0,000)	0,535 (p<0,000)	0,501 (p<0,000)	0,395 (p<0,000)	0,439 (p<0,000)	0,459 (p<0,000)	0,373 (p<0,000)
Teamwork	-	0,723 (p<0,000)	0,606 (p<0,000)	0,554 (p<0,000)	0,503 (p<0,000)	0,525 (p<0,000)	0,629 (p<0,000)
Independence in business	-	-	0,653 (p<0,000)	0,594 (p<0,000)	0,501 (p<0,000)	0,502 (p<0,000)	0,558 (p<0,000)
Security of employment	-	-	-	0,692 (p<0,000)	0,609 (p<0,000)	0,525 (p<0,000)	0,498 (p<0,000)
Regularity of pay	-	-	-	-	0,688 (p<0,000)	0,532 (p<0,000)	0,543 (p<0,000)
Possibility of professional development	-	-	-	-	-	0,769 (p<0,000)	0,513 (p<0,000)
Possibility of promotion at work	-	-	-	-	-	-	0,620 (p<0,000)

Furthermore, the Tables 2-4 present correlation coefficient between 15 different dimensions of satisfaction, with bolded values of medium intensity of correlation (range values: 0,5-0,8).

It can be seen (Table 3) that dimensions of Teamwork, Independence in business, Security of employment, Regularity of pay, Possibility of professional development, and Possibility of promotion at work are significantly correlated between each other.

The results obtained with the research done in tourism businesses in Montenegro confirm the results of the researches done so far- which point out that most of the authors agree that what affects job satisfaction is: the job itself, wages, surveillance, advancement, working condition, the work group and relationships within it [26, 27].

To many, the job itself is the most important source of job satisfaction. In our research we have discovered that the possibility of professional development and advancement at the work place is of big importance when it comes to defining the level of employees' job satisfaction. This factor is mentioned even in the research done by Alderfer [50] who points out that the possibility of professional development and advancement notably influences the level of job satisfaction. In most of the studies, wages are mentioned as inevitable factors of job satisfaction [26]. In the research that we have done, job satisfaction is on a satisfactory level, 62 % of respondents in total are either satisfied or extremely satisfied. Given the recent research in the tourism industry with low salaries, we expected that the level of employee satisfaction would be lower. Deery and Shaw [51] concluded that the specifics of the tourism industry is in a way characterized by poor wages; which is what researches done by Ratkovic (2018) warn us about, we cannot expect good service in tourism and satisfied employees with low wages and seasonal employment [22].

Also, dimensions (Table 2, Table 4) of Absence of conflict in the company, Employee care for employees, Good physical working conditions, and Good relations with the immediate manager, are significantly correlated with almost each other dimension.

The research has also shown that interpersonal relationships among co-workers are good in tourism businesses in Montenegro, they maintain good communication and a friendly atmosphere at the work place, help each other with tasks, which are all important aspects of job satisfaction. In order to be satisfied with their job, it is important for the employees to have

Table 4. Analyses of correlation in the level of satisfaction with different dimensions (part III).

	Employee care for employees	A challenging job	Good physical working conditions	Good relations with the immediate manager	Benefits: recovery, transportation, phone	A job important for the company and society
Absence of conflict in the company	0,699 (p<0,000)	0,419 (p<0,000)	0,537 (p<0,000)	0,541 (p<0,000)	0,326 (p<0,000)	0,416 (p<0,000)
Employee care for employees	-	0,562 (p<0,000)	0,600 (p<0,000)	0,527 (p<0,000)	0,395 (p<0,000)	0,450 (p<0,000)
A challenging job	-	-	0,613 (p<0,000)	0,446 (p<0,000)	0,463 (p<0,000)	0,443 (p<0,000)
Good physical working conditions	-	-	-	0,666 (p<0,000)	0,455 (p<0,000)	0,494 (p<0,000)
Good relations with the immediate manager	-	-	-	-	0,508 (p<0,000)	0,552 (p<0,000)
Benefits: recovery, transportation, phone	-	-	-	-	-	0,619 (p<0,000)

competent and reliable colleagues, and be able to communicate properly with them, with no conflicts, resulting in a friendly work atmosphere. This factor appeared in earlier researches on job satisfaction done by Luthans [26].

It is important to the employees that the company that employs them has a wider social impact, and that they are informed with everything regarding the company. Since members of the collectivistic culture show a strong need to identify with the collective or the organization that they belong to, it is completely understandable that the company's reputation and its significance for the society are very important. The more significant and respectable the company is, the more it is easier for the employee to identify with it. Besides that, the more significant and respectable the company is, it is easier to it to protect its employees, which is important in times of economic crisis.

Conditions in which the employees are working hold a strong influence in their satisfaction because good physical working conditions include some aspects which strongly emphasize the safety of employees at the work place. Primarily, it refers to physical, safe working conditions and the absence of overtime.

Kruskal-Wallis test shows statistically significant difference between different groups of Dominant organization characteristic, $\chi^2(3) = 8,38; p < 0,005$. The post-hoc test shows significant difference only between groups of Market and Hierarchy in regards to Clan and Adherence from the perspective of the level of satisfaction of employees. In a Market and Hierarchy culture the business result here is practically the only measure of success, and how to achieve it in a sharp competitive battle, in these organizations winning mentality, rationality and work responsibility is appreciated. Clan culture and adhocracy favor flexibility and autonomy as opposed to stability and control. Clan culture is characterized by good interpersonal relationships, and an adhocracy culture by entrepreneurial spirit and innovation.

Also, statistically significant difference is shown between different groups of Leadership in organization, $\chi^2(3) = 9,32; p < 0,005$. The post-hoc test shows significant difference of group

Table 5. Analyses of dependencies between different organization structure and overall level of satisfaction in the company.

	Overall job satisfaction (1-4)		Kruskal-Wallis	
	Mean	St.Dev.	χ^2	p-value
Clan	2,69	0,27	8,38	$p < 0,005$
Adherence	2,38	0,71		
Market	3,13	0,76		
Hierarchy	3,00	1,00		
Leadership in organization				
Clan	2,72	0,27	9,32	$p < 0,005$
Adherence	2,13	0,71		
Market	3,00	2,00		
Hierarchy	3,09	0,60		
Human resource management				
Clan	2,69	0,25	10,57	$p < 0,001$
Adherence	2,00	1,41		
Market	3,00	1,15		
Hierarchy	3,25	1,00		
Unity of organization				
Clan	2,75	0,28	3,71	$p = 0,186$
Adherence	2,40	0,63		
Market	3,00	1,15		
Hierarchy	2,78	0,67		
Strategical focus				
Clan	2,77	0,28	3,04	$p = 0,096$
Adherence	2,36	0,60		
Market	3,00	1,00		
Hierarchy	2,71	0,76		
Criteria for success				
Clan	2,73	0,28	2,18	$p = 0,271$
Adherence	2,67	0,67		
Market	3,00	1,41		
Hierarchy	2,67	0,58		

Adherence compared to groups Hierarchy and Market, from the perspective of the level of satisfaction of employees. In a culture of market and hierarchy, it is expected that the manager makes available all the information needed to complete the tasks and ensure a clear organization of work. His/Her management style is autocratic, that is, focused on the tasks and goals of the organization, in order to achieve the best possible business results. All decisions in the organization are made by the leader [52]. Based on the results, we can state that it is important for employees that their superiors are competent and hold good organizational skills. Few earlier researchers have shown that there is a link between employee participation in decision making and the level of job satisfaction [53]. Unlike the culture of the market and the hierarchy, the culture of adhocracy is characterized by an entrepreneurial spirit and innovation that fits with a charismatic leadership style, which uses an unconventional way to solve problems in an organization, such as introducing new technological solutions and organizing a business. With completely different innovative solutions, the leader indicates his own competence and the correctness of his innovative vision, which is compatible with the organizational culture of the hierarchy characterized by innovation [25].

The results also show a statistically significant difference in Human resource management $\chi^2(3) = 10,57; p < 0,001$. The post-hoc test shows a significant difference in the Adherence group compared to the Hierarchy and Market groups relative to the level of employee satisfaction. This too is supported by theoretical work that market culture and hierarchies are characterized by stability and control in these cultures. In order to achieve productivity and success, it is necessary to control all processes and to constantly monitor them. On the other hand, the culture of democracy is a flexible, adaptable and informal type of organization, characterized by an entrepreneurial spirit and innovation in problem solving [37].

The results of the study show that there is no statistically significant difference between the different Unity of organization groups $\chi^2(3) = 3,71; p = 0,186$., strategic focus $\chi^2(3) = 3,04; p = 0,096$, and Criteria for success $\chi^2(3) = 2,18; p = 0,271$. We interpret this as an interesting result and assume that there is no statistically significant difference due to the specificity of the tourism industry, whose strategic focus, unity of organization and success criteria are geared towards guests, regardless of what type of organizational culture prevails in the organization. This industry is characterized by the inherent nature of products and services and it must be a priority no matter what type of organizational culture prevails in a tourism company, which is in line with Ratkovic's 2009 research. [40] Tourism industry employees are familiar with this, and in accordance with the specificity of this industry, they perform their work in the service industry.

Based on the results of the research on the individual dimensions of organizational culture, the answer to the research question "What is the impact of organizational culture on employee satisfaction?" is given. Results of the research point to notable differences in levels of job satisfaction related to different types of organizational culture in tourism businesses in Montenegro, giving us proof that organizational culture does in fact affect job satisfaction, which is in accordance with researches done by Janicijevic, Nikcevic and Vasic [9]. It is safe to say that different types of organizational culture were linked to different levels of employees' job satisfaction, due to the content, values and norms that characterize different types of organizational cultures.

This can be, at least partially, explained by our national culture [54], in which strong leadership that offers protection, help and care is the preferred one to be included in decision making. Besides that, we cannot neglect the inherited socialist regime of management, as well as the transition process that tourism business in Montenegro went through.

CONCLUSION

The starting point for empirical research of this work is the assumption that the organizational culture is an organizational factor which affects the level of employee satisfaction in tourism companies in Montenegro. Organizational culture is a factor of great importance since it determines the inner environment of the organization in which members of the organization do their job and receive desired results. Employee satisfaction in a way depends on the organizational culture which is dominant in the company, so different types of organizational culture affect the level of employees' satisfaction with the job they do.

The research question in the article is: What the type of organizational culture is dominant in Montenegrin tourism companies and what is its impact on employee satisfaction?

We can conclude that most of the tourism companies in Montenegro fall under the clan culture category, which implies good interpersonal relations, in which friendship, mutual support and team work are prevalent. Based on the conducted research, total satisfaction of employees is 51 %, while 11 % of them are very satisfied. It is important to point out the 37 % of unsatisfied employees, which means that almost every third employee falls under this category.

The results obtained with the research done in tourism businesses in Montenegro confirm the results of the researches done so far- which point out that most of the authors agree that what affects job satisfaction is: the job itself, wages, surveillance, advancement, working condition, the work group and relationships within it [26, 27].

Compared to previous studies, this research confirms that organizational culture is a factor that influences the level of employee satisfaction, which is in line with research [9]. In contrast to previous studies, we found that certain criteria within different organizational culture groups do not have a statistically significant difference in the level of employee satisfaction. We assume that this is a specificity of the tourism industry, since it is a service activity characterized by the inherent nature of the product and service. The connection between employees and guests is much more frequent than in other industries and the different type of organizational culture in that part does not affect the level of employee satisfaction.

This research's results have significant theoretical and practical implications. The key theoretical contribution of this study is the finding that organizational culture is the main factor affecting employees' job satisfaction. Among other factors that were identified in the literature, such as wages, working conditions, management style, organizational culture as well plays an important role in defining the levels of employees' job satisfaction with the work that they are doing. Next theoretical contribution can be seen in identifying the dominant type of organizational culture in tourism businesses in Montenegro.

Practical contribution of this research would be in creating knowledge that managers can implement through their work in tourism businesses in Montenegro, in order to create a culture that secures increase in levels of employees' job satisfaction. Also, the results of the research can be of great help to human resources managers in starting appropriate actions in with the goal of raising awareness and changing organizational culture in their own companies, so that they would be able to create an organizational culture that is in accordance with the employees' needs and preferences, which reflects directly onto their productivity and dedication to the job.

The research presented in this article had a certain methodological limit, coming from the article's nature and its goal. Characteristics of the tourism sector of the organization used for this research, as well as the national culture of Montenegrin tourism businesses inherited from the socialist period of self-governance, limits the generalization of the research results.

Also, for future work it would be possible to extend the presented research to identification of instruments that can be used to increase the level of satisfaction, as well as eventual models and cluster of employees.

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ECONOMIC DETERMINANTS OF CROATIAN CONSUMER CONFIDENCE: REAL ESTATE PRICES VS. MACROECONOMY

Petar Sorić^{1,*}, Mateo Žokalj² and Marija Logarušić¹

¹University of Zagreb – Faculty of Economics & Business
Zagreb, Croatia

²InterCapital Securities
Zagreb, Croatia

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ABSTRACT

This article provides a starting point for the analysis of the determinants of consumer confidence in Croatia. Using Autoregressive Distributed Lag models, we analyse a wide array of macroeconomic drivers of consumer confidence. Despite the well-established fact that the Croatian economy is highly dependent of the real estate sector, consumers seem not to significantly react to real estate prices. On the other hand, we do find some evidence of a considerable long run impact of real wages, interest rates, and the general price level. In the short run, consumer confidence seems to also be responsive to stock market developments and unemployment. Overall, our estimates show that macroeconomic factors explain a lion's share of variability in consumer confidence.

KEY WORDS

business and consumer surveys, consumer confidence, economic sentiment, real estate prices

CLASSIFICATION

JEL: C22, E32, E71

INTRODUCTION

Since May 2005, Croatia has been a part of the Joint Harmonized European Union (EU) Programme of Business and Consumer Surveys (BCS) [1], which has enabled regular monthly publication of consumer confidence data (inter alia). More importantly, the accessibility of such valuable survey data has stimulated a new line of research.

Several studies have established an empirical relationship between the Croatian Consumer Confidence Indicator (CCI) and various types of economic phenomena. Empirical evidence has supported the notion of a psychologically driven economic cycle [2, 3], CCI was found to Granger-cause aggregate consumption, savings, and gross domestic product (GDP) [4], it was found to be a leading indicator of stock market returns [5], and consumer confidence data has served as a valuable information source for quantifying inflation expectations [6].

All of the above stated studies reflect on the hypothesis that consumer confidence is a leading indicator of economic activity, which is certainly not a novel idea in the international context (see e.g. [7] or [8] for verifications of economic sentiment's leading characteristics with regards to the aggregate economic activity; see [9-12] for analogous studies with regard to the stock market; and e.g. [13] for an empirical utilization of consumer survey data for extracting inflation expectations).

The notion of economic activity being to some extent driven by sentiment has initially been put forward by Keynes [14] and is nowadays considered to be a stylized fact of modern macroeconomics. However, the determinants of consumer confidence itself have somehow remained underexplored in the literature. Some studies do cover this topic, but they are largely limited to highly developed economies such as the United States (US) [15, 16], Portugal [17], etc. On the other hand, the literature is rather silent on the determinants of CCI in small developing countries such as Croatia.

Does the consumers' economic sentiment (quantified through CCI) constitute a mere reflection of the prevailing macroeconomic conditions in the country, or is it completely independent of the macroeconomic outlook? These are the questions that we aim to answer in this article.

We build several specifications of Autoregressive Distributed Lag (ARDL) models aimed to explain the variability of Croatian CCI. Our baseline models capture standard macroeconomic covariates such as GDP, the unemployment rate, stock market index, money market interest rate, consumer price index and real wage. These variables are typically utilized in similar studies of CCI determinants for highly developed economies [15-17]. Further on, we augment the stated set of covariates by real estate prices to take into account the specificities of the Croatian economy.

The motive for examining Croatian real estate prices as a potential CCI determinant is quite straightforward. The real estate market is traditionally one of the most vibrant and most important sectors of the Croatian economy. There are several reasons for that.

First, as opposed to saving/investing in modern financial instruments, Croatian consumers are conventionally oriented towards buying real estate as a specific form of saving [18, 19]. Overall, Croatia has the third highest percentage of people living in their own dwellings in the EU [20]. The rationale for such pattern is mostly founded in the historically embedded fear of hyperinflation. The overall effect of these tendencies is that the Croatian economy is highly dependent of the developments in the real estate sector. For example, claims have been made that the recent recession in Croatia would have been twice less intensive if it was not for the disturbances in the real estate sector [21].

Second, in recent years Croatia has witnessed several attempts and announcements of introducing the real estate tax (by as many as three different Croatian Governments). However,

all of them were unsuccessful due to severe public pressure, and Croatia has remained the only EU country apart from Malta that has still not introduced the real estate tax [22].

Third, Croatian Government has introduced a subsidisation programme for housing loans in 2018 [23]. It has been hypothesized that this program has also triggered a growth of aggregate demand for real estate, ultimately driving a rise in the real estate price level [5].

These three idiosyncrasies make Croatia a very intriguing case study, motivating us to meticulously explore the role of real estate prices in governing Croatian consumer confidence. Our results overall confirm the relevance of main macroeconomic variables in governing CCI. Variables that add the most to the goodness of fit of the assessed models are the general price level, interest rates, and real wages. Opposing our initial assumptions, real estate prices do not significantly feed into consumer confidence. This finding does not alter even if we introduce asymmetric effects in the assessed econometric models.

The article is organised as follows. The following section presents a brief review of the literature on the determinants of consumer confidence. The third section explains the utilized dataset and the employed econometric methodology, while the fourth section explains the obtained empirical results. The concluding section offers some policy implications and directions for future research.

LITERATURE REVIEW

BCS provide valuable information for economic research and forecasting. They are widely used to identify inflection points in the economic cycle. Providing monthly data, continuous harmonization, and timeliness, BCS are a crucial complement to official statistics. The Consumer Survey consists of 12 monthly questions and three additional quarterly ones. The questions are organized around four general topics: financial situation of the household, general economic situation, savings, and intentions with respect to major purchases. The answering scheme is conceptualized in the form of a five-option ordinal scale.

The issue of converting qualitative survey answers to numerical BCS indicators has deserved a lot of attention from both academics and practitioners. The conventional approach utilized by the European Commission is to apply response balances. Answers are aggregated as balances of positive over negative results per question (conditions are/will get a lot better, better, the same, worse, a lot worse), with double weights for extreme answers. However, the balance statistic does not take into account the percentage of respondents expecting a variable to remain constant. Recent research [24] has proposed to weight the balance statistic and take into account the percentage of respondents expecting no change in the evolution of an economic variable. This has provided an opportunity to accentuate the forecasting accuracy of BCS indicators.

In a nutshell, the literature offers a wide array of quantification methods for survey-based leading indicators, ranging from probabilistic or regression-based approaches (see [25] for an overview), to state-of-the-art data-driven machine learning techniques [26]. However, the goal of this study is to discern the true determinants of CCI as the most influential and most widely utilized BCS indicator. Evaluating and ranking the alternative procedures for quantifying qualitative BCS responses is far beyond the scope of this article.

With respect to the previous research on determinants of consumer confidence, the literature could be divided in two strands, depending on the focus on economic or non-economic factors. The first econometric studies of consumer sentiment and its determinants started in the 1970s and the introduction of economic variables such as real disposable income, inflation rate, unemployment rate, interest rate and stock market index as the key drivers of US consumer sentiment [27-30].

Later on, it was confirmed that the rising stock prices reflect rising current wealth and future income therefore positively affecting the consumer confidence [31]. These findings with respect to stock market indices were corroborated by [32], also discovering a negative relationship between contemporaneous consumer confidence and the future small-cap stock returns. In addition to confirming the positive impact of equity market in US, authors in [33] discovered its increasing effect over the time, as well as no impact in Belgium due to the relatively smaller share of listed equity in Belgian households' wealth. A similar result was derived for Mexico [34]. For the other 10 analyzed countries from The Organisation for Economic Co-operation and Development (OECD), only consumer sentiment and share prices were found to have a statistically significant and positive impact, whereas the other variables had the expected signs, but the relevance was country-dependent [34].

In Europe, the determinants of consumer sentiment were analyzed in United Kingdom (UK), Germany, France and Italy, with particular interest in the impact of foreign factors [35]. Quarterly change in the international oil price was found to negatively affect consumers' sentiment in Germany, UK and Italy. Rising US stock market was proven to positively affect the German consumer' sentiment, whereas the effect was the opposite in the UK. Finally, the depreciation of German mark and French franc with respect to US dollar also decreased consumers' confidence due to expected inflation followed by restrictive monetary policy. Berg and Bergström [36] evaluated the Swedish CCI over the 1975-1994 period. Their results indicated a statistically significant and negative impact of inflation rate and the real interest rate. Vuchelen [37] examined Belgium in the 1985-2000 period and found that consumer sentiment is negatively dependent on the short-term interest rate, change in unemployment, dollar rate, and the lagged value of consumer sentiment, whereas business cycle indicators influence it positively.

More recently, research has been focused on panel data analysis of different developed or developing economies. Golinelli and Parigi [38] modeled consumer sentiment within the Vector autoregression (VAR) framework for 7 OECD countries. Inflation rate, unemployment rate and nominal interest rate were found to be significant across the economies, while the authors also suggested that the factors are time-varying and country-specific. Celik et al. [39] explored the long-term relationship between consumer confidence, industrial production and stock exchange index in six emerging countries in the period from January 2002 to August 2009. As expected, both variables showed a positive impact on consumer confidence, albeit the one of industrial production was five times larger.

The interrelationship between CCI and real estate prices is not extensively covered in the literature, but some studies did empirically tackle the issue [40-41]. It was found that consumer confidence is correlated with the development of Dutch house prices in 1999 and 2000 [40]. On the other hand, CCI did not improve the predictive power of real estate prices in Germany [41].

Finally, certain studies have focused on non-economic determinants of consumer confidence, such as political extreme events [18, 42]. Similarly, some evidence has been found of election period effects [43]. In addition to political events, terrorism and its side-effects on consumer behaviour have also been examined [44], finding a statistically significant impact of terrorism events on the panel of 27 EU countries in the post-2001 period, expanding on the previous work of [45] and [46].

In this article, we add to the existing literature by analyzing strictly the economic determinants of consumer confidence. In Croatia, the interdependence of political and economic cycles is only marginally significant [47], while terrorism can fortunately still be treated as a non-issue.

RESEARCH METHODOLOGY

This section briefly discusses the utilized dataset and the applied econometric methodology.

DATA

The dataset assessed in this study focuses on the Croatian CCI (obtained from the European Commission). CCI is a composite indicator quantified as a simple arithmetic mean of four chosen response balances from Harmonized EU Consumer Survey: financial situation in the household over the last 12 months, expected financial position of the household, expected general economic situation in the country, and the likelihood of major purchases (the latter three questions refer to the forecasting horizon of the next 12 months)¹ [48]. Although CCI is conceptualized as a leading indicator of personal consumption expenditures [1], CCI has a much wider interpretation in empirical analysis. Namely, there is a body of evidence suggesting that CCI is related not only to hard economic data, but also to a wide array of non-economic concepts that are relevant for consumers' subjective well-being. Some of them include the emotional state [34], armed conflicts [42, 44] and immigration legislation [42]. In that sense, CCI can be roughly interpreted as a measure of life satisfaction. Although there are more direct quantifications of life satisfaction such as the Eurobarometer survey or the World Values Survey, they are conducted on a much lower frequency. The fact that CCI is published on a regular monthly basis makes it adequate for time series analysis such as the one in this study.

Among the determinants of CCI, we explore the following variables: Croatian stock market index CROBEX (obtained through the Thomson Reuters Eikon database; stock hereinafter), chain linked volume of GDP (2015 = 100; source: Eurostat; GDP hereinafter), Consumer Price Index (value for 2015 equals 100; source: Croatian Bureau of Statistics; CPI hereinafter), 3 month money market interest rate (source: Eurostat; int hereinafter), average monthly real net wage (source: Croatian Bureau of Statistics; rwage hereinafter), and the registered unemployment rate (source: Croatian Bureau of Statistics; u hereinafter). These variables are considered because they are recognized as standard macroeconomic indicators in related literature [31-33, 36-38]. Examining whether real estate prices could add to the explanatory power of our model, we augment the dataset by the index of real estate prices (value for 2015 equals 100; source: Croatian National Bank; real hereinafter).

All examined variables are in quarterly frequencies, spanning from 2005 Q2 (conditioned by the introduction of Harmonized EU Consumer Surveys in Croatia) to 2019 Q2. The dataset is seasonally adjusted using the ARIMA X12 method.

We graphically depict the examined time series in Figure 1, showing all variables in relation to CCI as the goal variable in the article. This should enable a visual approximation of the potential coevolution of CCI and its each particular determinant.

METHODS

To this end, we apply ARDL methodology [49] to examine the relationships between the observed variables. ARDL methodology has some important advantages in comparison to standard VAR models and mainstream cointegration tests. Namely, it is well suited for small samples since it allows for different lag orders for each considered variable. Moreover, it is more efficient than the Engle and Granger [50] approach to testing cointegration. Finally, ARDL modelling allows for a combination of I(0) and I(1) variables, without the restrictive assumption that all variables are of the same order of integration.

In the vein of [49], we estimate the following ARDL model:

$$\Delta CCI_t = a_0 + \rho CCI_{t-1} + \theta' \mathbf{X}_{t-1} + \sum_{j=1}^{p-1} a_j \Delta CCI_{t-j} + \sum_{j=0}^{q-1} \pi_j \Delta \mathbf{X}_{t-j} + e_t, \quad (1)$$

where $\mathbf{X}_t = [stock_t \ GDP_t \ CPI_t \ int_t \ rwage_t \ u_t]'$ and e_t is a white noise error term. The lag order of the ARDL model (p and q , where we allow for different q for each independent variable) is determined on the basis of the Akaike information criterion. The following diagnostic tests are

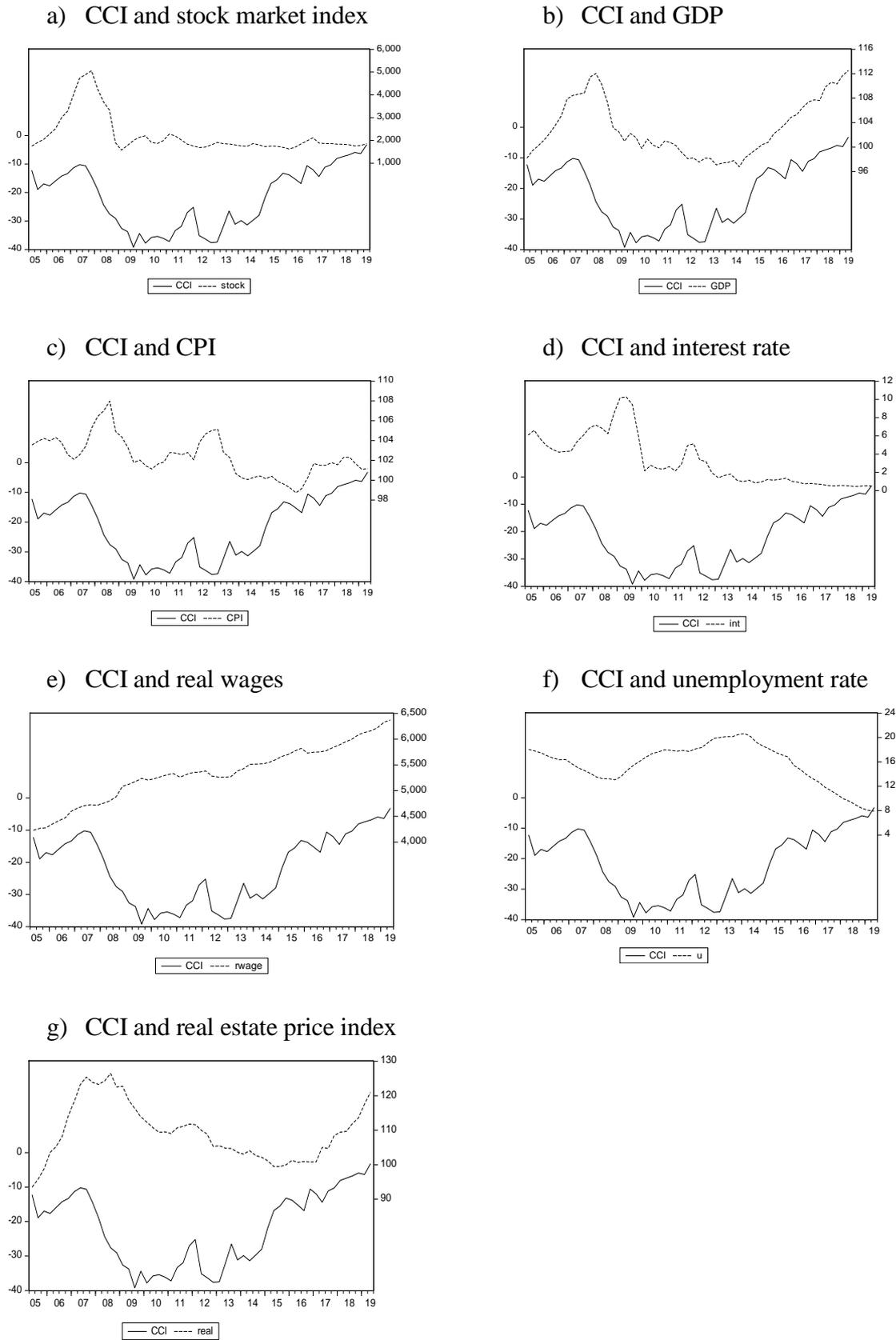


Figure 1. Graphical presentations of the examined time series. CCI is depicted on the left ordinate axis, while other examined variables are shown on the right ordinate axis.

carried out for each ARDL model: autocorrelation Lagrange Multiplier (LM) test of 4th order, the Jarque-Bera normality test and White's heteroskedasticity test.

Whenever the residuals turned out to be characterized by autocorrelation or heteroskedasticity (at the 5 % significance level), the Newey-West autocorrelation- and heteroskedasticity-consistent (HAC) estimator is utilized.

Cointegration among the examined variables is tested according to the bounds test procedure [51]. To be specific, Pesaran, Shin, and Smith [49] define the cointegration test through a null hypothesis of lagged levels of variables in equation (1) being jointly equal to zero ($\rho = \theta_1 = \dots = \theta_6 = 0$). A modified F-test is applied (details given in [49], while the employed lower and upper critical values for the cointegration test are generated for smaller sample sizes of 30 to 80 observations [51].

In the next step, we re-estimate equation (1) adding *real* to the model in order to question if real estate prices are able to explain a considerable portion of CCI's variability.

The relationship between consumer confidence and its determinants does not necessarily have to be purely linear or symmetric. Namely, consumers react to bad news more strongly than to good news [52, 53]. To account for possible asymmetric dynamics, we employ the nonlinear ARDL (NARDL) framework [54]. Just as for the linear ARDL modelling, the lag order of the NARDL model was determined on the basis of the Akaike information criterion. Whenever the residuals turned out to be characterized by autocorrelation or heteroskedasticity (at the 5 % significance level), the Newey-West autocorrelation- and heteroskedasticity-consistent (HAC) estimator is utilized.

The model comes down to:

$$\begin{aligned} \Delta CCI_t = & a_0 + \rho CCI_{t-1} + \theta^+ real_{t-1}^+ + \theta^- real_{t-1}^- + \boldsymbol{\theta}' \mathbf{X}_{t-1} + \sum_{j=1}^{p-1} a_j \Delta CCI_{t-j} + \\ & + \sum_{j=0}^{q^+-1} \pi_j^+ \Delta real_{t-j}^+ + \sum_{j=0}^{q^--1} \pi_j^- \Delta real_{t-j}^- + \sum_{j=0}^{q-1} \pi_j \Delta \mathbf{X}_{t-j} + e_t, \end{aligned} \quad (2)$$

where $real_t^+ = \sum_{j=1}^t \max(\Delta real_j, 0)$ and $real_t^- = \sum_{j=1}^t \min(\Delta real_j, 0)$. The point of this transformation is to discriminate between positive and negative changes in *real*.

In both equations (1) and (2), we allow for a maximum of 4 lags for each particular regressor, as a compromise between precision and preserving an adequate sample size.

The null hypothesis of no cointegration ($\mathbf{H}_0: \rho = \theta_1^+ = \theta_1^- = \theta_1 = \dots = \theta_6 = 0$) is again tested by a standard Wald test.

A novelty of NARDL in comparison to linear ARDL is the necessity to test for long run (LR) symmetry ($\mathbf{H}_0: \theta^+ = \theta^-$) and short run (SR) symmetry ($\sum_{j=0}^{q^+-1} \pi_j^+ = \sum_{j=0}^{q^--1} \pi_j^-$) again by means of a Wald test.

It is suggested to test for both types of (a)symmetries (LR and SR) and to re-estimate equation (2) if only one type of asymmetry or none is found [55]. This should prevent the researcher from obtaining biased results due to model misspecifications. If the null hypothesis of LR symmetry cannot be rejected, we re-estimate equation by inserting the level of $real_t$ instead of $real_t^+$ and $real_t^-$. Similarly, in case the SR symmetry cannot be rejected, we re-estimate model (2) using first difference lags $\Delta real_{t-j}$ instead of $\Delta real_{t-j}^+$ and $\Delta real_{t-j}^-$.

Finally, if both types of symmetries are rejected, we re-estimate the initial linear ARDL model, expression (1).

As the final robustness check, we apply a reduced VAR model. Since in our initial calculations we were not able to obtain a unique cointegration vector using the Johansen procedure, we opt for the Toda and Yamamoto [56] procedure for causality testing in the presence of

nonstationary variables. The procedure entails adding m additional lags to the VAR model (where m is the maximum order of integration in the observed dataset) to the p lags indicated by the Akaike information criterion. In the subsequent Granger causality test, only the initial p lags of the observed variables are utilized.

EMPIRICAL RESULTS

With the possible exception of *stock*, most variables seem not to exhibit mean-reverting properties. This is formally tested using the Augmented Dickey-Fuller (ADF) test. The obtained results are presented in Appendix A.

None of the examined variables are integrated of order higher than one, which is a prerequisite for utilizing the ARDL bounds testing procedure [49]. For the vast majority of assessed variables, it is quite clear that they are $I(1)$. Variable *stock* seems to reject the null hypothesis even in levels (in the test specification with only constant included), but since the ARDL bounds test procedure allows for a mixture of $I(0)$ and $I(1)$ variables, the final verdict in this particular case is not of such importance.

The results of estimating equation (1) are presented in Table 1. The utilized lag orders are chosen by the Akaike information criterion.

Since it is obvious from Table 1 that the model suffers from autocorrelation at the 1 % significance level, robust (HAC) standard errors are applied.

Table 1. ARDL estimation results (baseline model).

Variable	Long run parameters	Lag1	Lag2	Lag3
stock	-0,0064	–	–	–
GDP	0,4489	–	–	–
CPI	2,0597**	–	–	–
int	2,7082**	–	–	–
rwage	0,0156**	–	–	–
u	0,6267	–	–	–
constant	-247,2320*			
ΔCCI	–	-0,0399	–	–
Δstock	0,0003	0,0093***	0,0035	0,0042*
ΔGDP	1,1552*	1,2072	1,2664***	0,8337**
ΔCPI	0,3847	-1,2631	–	–
Δint	1,2602*	-0,2846	-1,2570**	-0,8311
Δrwage	0,0009	0,0132	0,0144**	0,0160
Δu	0,1036	-4,1482***	-1,9876	-4,3327***
Bounds test F statistics	5,2391***			
LM autocorrelation test	0,0021***			
Jarque-Bera normality test	0,5326			
White heteroskedasticity test	0,9945			
Adjusted R square	0,7216			

*table entries for the diagnostic tests are the corresponding p-values

Long run parameters for the six independent variables (presented in Table 1) are obtained as $-\theta_i/\rho, i = 1, \dots, 6$ [57].

It is easily observable that the assessed variables are cointegrated at the 1 % significance level. The long run parameters reveal a significant positive relationship between CCI and the *CPI, int,* and *rwage*. One should interpret these results with some caution. Without insisting on explicit causal claims, we are prone to interpreting this as a sign that the general growth of the economy (as usually characterized by inflation, interest rate growth and real wage increase) stimulates consumer to perceive their economic environment in a more optimistic manner. The insignificant effect of *stock* is somewhat expected since the domestic stock market is quite illiquid and characterized by a very small number of traders. Some authors even call the Zagreb Stock exchange an “almost exclusive platform for institutional investor actions” [58]. It is therefore no surprise that consumers do not psychologically respond to stock market developments.

In the short run, CCI seems to be much more responsive to GDP, *stock*, and *u*, while the significance of other variables greatly varies across lags.

In the next step, we augment expression (1) by *real*. The obtained results are presented in Table 2.

Although the augmented model presented in Table 2 also reveals significant cointegration (at the 5 % significance level), the goodness of fit of this model has not increased. On the contrary, the adjusted R square has even diminished from 0,7216 to 0,686. Therefore, it seems that real estate prices in Croatia do not significantly feed into consumer confidence. The same conclusion can be drawn by noticing that *real* is not significant neither in the long run nor in the short run. These results are in line with [41].

Table 2. ARDL estimation results (augmented model).

Variable	Long run parameters	Lag1	Lag2	Lag3
real	-0,0006	-	-	-
stock	-0,0031	-	-	-
GDP	1,11e-05	-	-	-
CPI	0,0003***	-	-	-
int	0,0071	-	-	-
rwage	0,0072	-	-	-
u	4,29e-05	-	-	-
constant	-241,1415			
Δreal	-0.2543	0,0618	0,0056	-
ΔCCI	-	0,0206	-	-
Δstock	0,0009	0,0080*	0,0036	0,0040
ΔGDP	1,1211	1,3582	1,5409**	0,9322*
ΔCPI	0,4644	-1,5639	-0,6067	1,4263
Δint	1,4263	-0,2439	-1,1441	-0,8590
Δrwage	-0,0026	0,0110	0,0104	0,0225*
Δu	-0,0329	-4,1408**	-1,5392	-4,7573***
Bounds test F statistics	3,7508**			
LM autocorrelation test	0,0064***			
Jarque-Bera normality test	0,4409			
White heteroskedasticity test	0,5885			
Adjusted R square	0,6868			

*table entries for the diagnostic tests are the corresponding p-values

In the short run, CCI is significantly affected mostly by GDP and u , and for individual time lags by the *stock* and *rwage*, corresponding to the findings in [31, 32, 38, 39].

We also tried to discern if the effect of *real* is asymmetric. Could it be that the sign and/or magnitude of its impact on CCI is different for positive and negative changes in *real*? After estimating equation (2) and allowing for asymmetries in all considered regressors, we tested for both LR and SR types of asymmetries (as suggested in [55]). However, the null hypothesis of LR symmetry could not be rejected at any conventional significance level (p -value = 0,4257). The same conclusion was also drawn for the SR symmetry, with a p -value of 0,1074. Therefore, the model presented in equation (2) clearly breaks down to the conventional ARDL specification. The goodness of fit obtained for the model presented in Table 3 cannot be enhanced by introducing asymmetries in the specification.

Finally, the results of the Toda and Yamamoto [56] Granger causality testing procedure are given in Table 3. In the underlying calculations, four lags are chosen as the optimal lag order (according to the Akaike criterion), and one additional lag is fitted to the variables at hand to fix the asymptotic properties of the estimator by taking into account data nonstationarity. CCI is treated as the dependent variable in the model.

Table 3. Toda and Yamamoto causality test results.

Variable	χ^2 test statistics
<i>stock</i>	13,4591***
<i>GDP</i>	3,6888
<i>CPI</i>	7,5538
<i>int</i>	5,4894
<i>rwage</i>	3,8665
<i>u</i>	9,9886**
<i>real</i>	3,0821

*significant at 10 % probability level

**significant at 5 % probability level

***significant at 1 % probability level

The results presented in Table 3 are quite similar to the short-run results of ARDL models (Tables 1 and 2). CCI seems to be highly responsive to *stock* and u .

This article is merely the starting point for analysing CCI's determinants in Croatia. The hereby observed macroeconomic variables were able to explain around 70 % of variability in CCI (adjusted R-squares of the estimated ARDL models are equal to 0,7216 and 0,6868). This encouraging finding does not leave very much room for improvement in the goodness of fit, but it can be speculated that some of the potentially relevant variables (that were left out here) might include political factors or latent egotropic variables such as the level of societal pessimism/optimism.

DISCUSSION AND CONCLUSION

Although the literature robustly shows that consumer confidence can be used as a leading indicator of the macroeconomy, not much has been written insofar on the driving forces of CCI itself. This statement holds even for the developed countries, but the literature is almost completely silent on this topic in the developing economies. This article provides an initial attempt to discern the determinants of CCI in Croatia, a country with an economic system extremely dependent on the real estate sector.

In accordance with the previous literature, we assess a wide set of CCI determinants for Croatia. These include the stock market index, GDP, consumer price index, interest rate, real net wage, and unemployment rate. Those variables form our first model, which we further

augment by the index of real estate prices. We employ ARDL and NARDL methodology to examine the relationships between the observed variables. The long run parameters reveal a significant relationship between CCI and general price level, interest rates, and real wages. Our results are in line with [36] and [38].

Insignificant stock market effect is somewhat expected since the domestic stock market is quite illiquid and characterized by a very small number of traders, as opposed to highly developed markets considered in similar studies [31-35, 39].

In the short run, CCI seems to be much more responsive to stock market developments and unemployment. Depending on the chosen lag, our results are in line with [36-38], and [39]. In both model specifications (with and without real estate prices), the unemployment rate exerts strong negative pressure on consumer confidence. With respect to the stock market index, in both model specifications, the parameter is positive but relatively smaller in comparison to other significant parameters. Its positive impact is validated since in all cited articles [31-35, 39], the effect is statistically significant and positive. However, its relative size could be interpreted similar to [33], where the authors accentuate that only a minor part of households' wealth in Belgium consists of stocks. A similar explanation can be offered here. Due to historical Croatian investment patterns of preserving wealth in real estate, a considerable portion of wealth is being held in the form of bank account deposits or cash-at-hand. Combining this with a relatively low level of financial literacy, it is no wonder that the general level of consumer confidence is irresponsive to stock market movements.

Within the augmented model, Croatian CCI seems not to be significantly influenced by real estate prices. This finding is valid both in the short and long run, and both in linear and asymmetric ARDL specifications. Our findings conform to [41] in that sense.

Consumers seem to considerably boost their sentiment in reaction to increases in interest rates. The documented positive link between interest rates and consumer confidence is in strong contrast with previous literature. We interpret these findings as the consumers observing improvements in the general economic outlook. The final manifestation of such tendencies is the accompanying growth of consumer confidence. We have stated that the periods of rising interest rates are characteristic for expansionary economic periods with monetary authorities aiming to cool down the economy. Additional rationale for a positive relationship between consumer confidence and interest rates could be related to the wealth effect. In a rising interest rate environment, households with a significant amount of cash at hand (both physical cash and in deposits-a-vista) might opt for a relatively safe investment in the form of long-term deposits that guarantee certain return and are to some extent secured by the Government. The wealth increase in the form of capital gains due to rising interest rates would result in rising consumer confidence, unless it is offset by a relatively stronger negative effect on the current disposable income through increased interest rate expenses.

Finally, the most striking result is the consistently positive and significant long-term impact of inflation on consumer confidence, which is in contrast with all previous research. As stated, rising inflation is commonly a tell-tale sign of growing economy, with a certain threshold representing "healthy" inflation. Previous studies mostly interpret the observed negative link between inflation and consumer confidence in relation to financial or economic instability reflected in inflation. Bearing in mind that prices should not be prevalent in determining long-term economic factors, further research is required to disentangle their impact on consumer confidence.

All of these findings could be of great importance for policy makers. Boosting consumer sentiment could result in consumption growth, and consequently in the growth of economic output. It is important for any economic policyholder to have a thorough understanding of the functioning mechanisms of the economic system, regardless of the final goal of the underlying policy.

Knowing that CCI is significantly determined by e.g. unemployment and real wages makes it easier for the Government to adequately manage possible economic crises and set up coherent countercyclical policies to boost the economy. Like any novel economic research, especially one concerning a country such as Croatia, characterized by peculiar investment patterns (underdeveloped capital markets with strong inclination to real estate investing) or inherited consumer behaviour patterns caused by historical hyperinflationary periods, our findings should be considered as a foundation stone of future research that would yield more robust results.

In this research, the most significant short-term determinants of the CCI are GDP growth rate and unemployment rate, as well as the stock market index, although to a lesser extent. This is no surprise since the stated variables are among the widely most communicated economic indicators in the media, shaping the economic sentiment of the general public. Several implications for practice could be drawn, depending on the variable discussed and observed horizon, but the common denominator is expectations management and the generating process of consumer confidence. The need for methodological precision and consistency, coupled with timing and communication to the general public could be of outmost relevance to the short-term dynamics of the CCI.

The unemployment rate, which exerts rather strong negative impact on CCI, is subject to methodological discussions. Firstly, the most widely publicly communicated unemployment rate, as well as the one used in this research, is the one calculated by the Croatian Bureau of Statistics, which reflects the registered number of unemployed persons. This indicator is usually higher than the one obtained through Labour Force Survey (Eurostat methodology) and is highly susceptible to registry guidelines (for instance, an individual is removed from the registry if she refuses prequalification or vacancy for three times). Secondly, the unemployment rate depends on the labour force figure that might be particularly challenging to estimate in an economy characterized by major emigration outflows and lack of systematic administrative procedures to determine individuals' residence and/or labour status abroad. As news on unemployment rate dynamics shape consumer confidence, these shortcomings should be properly addressed.

GDP growth rate stands out as the second most significant short-term determinant of the CCI. Due to the scope of the indicator, it is published two months following the reference period. Since it is highly unlikely that this lag could be reduced considerably without diminishing the quality of GDP calculation, communication of results by the decision-makers is essential for governing consumers' expectations, especially if the results imply a negative growth rate. In the context of recent global epidemic outbreak or any other severe exogenous shock to the economy, a credible action plan backed by detailed set of economic measures could reaffirm consumers' confidence or alleviate its downfall which would further deteriorate the economic growth rate.

Finally, CROBEX index also positively affects consumers' confidence through the expectations of higher personal wealth and future consumption. The periods of extraordinary price volatility in a relatively illiquid market fuel uncertainty, which could exert negative impact on the consumer confidence. Bearing this in mind, the stock exchange operator should encourage or even enforce the highest standards of corporate reporting among issuers in order to mitigate the information asymmetry. In addition to that, constant development of the trading protection mechanisms is much needed, such as stock trading suspension in case of major day-to-day drop of stock index, a capital markets equivalent to the bank run.

With reference to the relevant long-run determinants of the CCI, as stated in the empirical results section, the interpretation of obtained results and consequently their practical implications should be taken with caution and should be the subject of further research.

In this article, we add to the existing literature by analyzing strictly the economic determinants of consumer confidence. The interdependence of political and economic cycles is only marginally significant in Croatia, so those factors are out of the scope of this article. Institutional

and culturological variables (such as those from the World Bank Doing Business database or the World Values Survey) might in some cases improve the model fit, and we recommend to add such variables in cases of analysing multiple countries in a panel framework. In this article we also do not consider the possible influence of geopolitical risks as potentially important factors of consumer sentiment. Fortunately, this can still be treated as a non-issue for Croatia, but multi-country evaluations might benefit from such concepts. However, an additional portion of CCI's variability might be explained by assessing major political/cultural events. In case of Croatia, regarding the potential political events, one could hypothesize that the impact of corruptive affairs of the Government (arrest of the ex Prime Minister in 2010), the date of EU entry on 1st July 2013 or extraordinary parliamentary elections in 2016.

We believe this article has initiated a novel branch of literature for the Croatian economy, and offered several implications for the academic community. When analysing the influence of real estate prices on consumer confidence, future research should certainly try to differentiate between the prices of existing housing and newly built real estate. Historical time series for the two stated categories are considerably shorter than the rest of the dataset analysed in this study, so adding them to our models would additionally shorten our already limited sample size. We would highlight this as the main limitation of the article, and leave that for some future study. Likewise, it might be beneficial to analyse if the result would change much if CCI would be replaced by some other economic sentiment measure, such as e.g. confidence indicator for the construction sector.

A further research goal potentially worth pursuing is the quantification of specific news-based indices related to CCI and the real estate market. Nowadays quite a few web scraping tools are available, enabling researchers to quantify the intensity of media reports on specific topics such as e.g. changes of real estate prices. This type of indices derived from text-based media data might prove to be useful in terms of explaining and predicting CCI. Furthermore, it might be beneficial to utilize the Croatian Economic Policy Uncertainty Index [47], which might greatly impact the Croatian housing market and CCI. In periods of high economic policy uncertainty, consumers are less likely to buy dwellings due to the lower predictability of real estate prices, as well as the general economic situation and consumers' personal financial situation. Economic news indices are out of the scope of this article, but could be viewed as a great potential for further research. Additionally, further research could broaden the analysis by some additional macroeconomic indicators like e.g. the employment rate and real disposable income, although our analysis has shown that the chosen variables explain a lion's share of variability in consumer confidence.

It is notable that Croatia is one of the two European Union countries without a real estate tax. Still, it would be very interesting to investigate the impact of current government real estate subsidies on consumer confidence in Croatia (especially in terms of willingness to purchase dwellings) and consequentially on the real estate prices. Unfortunately, adequate micro data sources are not publicly available at the moment, but this would be a very interesting topic for further research.

Finally, the behavior of economic agents is often more influenced by psychological factors in the crisis periods, so we recommend to replicate this analysis after a few years with a longer post-crisis time series to analyse the effects of house price index on consumer sentiment in the crisis and post-crisis period separately.

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REMARK

It should be noted that the European Commission has recently altered the methodology of calculating CCI. To check the robustness of our results, we repeated our ARDL analysis using the “old” CCI data, but the main conclusions have remained intact. We leave out these results here for the sake of brevity.

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LIVING LAB – CREATIVE ENVIRONMENT AND THINKING TECHNIQUES FOR TOURISM DEVELOPMENT

Irena Šker* and Tamara Floričić

Juraj Dobrila University of Pula – Faculty of Economics and Tourism “Dr. Mijo Mirković”
Pula, Croatia

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ABSTRACT

The aim of the article is to analyse the justification for and efficiency of organising a Living Lab within the higher education system as an environment for the development of stimulating tourism ideas and entrepreneurship recommendations, and compare group creative thinking techniques for generating ideas – brainstorming and brainwriting in the Living Lab organisation – as recommendations for the effectiveness of further research.

Through the Living Lab model, the techniques mentioned contribute to the development of creativity and generate quality and innovative ideas and, in accordance with these, the most efficient model for problem-solving in the tourism environment is proposed. The purpose of the article is to present an innovative model for consideration and evaluation of problems and potential solutions in tourism entrepreneurship. The summarised considerations represent a scientific contribution to the new theory of problem solving and innovations in tourism entrepreneurship.

KEY WORDS

Living Lab, innovations, tourism and hospitality, brainstorming, brainwriting

CLASSIFICATION

JEL: I25, O3, Z32

INTRODUCTION

Nowadays, knowledge represents a considerable input for the development of innovations which result in higher degrees of development, more successful economic results and a more competitive position in the modern, challenging and dynamic tourism market.

Creation of an environment in which knowledge, i.e. human capital, occupies first place and contributes to the development of innovations, attracts investment and opens possibilities for a sustainable increase in the number of investments which lead towards long-term economic growth and increase in competitiveness.

The importance of innovations for further economic development is manifested in the most important international and national strategic documents, with a view to creating an encouraging environment. Accordingly, in the international strategic document “Europa 2020” [1] three priorities are proposed, which complement each other, and one of them is smart growth – by developing the economy based on knowledge and innovation. According to the Croatian Ministry of Economics [2] at the national level, the operative programme “Competitiveness and cohesion 2014 – 2020”, encompasses the priority axis – strengthening of the economy by implementation of research and innovations, while the “Strategy of encouragement of innovations of the Republic of Croatia 2014 – 2020” [3] strives to position development and systematic encouragement of innovations as the principal values of economic success, but also of the society as a whole.

For economic success and strengthening of the research-based economy, networking of different sectors is very important: economic, public, and the educational sector, i.e. universities, should be their connection. In Croatia, the problem is present of insufficient networking, i.e. insufficient connection between the educational and economic systems. One of the solutions to this problem can be the model of partnership with the economy itself – the Living Lab organisation.

Living Labs belong to the paradigm of open innovations and include an approach directed towards the user, stresses [4]. They provide “physical regions or virtual realities in which stakeholders form public-private partnerships (PPP) of companies, public agencies, universities, institutes and users who cooperate with the aim of creating and making of a prototype, validation and testing of new technologies, services and systems within the context of real life” [5]. Living labs take advantage of public-private partnerships for generating an initial demand and often involve other actors, such as small and medium-sized enterprises, to lower barriers of entry in complex multi-stakeholder or highly regulated environments. [4, 6] Elaborates the model, which includes partnership between the economy, the public and the governmental bodies, enabling partners to actively participate in the processes of research, development and innovation (Living Lab), achieving an increased affirmation in the world, in which many prestigious universities are included.

The aim of this article is to analyse the justifiability and effectiveness of the networking organisation – the Living Lab – in the system of higher education as an environment for the development of stimulating tourism ideas and entrepreneurial proposals and to compare group creative techniques, brainstorming and brainwriting in Living Lab organisation, as suggestions for the methodology for further research effectiveness. Accordingly to the aim the question arises of how to target the audience to generate ideas that represent the potential for innovative solutions?

Cooperation in the business, educational, research and other fields, i.e. by combination of different areas, considerably contribute to the development of creativity, new ideas, new processes and, generally, to innovations. By networking people, creativity and the possibility of stimulation of innovations are encouraged, and techniques for encouragement of creative thinking are conceived in the way that they assist us in overcoming the “problem of problem

solving”. There are numerous creative thinking techniques which can be applied individually, while some of the methods are directed towards encouragement of group creativity and are thus applied in teams or work groups. Changes in collaborative practices are a turning wheel in innovations and influence shifts forward in design of development strategies in tourism [7]. The practice showed that group and modified methods are more effective and that the interaction among people gives better results and more encouraging ideas. Creativity is a cooperative phenomenon and the most creative ideas are often the result of different forms of human interaction. Other people, their ideas, proposals, comments, suggestions and even misconceptions, have always served as excellent creative thinking “triggers” [4]. The article analyses two creative thinking techniques in the Living Lab environment, brainstorming and brainwriting that have contributed to the generation of ideas and the potential for innovation.

LITERATURE REVIEW

The term Living lab is quite a new phenomenon which appeared in Europe in the first years of the 2000s. A number of cities, including Barcelona, Helsinki and Manchester, were involved in a TEN-Telecom project called “InfoCities” (1996-99) and then in a project called “Intelligent Cities – Intelcities” (2002-05). At the end of the Intelcities project the participating cities agreed to establish a European network dedicated to knowledge exchange on living labs which then went on to become the basis of the first wave of the European Network of Living Labs [8]. This initially consisted of 19 living labs located across the EU, most of which were partners in the Intelcities project, and today ENoLL counts over 150 active Living Labs members worldwide.

Establishment of the Living Lab for the tourism sector represents a potential for the development of local tourist companies, the local community and the entire local area. It is very important that the subject of tourism in the Living Lab be directed towards a specific segment, a specific area or a specific form of tourism so that, on this basis, it is possible to recognise the potential target groups in order to avoid general debates which will not generate innovative solutions.

By means of Living Labs, “tourist service providers will obtain an insight into what tourists actually want” [9]. Not only can such an insight facilitate identification of new markets, but it can also encourage innovations, development and improvement of products [10] through more frequent interaction among stakeholders in a partnership. Interaction among users (tourists), technology providers and tourist services are the key catalysts of innovations [11]. In addition, Living Labs have the potential to become the key catalysts of innovations [12, 13], encouraging open innovations [14], thus creating an environment which promotes cooperation among tourism industry stakeholders in order to enable innovations [15]. This Living Labs approach has as its aim training for cooperation, which is an important constitutional element of the paradigm of open innovations [5].

Living Labs have received limited attention in the literature, despite their growing recognition, diffusion throughout Europe and recent interest from policy makers. This limited attention is linked to the newness of the phenomenon, the high heterogeneity of cases and the consequent lack of definitions and acknowledged frameworks for scholarly analyses [16].

By the analysis of certain definitions of the term Living Lab in the period from the very beginning back in 2004 to date, shown in Table 1, it can be seen that most of the stated definitions include key words which describe the phenomenon itself and we can, therefore, conclude that LLs are characterised by open innovation, user-centric, co-create, real life contexts. Further to the key words, LLs are open innovative environments which act as an integrated network of different stakeholders (PPPP), placing the user in the centre of the research and, by simulation of the real life environment, contributing to the mutual creation of values, i.e. to innovations and development.

Table 1. Definitions of term Living Lab 2004-2019 – Literature review (continued on p.262).

No.	DEFINITION	SOURCE	KEY WORDS
1.	“Consciously constructed social environments in which the uncontrollable dynamics of everyday life are accepted as part of the innovation environment which enables designers and users to co-produce new products and services”	[17]	consciously; everyday life; innovation environment; users co-produce
2.	“A user-centric research methodology for sensing, prototyping, validating and refining complex solutions in multiple and evolving real life contexts”	[18]	user-centric; real life contexts
3.	“Experimentation environment in which technology is given shape in real-life contexts and in which (end) users are considered co-producers”	[19]	experimentation; technology; real-life contexts; users co-producers
4.	“Systemic innovation approach in which all stakeholders in a product, service or application participate directly in the development process”	[20]	systemic innovation approach; participate directly; development process
5.	“Home-like environment by ambient intelligence and ubiquitous computing technologies such as wireless and sensor technologies to sense, prototype and validate complex ICT solutions”	[21]	home-like environment; ambient intelligence; technologies
6.	“A user-centric innovation milieu built on every-day practice and research, with an approach that facilitates user influence in open and distributed innovation processes engaging all relevant partners in real-life contexts, aiming to create sustainable values”	[22]	user-centric innovation milieu; every-day practice and research; open innovation process; real-life contexts; sustainable values
7.	“Open innovation environment in real-life settings in which user-driven innovation is the co-creation process for new services, products and societal infrastructures”	[23]	open innovation environment; real-life; user-driven innovation; co-creation
8.	“Testing in a live environment with real end-users and in cooperation with players from the entire value chain will help companies evaluate their services and allow adjustments and corrections to be made well in advance of launch”	[24]	live environment; real end-users
9.	Living labs also provide “physical regions or virtual realities in which stakeholders form public–private–people partnerships (PPPP) of firms, public agencies, universities, institutes, and users all collaborating for creation, prototyping, validating and testing of new technologies, services, products and systems in real-life contexts”	[25]	physical regions; virtual realities; public–private–people partnerships; real-life contexts

Table 1. Definitions of term Living Lab 2004-2019 – Literature review (continuation from p.261).

No.	DEFINITION	SOURCE	KEY WORDS
10.	“Environments, a methodology or an approach which caters for user-driven open innovation within real-life rural and urban settings/communities, where users can collaborate with multiple committed stakeholders (whether NGOs, SMMEs, industrial, academic/research, government institutions or funders) in one or more locations, to become co-creators or co-designers of innovative ideas, processes or products within multidisciplinary environments. Successful deployments can result in improved processes or service delivery, new business models, products or services, and can be replicated (with necessary socio-cultural adaption) to improve overall quality of life and wider socioeconomic impact (including entrepreneurship) in participating and other communities”	[26]	user-driven open innovation; real-life; collaborate; co-creators; co-designers; multidisciplinary environments
11.	“An R&D concept which aims to create innovations in a multi-contextual, real-world setting”	[27]	R&D concept; innovations; multi-contextual; real-world
12.	“A Living Lab is a design research methodology aimed at co-creating innovation through the involvement of aware users in a real-life setting”	[16]	co-creating innovation; real-life
13.	“Living Labs represent an approach to user-centred innovation by engaging users actively as contributors to the creative and evaluative processes in innovation and development”	[28]	user-centred innovation; engaging users actively
14.	“Living Labs (LLs) are defined as user-centred, open innovation ecosystems based on systematic user co-creation approach, integrating research and innovation processes in real life communities and settings”	[8]	user-centred; open innovation ecosystems; user co-creation; integrating research and innovation; real life

RESEARCH DESIGN AND METHODOLOGY

The testing of the Living Lab concept itself was directed towards students as a target group, given that it represents a significant potential for the generation of ideas and innovative solutions aided by monitoring from the academic community which channelled and organised the processes and led students towards team work and idea development.

A mixed research approach was used in the article, i.e. a combination of the qualitative and quantitative approaches; more precisely, an explanatory sequential design, which includes data collection using first the quantitative, then qualitative methods. The data used for the analysis was initially collected using the survey method of the undergraduate and graduate study students in courses of tourism at the Juraj Dobrila University of Pula. All atypical and incomplete values were excluded as their presence could affect the analysis results. The size of the survey sample was 128.

Following the survey method, for the purpose of testing of the theoretical determinants and research into the possibility of implementation of the concept into the University system, a pilot project testing has been constituted including the methods of team creative thinking, i.e. the brainstorming method, which encompassed the sample of 54 students gathered in 10 teams, and the method of brainwriting, which was made up of a sample of 6 students, were used. The deductive method, the analysis and synthesis method and the statistical methods were also used.

Setting up the Living Lab concept requires individual approach and definition of the phases in the process itself and, given that it concerns the academic community and students as a test group, the following process was defined: problem identification, team definition, idea generation and idea evaluation. For the purposes of realisation of the idea and the possibility of converting it into an innovation, the phases of prototyping and design concept and piloting could be added to the last phase. They represent recommendation for further development and have not been covered in this article.

Bearing in mind that each project idea initially comes from a need to solve a specific problem, the need for a detailed and precise analysis of the problem imposes as essential in the Living Lab process. The initial testing phase of a sample of a total of 60 students started with a presentation and mutual acquaintance of students as a test group for the analysis of the feasibility and efficiency of establishment of the Living Lab organisation in the higher education system, with the cultural tourism locations in the south-east part of Istria, in the areas of the Municipality of Ližnjan. A total of six localities of cultural tourism were presented and a common problem of insufficient valorisation of the said cultural localities was set. This is exactly why the problem analysis is a prerequisite for a proper determination of the project goals, thus a prerequisite also for its success.

The second step in the Living Lab process consisted of definition of the team, i.e. a group of students and mentors who, working together, can contribute to the research goal. Versatility and diversity of the team members are the preconditions for its creative work, which leads to optimal solutions and to achievement of the main goal, with mentors' leadership and expertise. Oriented towards encouragement of creative ideas and innovative solutions in groups, students were organised into 11 teams.

The central Living Lab activity is the research process which is integrated through co-creation, research, experimentation and evaluation of innovative ideas, scenarios, and concepts with the stimulation of the realistic environment, and the research in this article is directed towards the stated phase in the Living Lab process. The choice of brainstorming as a technique for encouragement of group creativity was due to its exceptional simplicity and practicality in the solution of widespread problems, success in generating ideas and extreme efficiency in being conducted within a team.

Using the brainstorming technique, two teams of students elaborated the problem area of insufficient valorisation of each stated cultural locality (1-5) in a total of 60 minutes, while, using the technique of brainwriting, six students, gathered together in a single team, elaborated the problem area of insufficient valorisation of all six stated localities, where every participant had 5 minutes to evaluate each individual case, writing down their ideas for evaluation. This resulted in 6 participants evaluating 6 cultural localities in a total of 30 minutes.

Following the research and generation of innovative suggestions, the Living Lab process requires their evaluation. It is a process of obtaining raw data, breaking the whole into separate components for individual examination and transformation into information, useful for decision making.

Following the conduct of the quantitative idea generation method at the Living Lab, the qualitative aspect of a specific idea was assessed using 4 idea quality indicators: innovativeness,

feasibility, sustainability and potential. In accordance with the methodology [29]. The assessment was carried out by three experts from the field of entrepreneurship and tourism, from the Faculty of Economics and Tourism “Dr. Mijo Mirković” from Pula, acquainted with the areas of the analysed cultural localities. In the article, a total of 2 hypotheses were set, directed towards the comparison of innovative idea generation at the LL environment using the brainwriting and brainstorming techniques.

H₁: given the size of the test sample, i.e. a larger number of respondents gathered in teams for generation of ideas using the brainstorming technique, it is assumed that the same technique will generate a larger number of ideas than the brainwriting technique.

H₂: analysing the qualitative aspect, the generated ideas obtained through the brainstorming technique are more innovative than the ideas generated using the brainwriting technique, due to the assumption of a higher quality and a more innovative approach to team work.

RESULTS OF EMPIRICAL RESEARCH AND DISCUSSION

Further to the research design and according to its implementation, the results are presented, which confirm or disprove the hypotheses set and which point to the developmental potentials of certain aspects of the innovative Living Lab laboratory.

The term of Living Lab is mostly a “new” concept which has been increasingly used in more recent literature as a best practice standard in the field of implementation of open innovations in different business fields, whose concept also includes workshops of creative idea generation. Further to the notion itself of the concept, the intention was to familiarise the respondents with the Living Lab terminology and their participation in a specific form of idea generating workshops.

Table 2. Relative frequencies of familiarity with the Living Lab concept and participation in workshops for development of creative entrepreneurial ideas.

	Familiar	Not familiar	Total
Frequency – N	38	88	126*
%	30,2	69,8	100
	Participation	Non participation	Total
Frequency – N	28	100	128
%	21,9	78,1	100

*two of the respondents did not answer

The calculation of the relative frequency shows that the majority of respondents were not familiar with the Living Lab concept, i.e. only 30,2 % of them were familiar with this concept. The non familiarity with the term itself, but also of the entire concept, is also preceded by the result which shows that only 21,9 % of respondents took part in workshops for development of creative entrepreneurial ideas.

By not being familiar with the concept of Living Lab and by not participating in workshops for development of creative ideas, students, as a test group, represent a potential group for testing the possibility of development, from primary bases, of the Living Lab concept itself, as well as preparedness to engage in and contribute to the testing, due to the fact that 94,5 % of respondents believed that entrepreneurial ideas could be developed by creative reserch workshops.

The team efficiency is reflected in the number of generated ideas, i.e. by analysing the number of generated ideas per team using the brainstorming technique. Using arithmetic mean it is noted that the mean value of the generated ideas equals 5 (mean = 4,7). Team 1 and team 4 obtained the results which are above the arithmetic mean, i.e. they generated 6 ideas each, which leads to the conclusion that the stated teams are the most efficient in comparison with the others.

Table 3. Number of generated ideas obtained using the brainstorming technique per team.

Team	No. of generated ideas	No. of members	Idea per team member
1	6	6	1,00
2	4	5	0,80
3	5	7	0,71
4	6	6	1,00
5	3	5	0,60
6	5	5	1,00
7	5	5	1,00
8	5	5	1,00
9	4	5	0,80
10	4	5	0,80
N	47		
Mean	4,7		
St. D.	0,949		

The data shows that, according to team work and the number of generated ideas per team, no team presented more ideas in relation to the number of team members. This can be explained by the overlapping of the same ideas which were not expressed, but also by the influence of collective thinking, where team work is aimed towards specific thinking directions where individual creativity does not get affirmed.

Given the small disparity in the team sizes, the intention was to explore whether the number of team members affects the number of generated ideas in the brainstorming technique. Pearson’s correlation coefficient confirmed a moderate positive correlation ($r = 0,54$), which means that the number of team members affects the number of generated ideas in the creative thinking brainstorming technique. Comparing the realised number of ideas with the ideas realised using the brainwriting technique, a higher realisation frequency is evidenced through the brainwriting technique. According to the method used, grouping was carried out and the calculations were made of the relative frequencies: out of the total number of 118 ideas, the brainstorming technique produced 47 ideas (39,8 %) and the brainwriting technique produced 71 ideas (60,2 %), which shows that the number of ideas generated using this technique is significantly higher in relation to the brainstorming technique, regardless of the sample size.

Apart from the calculation of the relative frequency of the two creative thinking techniques according to the number of generated ideas, it was noted by sample analysis that 11,83 ideas per team member were generated using the brainwriting technique, while only 0,87 ideas were generated through the brainstorming technique per team member. It was observed that the brainwriting technique members were more efficient in relation to the brainstorming technique members; however, the fact that the creative thinking brainstorming technique allows and stimulates discussions about ideas among members needs to be considered which, as a consequence, has a shorter period of time for generation of ideas than the brainwriting technique.

The problem area of team work influence is also researched and argued by numerous authors, stating that experience showed that the best results are obtained when a cognitive ability and richness which other people possess, i.e. personal and social intelligence, are united. They stress that “it is perfectly clear that a group mind can be much more intelligent than the individual; there is much scientific data confirming this. Excellent team work raises the “group intelligence quotient”, where one person’s best abilities catalyse what is best in others and much better results are obtained from those realised by a single person” [27]. In his work, he researches and illustrates variables which are most frequently used in the evaluation of the

idea capacity for product development, i.e. indicators for assessment. Following the implementation of the quantitative idea generation in the Living Lab, assessment was carried out of the qualitative aspect of a specific generated idea using 4 idea quality indicators: innovativeness, feasibility, sustainability and potential [27]. This was carried out by three experts from the field of entrepreneurship and tourism.

By analysing the qualitative aspect – the indicator of innovativeness, it is presumed that the ideas generated using the brainstorming technique are more innovative than the ideas generated using the brainwriting technique, taking into consideration the fact of a higher quality and more innovative approach to team work and the following sub hypotheses are set:

H₀: There is no considerable difference between the averages of grades for innovativeness of ideas generated using the techniques of brainstorming and brainwriting.

H_a: There is a considerable difference between the averages of grades for innovativeness of ideas generated using the techniques of brainstorming and brainwriting.

In the analysis of the grades of the generated ideas for the indicators and average grade of innovativeness of the generated ideas using the brainstorming technique a grade of 2,74 is reached, while the average grade of ideas generated using the brainwriting technique equals 3,15, where grade 1 is unsatisfactory and 5 is excellent. By calculating a t-test of two independent samples ($t = 1,58$) it can be concluded that there is no more significant difference between the average grades for innovativeness of the generated ideas using either technique and hypothesis H₀ is accepted, and H_a rejected. The reason for this most probably lies in the quantity of the generated ideas, i.e. given that the largest number of ideas were generated using the brainwriting method, the possibility is greater for innovative ideas.

Table 4. Comparison of grades for innovativeness of ideas generated using the two techniques.

Innovativeness	Brainstorming	Brainwriting
Mean	2,74	3,15
St. Dev.	1,333	1,271
CVar	48,60 %	40,27 %
$t = 1,58 < t = 1,96; p = 0,05$		

Comparing the grading of the generated ideas qualitative aspect through 4 idea quality indicators: innovativeness, feasibility, sustainability and potential from Table 5, it is apparent that the brainwriting technique scored higher average grades through all four observed indicators. The average grades for ideas generated using the brainwriting technique are more innovative, have larger feasibility, sustainability and potential. However, it should be mentioned that there is no significant difference between the grade averages of ideas generated using the brainstorming and brainwriting techniques.

CONCLUSION

As mostly a “new” term in modern literature, Living Lab proved to be insufficiently known also in this research in which the test group consisted of students who, through the survey method, confirmed that most of them were not familiar never taken part in creative thinking workshops. According to the results, the problem with the Living Lab concept and had identified in the article introduction is also confirmed – insufficient networking and cooperation in the development of innovative ideas, i.e. insufficient connection between the educational and economic systems. Further to this, it is recognised as a potential for the development of Living Lab as an incubator for creation of innovative ideas in entrepreneurship

Table 5. Comparison of grades of ideas generated using the two techniques through 4 quality indicators.

Indicator	Technique	Mean	St. Dev.	CVar	t
Innovativeness	BS	2,74	1,333	48,60 %	$t = 1,58 < t = 1,96; p = 0,05$
	BW	3,15	1,271	40,27 %	
Feasibility	BS	3,88	1,210	31,19 %	$t = 0,81 < t = 1,96; p = 0,05$
	BW	4,06	1,120	27,62 %	
Sustainability	BS	3,82	1,009	26,40 %	$t = 0,58 < t = 1,96; p = 0,05$
	BW	3,93	1,002	25,50 %	
Potential	BS	3,86	1,050	27,18 %	$t = 0,03 < t = 1,96; p = 0,05$
	BW	3,89	1,017	26,14 %	

and tourism and their testing through innovative technologies within the higher education institutions, universities and faculties [30]. The students as the test group are not “real” Living Lab organisation stakeholders, stakeholders who have certain practical experience, i.e. experts who are involved in resolution of specific problem areas, which represents one of the research’s limitations; however, they can still represent individuals who are very well acquainted with the local environment’s problem areas and are able to generate innovative ideas which represent a potential for further development.

The justification for and efficiency of the organisation of the Living Lab within the higher education system is evidenced in the networking of students who, by cooperation or team work, using the creative thinking techniques, generated a total of 118 ideas for tourism valorisation of specific cultural localities which, using innovativeness indicators, in total were awarded an average grade of good. A large number of generated ideas, which through the valorisation and selection process can represent exceptional potential for an innovative product or service, justifies the efficiency and performance of the organisation of the Living Lab within the higher education system, as an environment for the development of stimulating tourist ideas and entrepreneurial recommendations. Both of the techniques used for encouragement of the creative thinking, brainstorming and brainwriting, proved to be effective in the development of new ideas in the Living Lab environment. The brainwriting technique generated a larger number of ideas than the brainstorming technique, regardless of the larger test sample in the brainstorming method. In the case of a smaller sample, it is assumed that the brainwriting method is more efficient in the generation of a larger number of ideas. There is the possibility of further research into the brainstorming and brainwriting methodologies on the same sample size as well as implementation of the Delphi research method supporting new knowledge for innovative solutions.

At the same time, the brainwriting technique also generates on average more innovative methods than the brainstorming technique, regardless of the innovative approach and discussions of ideas in a team environment, with the research limitation that a larger number of ideas can also generate more innovative ideas.

In comparing the brainstorming and brainwriting techniques, we can conclude that, through the brainwriting technique, a considerably lower number of respondents contributed to a considerably larger number of generated ideas within half of the time period. However, in the brainstorming technique, there is a possibility of further elaboration and discussion of generated ideas which, using a team approach, can lead to modification of ideas which could be realised through innovative products. Therefore, a combination of both methods is recommended, with previous generation of ideas using the brainwriting technique for the reason of efficiency itself and with the additional use of the brainstorming technique, as further discussion and selection of innovative ideas.

The generated results form a base for further research and development of innovative creative techniques, which, by its processing through realistic business situations of tourism entrepreneurship, contribute to the development of the scientific theory and practice.

Undoubtedly the Living Lab organisation would have a significant and multiplicative value for the resolution of possible problem areas and generation of unique and creative ideas, as well as for their transformation into innovative products or services by means of further selection of generated ideas according to the highest grades for indicators of innovativeness, feasibility, sustainability and potential and their elaboration in a creative differentiated environment through the phases of prototyping, design concept and piloting, in which stakeholders from different areas give their expert opinions.

By setting up the Living Lab organisation, multiple benefits are evident for the local and also wider environment and universities should represent a link between public authorities, the economic sector, citizens and other interested parties and, with their knowledge and research, contribute to the quality of networking, from where possible opportunities and challenges emerge for realisation of innovative solutions.

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NOVICE AND HABITUAL ENTREPRENEURS AND EXTERNAL BUSINESS SUPPORT EXPLOITATION

Jaroslaw Ropega*

University of Lodz – Faculty of Management
Lodz, Poland

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ABSTRACT

Habitual entrepreneurs have become an important group of entrepreneurs who make a large contribution to the process of wealth creation. Previous studies have indicated that habitual entrepreneurship is a widespread phenomenon, hence, policy makers and practitioners should target support tailored to the special needs of novice and habitual entrepreneurs.

This article aims to present results of a study regarding the role of prior business experience in the inclination to use external business support and the choice of various forms of this support.

Research was conducted on a sample of 373 Polish small innovative enterprises in the fourth quarter of 2017. Enterprises were surveyed by means of a questionnaire using the Computer Assisted Telephone Interviewing technique.

The scale of habitual entrepreneurs in the examined sample is 32,44 % and is comparable with research carried out in other countries. The findings suggest that habitual entrepreneurs use external business support to a greater extent than novice entrepreneurs but differences between various forms of support used by novice and habitual entrepreneurs are not significant.

The presented research results are a starting point for further detailed analyses that should be undertaken to explore the characteristics of habitual entrepreneurs: whether and to what extent entrepreneurs learn from their own experience, what is the impact of success or failure in previous businesses on the current behaviour of entrepreneurs and their companies, and what implications this has for the development of the future SME support policy.

KEY WORDS

entrepreneurial experience, business support, habitual entrepreneurship

CLASSIFICATION

JEL: L25, L26, L53

INTRODUCTION

Entrepreneurship is the subject of many scientific, economic and political discussions, and enterprises and entrepreneurs are perceived as the key drivers of economic growth [1-3]. They contribute to employment growth, improvement of competitiveness and increase in the well-being of societies [4]. This approach justifies the widespread policy of supporting entrepreneurship.

Organization for Economic Cooperation and Development (OECD) [5] indicates that entrepreneurs are the initiators of changes and growth of the market economy, and may accelerate the generation, dissemination and implementation of innovative ideas. Public assistance is mainly focused on novice entrepreneurs who do not have previous business experience. At the same time, there is an increasing knowledge that entrepreneurship is not limited to the creation of a new company as a single action [6-7], and it is also not a one-off event. An important part of the group of small and medium-sized enterprises are habitual entrepreneurs [8-10].

According to theory of cognition [11] and learning from entrepreneurial experience, habitual entrepreneurs may run more successful businesses over time. Ucbasaran et al. [8], referring to this theory, state that entrepreneurial experience is an important element of entrepreneurs' human capital which affects how entrepreneurs think and identify opportunities.

Previous experience can be used to improve entrepreneurial skills as well as reputation, which can help reallocate resources in subsequent business ventures that can be founded, acquired or inherited [12]. Some entrepreneurs may use experience, the ability to deal with formal requirements and gained credibility to obtain funds for further undertakings from banks, venture capital investors or other informal investors.

Business support can be treated from the perspective of opportunities that determine the company's development. Krupski [13] as examples of such opportunities mentions the use of different types of support from the European Union funds, and favorable legal solutions.

The study presented in this article was aimed at examining the behaviour of novice and habitual entrepreneurs in relation to the use of external business support. To achieve the goal, the following research questions were formulated:

To what extent habitual and novice entrepreneurs use external business support?

What impedes the use of external support by habitual and novice entrepreneurs?

What kind of external support are used by habitual and novice entrepreneurs?

In Poland the main barriers to cooperation between enterprises and business environment institutions are: insufficient information and promotion actions, lack of adaptation of the offer to the needs of enterprises, lack of specialized services, complicated regulations [14-16]. In Poland, so far, there has been no research on the use of external support by novice and habitual entrepreneurs, hence the author's research fills a gap in this area. In-depth research will allow for a better adjustment of the policy to the needs of different groups of entrepreneurs.

The outline of the article is as follows. First, the literature review is presented and further elaborated the theoretical positioning of this study. Next, the research methodology, data and research instrument are explained. Then, the major results and theoretical and practical implications of the findings are presented. Finally, the study's limitations are presented and indications for further research into the differences of habitual and novice entrepreneurship in the support policy aspects are outlined.

THEORY AND LITERATURE REVIEW

Business exit is an inseparable part of the entrepreneurial process [17] and may be caused by various causes, such as [18]: voluntary liquidation in order to take up a better undertaking or employment; liquidation for personal reasons; selling the company with a profit to return the invested resources; sale or liquidation of the company in order to avoid losses; bankruptcy. Liquidation of economic activity is not limited to reaction on the financial failure of the enterprise. Getting out of business is often entrepreneurial and economic activity for the effective allocation of resources. Many authors show that the phenomenon of multiple business activity is common in many countries, habitual entrepreneurs constitute a large and important segment in the population of entrepreneurs [19, 20] and can range from 12 % to even 64 % of all enterprises [8].

Persons systematically undertaking business activity, one at a time or several activities concurrently, have been the subject of research in many countries with developed economies in the last 20 years [8, 21-26]. According to MacMillan [27], entrepreneurial experience and research concerning habitual entrepreneurs should form the basis for studying the essence of entrepreneurship.

The definition of the phenomenon of habitual entrepreneurship has evolved, not finding a commonly accepted form for a long time. There are various typologies of entrepreneurs distinguished according to the criterion of their activity and experience, there is no single universally accepted definition of multiple entrepreneurs [28], and searching for a general definition one may encounter the same problems as when formulating the concept of an entrepreneur. In the subject literature, entrepreneurs are defined in three main dimensions: ownership [29-31], decision-making role [32] and the ability to identify and use opportunities [33, 34]. Based on these dimensions, researchers have attempted to define habitual entrepreneurs.

According to Westhead et al. [9] and Ucbasaran et al. [8] the universal operationalisation of novice and habitual entrepreneurs are:

- **Novice entrepreneurs** are persons without prior experience (both minority and majority) in the ownership of a business, founders and buyers or heirs of an existing independent enterprise who currently have a minority or majority stake in a newly established, acquired or inherited enterprise.
- **Habitual entrepreneurs** are persons who have or had a minority or majority stake in two or more enterprises, and at least one of them was founded, acquired or inherited. Habitual entrepreneurs include:
 - *serial entrepreneurs* – persons who have sold or closed at least one business in which they have had a minority or majority stake, and currently hold a minority or majority stake in one independent enterprise that was newly founded, acquired or inherited,
 - *portfolio entrepreneurs* – persons who currently hold a minority or majority stake in two or more independent enterprises that were newly established, acquired or inherited.

Habitual entrepreneurs accumulate both strengths and burdens related to experience in previous businesses. “Experienced” habitual entrepreneurs [35], burdened with negative events from previous businesses, may be unable to learn from them, mainly due to cognitive limitations that interfere with subsequent decision making. In turn, habitual entrepreneurs “experts” accumulate advantages from previous businesses and are able to learn from their mistakes (so-called “intelligent failure”) [36].

Theoreticians suggest that people with greater human capital resources consisting of attributes achieved are associated with an increased level of productivity [37]. Later, the term human capital was extended to the cognitive abilities of entrepreneurs, as well as the cumulative work and habits that can have a positive or negative impact on productivity, both in the market and non-market sectors. Therefore, the human capital of an entrepreneur can shape to some extent

his or her business behaviour and activity [38]. In the context of entrepreneurship, human capital may have an impact on the identification, search for and exploitation of opportunities, their “quality” in relation to innovation, the survival of the company and its activities [26].

Direct entrepreneurial experience gained in the course of conducting business activity generates specific entrepreneurial human capital [39] which includes: entrepreneurial skills (the ability to create, identify and exploit opportunities), management skills (the ability to manage and organise resources) and technical skills [40]. It is more likely that people with greater professional and managerial experience will be able to better recognise opportunities and raise capital, and as a result create larger and better equipped enterprises [41-43].

The cognitive perspective in the approach to human capital suggests that entrepreneurial behaviour (e.g.: the process of identifying opportunities) is noticeably affected by the way in which entrepreneurs think of, perceive and evaluate the environment and by their experiences [23]. People who engage in business activity usually operate under conditions of uncertainty of decision and complexity. Taking into account the level of uncertainty they experience, entrepreneurs often use heuristics to connect limited information in order to make convincing decisions in the face of major turmoil [23, 26].

Habitual entrepreneurs who are able to draw conclusions from their experiences can thus enrich their entrepreneurial skills. Hart et al. [44] found that both the number of years of experience and the number of established ventures were important factors contributing to industry success and maintaining access to resources. However, Chandler and Jansen [45], Kolvereid and Bullvag [46] as well as Birley and Westhead [47] stated that the number of business ventures initiated earlier and years spent as the owner-manager were not significantly related to the performance of the surveyed enterprises. This may be due to the fact that previous entrepreneurial experience is associated with both positive (faster reaching of growth thresholds) and negative (overconfidence and blindness) elements [23], or necessity and opportunity-driven habitual entrepreneurship, i.e. due to rigid labour market regulations [48, 49].

Li et al. [50] concluded that experienced entrepreneurs are better at developing networks, and at managing organizations than novices. Another study has shown that previous experience can increase entrepreneurial performance which can attract a larger amount of venture capital [51], and habitual entrepreneurs are better at gaining access to credit [52] and other critical resources [19].

As it results from the above considerations, it is important to link the results of research on habitual and novice entrepreneurs with future forms of support. Especially in terms of assistance programs to fit the specific needs (and resources) these groups of entrepreneurs.

Entrepreneurship support policy is widespread in developed countries [1, 5]. Objectives of the enterprise policy refer to employment growth, improvement of innovation and competitiveness of enterprises and take the form of “hard” (financial) support and/or “soft” (educational and training).

The scale of using formal external support by SME is relatively low, 39,9 % according to Mole et al. [53]. Other evidence shows that under a third of small firm owner-managers seeking formal external assistance over a two-year period [54]. Braidford and Stone [55] perceive the causes of this phenomenon in such difficulties as: (1) a lack of reliable and comprehensive information about support and its benefits, (2) the time and cost of support use, (3) prior poor experience with support, (4) perception of external support as “too smart” for business owners, (5) distrust of outside influences.

External support for SME can take formal (private sector consultants and professional organisations, normally or government sponsored business support agencies) or informal (advice provided by friends, family, and business associates) forms. The most important

forms of support, most useful in SME development processes, include: (1) non-returnable financial support (grants, subsidies from EU public funds and national budgets), (2) external financial support (credits, loans, leases, warranties, guarantees), (3) administrative and legal support (system and legal solutions stimulating the development of SME, e.g. tax exemptions, investment allowances), (4) advisory/training/information support, (5) organizational or general business support (business incubators, technology parks), (6) technological and pro-innovation support (facilitating access to new technological solutions).

The issue of the purposefulness and scope of entrepreneurship support is discussed by scientists and politicians. Bridge et al. [56] are skeptical about the legitimacy of external support for small new companies, citing the verification of market mechanisms. Flynn [57] warns that support for new companies can cause a “negative selection” and survival of less competitive companies. Shane [58] states, that policymakers should focus on subsidizing companies with growth potential to increase not only the quantity but also the quality of entrepreneurial endeavours in the economy. According to Cieřlik [59], on the one hand, there is evidence of a failure of mechanisms on the market, requiring correction by the state. On the other hand, there are problems with the proper design and implementation of an effective support policy entrepreneurship addressed to actually needing support and guaranteeing expected effects for the economy.

Regardless of the assessments made, it should be stated that SMEs in most countries, and especially in the European Union, operate in a complex, dynamic environment in which many forms of support are available, which can become a significant factor stimulating their development. The meta-analysis carried out in evaluations of SME-support services in Low- and Middle-Income Countries [60] found that interventions aimed at spurring SME performance had positive impacts on firm performance indicators as well as employment generation, labor productivity, exports, and investment. Government policy and its influence on the institutional environment has become a key focus of efforts to help to improve how small firms develop and economies compete.

However, the potential of the environment does not mean an automatic, positive impact of this support on SME development processes. What is required here is, in addition, specific activity of these companies expressed in a number of actions aimed at obtaining and efficient use of external support.

According to Westhead et al. [9] and Westhead and Wright [26] there are significant differences in the profiles and behaviour of entrepreneurs with prior business experience and novice entrepreneurs. If support for entrepreneurship is to be effective it is necessary to focus on the entrepreneur (human capital profiles, motivations, resources, behaviour, performance) rather than the firm [8]. The review of the above publications suggests that policy makers and practitioners need to target separate policies towards the varying needs of novice and habitual entrepreneurs. For example, it would be more appropriate to support habitual entrepreneurs in the promotion of innovative solutions.

METHODOLOGY

RESEARCH INSTRUMENT

In this study a survey was used to gather information to answer research questions.

Data for the study were collected as part of a comprehensive project entitled “Determinants of the development of entrepreneurship and innovation in small business” (“Uwarunkowania rozwoju przedsiębiorczości i innowacji w małych firmach”), carried out at the Faculty of Management of the University of Lodz, addressed to owners/co-owners of small innovative

companies, i.e. companies that in the years 2014-2017 made at least one change related to the introduction of new products/services or upgrading existing ones, or related to the implementation of new technical methods of production/provision of services or their modernisation, or related to the introduction of new or improved methods of company organisation¹.

A database containing novice and habitual entrepreneurs does not exist. The questionnaire was used to identify types of entrepreneurs. In the presented study, the distinguish between habitual and novice entrepreneurs was crucial for the analysis. This variables were assessed using the following interview question: *Which company is it for you? (Subsequent business – this term includes conducting business activity in various forms (natural person, partner/company shareholder). One business activity could be completed and the next company established, or the respondent might run several businesses concurrently).* If the answer was “first” respondents were classified as novice entrepreneurs, the answer was “subsequent” they were classified as habitual entrepreneurs. The study adopted the most general definition of habitual entrepreneurship, without distinction between portfolio and serial entrepreneurs or criteria concerning previous experience in terms of business success or failure. This was an initial survey of habitual entrepreneurs, hence the focus was on the general comparison of the two groups of entrepreneurs, with the assumption that if the hypotheses were confirmed, more detailed analyses would be possible in future research.

The research instrument was more extensive than the scope of the study presented in this article, as mentioned above, the habitual entrepreneurs study was a part of a larger research project. The questionnaire for this study consisted of sections: (1) attribute questions (year of foundation, type and extend of business, gender, time of entrepreneurship experience, family business), and (2) public support for business development (cooperation with business environment institutions, the use of external public support, the use of financial public support, difficulties to obtaining external financial support).

In the study 7 the most important types of external public support were used. Another variable regarding the cooperation between entrepreneurs and support institutions was difficulties with obtaining external public funds. The question concerned 9 dominant difficulties, mentioned in the EU support policy for SME reports and national evaluation reports of the use of EU programs.

DATA

The study was conducted by an experienced research agency. Minimum sample size is 382, at a confidence level of 0,95 and a margin of error 5 % for 57,2 thousand small companies in Poland. Random sampling was applied. The research sample was selected from the database of enterprises employing from 10 to 49 people containing over 50 000 records, out of which 20 000 enterprises were drawn (from the database, every tenth unit was drawn for examination). The database was purchased from an external company (Bisnode). Enterprises were surveyed by means of a questionnaire using the CATI (Computer Assisted Telephone Interviewing) technique. The total number of completed questionnaires was 400, the response rate was 35,5 % and the effective response rate was 2,06 %. 373 questionnaires were accepted for the study (27 companies provided an ambiguous answer to the question “what is your business activity” – the answer “hard to say” suggests that the owner or co-owner did not participate in the study). Telephone interviews were conducted in the fourth quarter of 2017.

Out of the surveyed respondents, for 252 it was the first business activity, 121 had previous experience in business, however, the limited research framework did not allow to specify whether they were a portfolio or serial entrepreneurs. The characteristics of the research

sample in the groups according to the entrepreneurial experience are presented in Table 1. Chi-square test of independence was applied to assess the relationships between variables and Cramer's V statistics was used as a measure of the effect size.

Table 1. Characteristics of the research sample regarding the entrepreneurial experience.

Variables	First business <i>n</i> = 252	Subsequent business <i>n</i> = 121	χ^2 (<i>df</i>)	p-value	Cramer's V
Family business Yes No	(<i>n</i> = 148) 58,73 % (<i>n</i> = 104) 41,27 %	(<i>n</i> = 64) 52,89 % (<i>n</i> = 57) 47,11 %	1,14 (<i>df</i> = 1)	0,2866	0,0552
Gender of the general manager Male Female	(<i>n</i> = 212) 84,13 % (<i>n</i> = 40) 15,87 %	(<i>n</i> = 106) 87,6 0% (<i>n</i> = 15) 12,40 %	0,79 (<i>df</i> = 1)	0,3754	0,0459
Sector Manufacturing Commerce Services	(<i>n</i> = 105) 41,67 % (<i>n</i> = 33) 13,10 % (<i>n</i> = 114) 45,23 %	(<i>n</i> = 40) 33,06 % (<i>n</i> = 23) 19,01 % (<i>n</i> = 58) 47,93 %	3,59 (<i>df</i> = 2)	0,1660	0,0981

The scale of the phenomenon of habitual entrepreneurship (32,44 %) demonstrated in this study is comparable to studies carried out in other countries. Westhead and Wright [21] noted that 34 % of entrepreneurs setting up new manufacturing companies in Wales had previous business experience. The research conducted by Taylor [22] showed that 39 % of companies in Malaysia, 42 % in England and 49 % in Australia belonged to habitual entrepreneurs. A high percentage of habitual entrepreneurs was also recorded in studies conducted in Sweden (40 %) [25], Norway (47 %) [46], Finland (50 %) [24], and the UK (52 %) [7]. Measuring the scale of the phenomenon is determined by the definition used, the chosen sector or the selection of the research sample. Regardless of these differences, the analysis of conducted international studies and the author's research show that the phenomenon of habitual entrepreneurship is widespread.

STATISTICAL METHODS

The Pearson chi-square test for independence was applied with the use of Cramer's V statistics as a measure of the effect size. In the study, the statistical significance level (α) was set at $p < 0,05$, and $p < 0,1$ was adopted as the acceptable level.

RESULTS

In the sample, 34,92 % (88 entrepreneurs) of novice and 45,45 % (55 entrepreneurs) of habitual entrepreneurs cooperated or cooperates with business environment institutions (Regional Development Agencies, Technology Parks, Business Incubators, Advisory and Training Centers), which can provide various types of services to entrepreneurs (information, training, consulting, financial, etc.). Entrepreneurial experience resulted in greater interest in external sources of support for business development ($p = 0,0406$, however, the observed effect was small when considering the value of the Cramer's V). 39,29 % novice (99 entrepreneurs) and 46,28 % (56 entrepreneurs) habitual entrepreneurs received public financial support (subsidy for the implementation of investments; employees participated in training and consultancy financed from public funds; other forms where the entrepreneur has

received external support). Habitual entrepreneurs showed a higher propensity to benefit from financial support, this result, however, was not statistically significant ($p = 0,1993$, no effect was observed according to the value of the Cramer's V).

The most frequently chosen type of public financial support in both groups of entrepreneurs were non-repayable funds (respectively 71,71 % and 69,64 %). Training support was the second most frequently chosen type of assistance: 36,36 % of novice and 41,07 % of habitual entrepreneurs. Repayable financial support was more often chosen by habitual entrepreneurs (23,21 %) than by novice entrepreneurs. The use of all types of support by entrepreneurs is presented in Table 2. No statistically significant relationship has been found between the entrepreneurial experience and the use of individual types of support ($p = 0,8549$, however, a small effect was observed according to the value of the Cramer's V). Probably, more explicit result would be given with a larger number of respondents.

Table 2. The use of external public support by novice and habitual entrepreneurs.

Variables	First business <i>n</i> = 99	Subsequent business <i>n</i> = 56	χ^2 (df)	p-value	Cramer's V
1. Non-returnable financial support	71,71 %	69,64 %	9,55 (df = 6)	0,8549	0,1987
2. Repayable (debt) financial support	15,15 %	23,21 %			
3. Advisory support (support in the development of the project, obtaining a loan.)	12,12 %	17,86 %			
4. Technological support (support in the implementation of new technological solutions.)	8,08 %	5,36 %			
5. Organizational support (management, contacts with the environment) (the company received support in introducing organizational changes)	4,04 %	3,57 %			
6. Legal support (exemptions, tax benefits)	3,03 %	5,36 %			
7. Training support (the company trained employees.)	36,36 %	41,07 %			

The most important difficulties related to obtaining external financing from public funds in both groups of entrepreneurs were too complicated procedures for obtaining co-financing (48,41 % novice and 47,11 % habitual entrepreneurs). The second most important obstacle among novice entrepreneurs was the long time needed to carry out the formalities related to obtaining funding and uncertainty of receiving co-financing (both 7,14 %). For habitual entrepreneurs, the next major difficulties were: long time needed to complete formalities related to obtaining funding (8,26 %), a long time of handling of the submitted application for co-financing (6,61 %) and low flexibility of spending the received co-financing (6,61 %). 23,02 % novice and 19,01 % habitual entrepreneurs did not indicate any difficulties related to obtaining public funds. Differences between habitual and novice entrepreneurs in perceiving difficulties are small. Both groups of entrepreneurs use technological, organizational and legal support to a small extent. It should be considered whether this is due to poor matching of the offer with the needs of entrepreneurs, or rather they do not expect such forms of assistance or use them in commercial forms ($p = 0,0793$, however, the observed effect was small when considering the value of the Cramer's V).

Table 3. The most important difficulties related to obtaining external financing from public funds indicated by novice and habitual entrepreneurs.

Variables	First business n = 252	Subsequent business n = 121	χ^2 (df)	p-value	Cramer's V
1. Too complicated procedures for obtaining co-financing	48,41 %	47,11 %	3,21 (df = 8)	0,0793	0,0928
2. The long time needed to carry out the formalities related to obtaining funding	7,14 %	8,26 %			
3. Long time of handling of the submitted application for co-financing	1,98 %	6,61 %			
4. Uncertainty of receiving co-financing	7,14 %	4,13 %			
5. Low flexibility of spending the received co-financing	3,97 %	6,61 %			
6. The need to adapt to the strict rules of accounting and reporting related to the co-financing received	0,79 %	1,65 %			
7. A lot of paperwork and the need for full settlement of grants received	5,56 %	1,65 %			
8. Focusing on the implementation of the project, and not on the current functioning of the company	1,98 %	4,96 %			
9. There were no difficulties	23,02 %	19,01 %			

DISCUSSION, IMPLICATION, AND CONCLUSION

The article presents the results of the preliminary exploration of the impact of previous experience in business or its lack of entrepreneurial behaviour. Although it can be said that actions of habitual entrepreneurs differ from actions of novice entrepreneurs, it cannot be assumed that this is true in every aspect. The results of the study indicate that habitual entrepreneurs in a greater degree cooperate with business environment institutions and also more often use public funding than novice entrepreneurs. Bennett [61] indicated that because of their smallness and limited market power, entrepreneurs suffer from imperfect information, limiting their awareness of the provision of external assistance. The influence of experience in identifying and using entrepreneurial opportunities as well as developing of an entrepreneurial mindset, demonstrated in the studies of many authors, may have an impact on the search by habitual entrepreneurs for business development opportunities through cooperation with various institutions. Such results may also indicate the use of effectuation by habitual entrepreneurs in order to obtain external business support.

Both groups of entrepreneurs prefer non-returnable financial support as a source of business development. This may confirm the view that limited access to finance has been recognized as one of the main barriers to SMEs realizing their full potential, Financial resources required for expansion, innovation and to ensure the survival of the firm are more difficult for SMEs to obtain from banks, capital markets or other suppliers of credit than it is for larger organizations [62]. The Entrepreneurship 2020 Action Plan of the European Union highlights access to finance is one of the levers for growth for SMEs, and on the other hand, one of the most frequently indicated barriers of development. Entrepreneurs particularly have difficulties raising funds in the early stages of their innovation process or more generally, for the innovative SMEs in the early stage of their business.

Experienced entrepreneurs also benefit from repayable assistance, more often than novice entrepreneurs. This may be due to the requirements set by support institutions, where a longer period of activity on the market or the achievement of adequate financial results is preferred, as well as the need to provide own contribution. On the other hand, entrepreneurial experience and better ability to recognize opportunities can lead to more frequent use of this form of support.

Shown in the study, a large share of financial forms of support SMEs confirms difficulties in accessing external financing due to the many inherent features of SMEs, such as an information asymmetry, a lack of trading history, a high risk of failure. Training support, the second most frequently chosen type of assistance, is used due to less complicated procedures and quick noticeable effects of these activities.

The strongest barrier to the use of external financial support is too complicated procedures for obtaining co-financing. Entrepreneurs often need to involve additional financial and human resources to meet the requirements set by support institutions. This problem has been pointed out in the authors' studies for a long time [14, 15, 53] and remains unsolved. Policy makers should consider how to reduce this barrier, especially it is indicated both by novice and habitual (with more knowledge and resources) entrepreneurs. Ucbasaran et al. [8] and Westhead et al. [9] argue that policy makers should differentiate support for novice and habitual entrepreneurs. Referring to the research carried out, policy makers should first focus on eliminating the basic, institutional imperfections of the support system and then focus on tailoring support policy to different types of entrepreneurs.

Habitual entrepreneurs may not always be able to transfer previous experience to a new venture due to dynamic changes in the environment, errors in the cause-effect interpretation or over optimism. This has practical implications for the entrepreneurs support policy, which on the one hand would encourage novice entrepreneurs to use a good business practices presented by experienced habitual entrepreneurs and, on the other hand, would offer professional expert support aimed at eliminating development barriers by various types of entrepreneurs.

It should be noted that the study has some limitations. The research sample consists of small enterprises, i.e. employing from 10 to 49 people. The inclusion of microenterprises in the study, which constitute the vast majority of companies operating in Poland, would provide a comprehensive picture of entrepreneurial behaviours of habitual entrepreneurs. Another limitation is related to the specificity of the analysed sample associated with innovation. As a result, the study was conducted among innovative companies in which the motives of entrepreneurs, their ability to recognise and exploit opportunities as well as activities undertaken may significantly differ from entrepreneurs not introducing innovations. Due to the fact that, as noted earlier, the study of habitual entrepreneurs was only part of a larger, comprehensive study, the analysis was limited to the comparison of novice and habitual entrepreneurs. Differences between portfolio and serial entrepreneurs were not considered. This is a strong limitation, research results [8, 10, 35] indicate, however, that differences between portfolio and serial entrepreneurs are often greater than between habitual and novice entrepreneurs. Therefore, there is a need to carry out in-depth studies based on the division into these two subgroups of entrepreneurs. Another issue to be considered in the deliberations is the impact of previous business experience on the entrepreneurial process, especially the differences in entrepreneurial behaviour of people who failed and succeeded in business. Some scholars view business failure as representing an opportunity for learning, others contest this and argue that it may be difficult to learn from failure. For example, Ucbasaran et al. [10] and Westhead and Wright [26], based on the conducted research, conclude that entrepreneurs who have suffered a business failure exhibit a diminished ability to identify opportunities. Their study also highlighted significant differences in how portfolio and serial entrepreneurs use their experience of business failure. Westhead et al. [10] note that policy

makers and practitioners need to match the formulated policy for different types of entrepreneurs instead of the same support available to all entrepreneurs. Policy makers need to consider the assets and liabilities associated with prior business experience and with novice entrepreneurs. For example, repeated exit of serial entrepreneurs may be a signal of insufficient managerial skill or resources to grow business. Novice entrepreneurs have often more limited human capital, finance and information resource pools than habitual entrepreneurs. To develop more appropriate policies in-depth research needs to be conducted surrounding the behaviour and entrepreneurial process of novice, portfolio and serial entrepreneurs.

REMARK

¹The definition of an innovative company used in research is based on concepts commonly used in public statistics. It is based on the methodology proposed by the OECD and Eurostat in the Oslo Manual 3th Edition. According to this broad definition: An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organisation or external relations. It corresponds with Porter's approach to the role of innovation at the micro level, in contrast to Schumpeter's approach to innovation. According to Baumol [63] and Cieřlik [59] it is not necessary to innovate on a global, domestic or industry scale to recognize the company as innovative. Innovations at the company level and at higher levels give the synergy effect, which promotes the diffusion of new solutions in the economy.

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HOPE AND RESPONSIBILITY VESTED IN YOUNGER GENERATIONS: THE CASE OF HUNGARY

Zsuzsanna Marton*, Ildikó Ernszt, Nóra Rodek and Tivadar Máhr

University of Pannonia
Nagykanizsa, Hungary

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ABSTRACT

In the era of consumer society, the depletion of the world's natural resources brings conscious consumption in the spotlight. More and more people are said to be conscious consumers, who act responsibly with regard to the environment and society. Therefore, researches about conscious and responsible purchase behaviour draw the attention of economists and marketing specialists as well – thus being able to form their market actions. According to the stereotype about conscious consumers in our heads, the conscious consumer is young, well educated, and female. This paper aims to reveal the consumption habits of people and their attitude toward consciousness and responsibility, furthermore, to investigate them from the stereotype's point of view that finds youngsters more conscious. An online survey was conducted with 652 consumers of a German supermarket chain in Hungary. The research concentrates on identifying the main differences between generations regarding their purchase habits. The research results show that the consciousness is rather manifested in the self-interest than in the responsibility. While other international survey data have proven development through generations and found younger consumers more conscious and responsible, this fact has not been statistically proven in Hungary. The real causes or drivers behind conscious behaviour are still questionable in the Hungarian market.

KEY WORDS

responsible consumers, generations, consumer decision-making

CLASSIFICATION

JEL: M31

INTRODUCTION

Environmental protection, sustainability, conscious consumption are magic words in our days. Not only environmental activists, climate researchers, but also economists, marketing specialists must have a piece of deep knowledge and understanding about the topic.

The depletion of natural resources of our globe is the consequence of the activities of the three, interrelated elements: the government, the business organizations, and the private individuals. Based on the view of Collomb, it is only the business sphere that plays the most important role in realizing sustainability [1, 2]. However, Hanssen states that decisions influencing the cutback of consumption are born on the level of citizens finally [1]. Companies have to fulfill two, in most cases contradictory demands: on the one side they have to offer their products and services at a low price; meanwhile, they should also be economically and socially conscious as well. This way, as they are unable to resolve this conflict; a more complex approach is needed, and all sectors have to do their share in this fight [1].

Therefore, on the way to a sustainable society, individual consumption habits play a crucial role. Meanwhile, it is a hard job to be a conscious consumer in today's world: you have to be aware of the environmental and social issues; at the same time self-discipline is also needed to resist the glittering temptations of the consumer culture. Besides, the person must have a deep faith, that one person can have a share in this fight and "can make a difference". For this, first, information is needed [2; p.138].

However, conscious consumption patterns are getting to be more and more popular in Hungary as well, there are still a lot of people, who are not willing to follow a sustainable lifestyle [3; p.32]. More authors underline the significance of different "consumer policy tools", because for these consumers sustainable consumption is not associated with positive attributes" [4; p.19]. Also in Hungary, sustainable development and related measurements are hot issues; the sustainable developmental strategy for the country is under progress [5].

Just as in the other part of the world, in Hungary, the younger generations can change the deeply entrenched habits, and they can take actions that make the whole economy and society more sustainable. Analysing the purchase habits and attitudes of the generations can provide information from a strategic point of view (e.g. attitude shaping) for both different market players and strategic makers on the governmental level.

Younger people are the future consumers; they have a growing disposable income. We tend to think, that youngsters, who have been the witnesses of the struggles of the world for sustainability in their whole lives, are much more conscious, than older generations. Our assumption is based on a stereotype, that the most conscious consumers are young, educated, well-to-do women [6]. This study concentrates on revealing how suitable this stereotype for the Hungarians.

This article aims to study the purchase habits and consumer behaviour of the generations on a Hungarian sample, to find answers, which the most dominant influencing factors are in the purchase decision, and how important the consciousness-related items in this process. Furthermore, we try to outline the differences in consciousness and responsibility of the different generations with a special focus on the younger generations. Also based on the theoretical overview, there is no clear unified consensus whether the younger people show a positive shift towards a higher degree of responsibility or not. Some studies proved that youngsters are more responsible, some of them did not. With conducting our research, we would like to have a resolution and react to this contradiction in the research field and problem.

LITERATURE REVIEW

CONSCIOUS CONSUMPTION AND GREEN PURCHASE

Conscious consumption can be considered as an umbrella term. It embraces the self-conscious consumption, which concentrates on the self-interest of the consumer; but it also incorporates the responsible consumption, which considers the interests of others. Self-conscious consumption focuses on health, price, values, the brand, and the rights of the person as a consumer. Responsible consumption covers social responsibility, environmental consciousness, and ethical customer behavior as well [7, 8]. Based on the above-mentioned determinations, Dudás [7; p.48] also defined the criteria of the conscious consumers in the followings: the conscious consumers are aware of their rights, the personal or social consequences of their decisions, furthermore they consider their self-interest through purchase habits or they prefer social, environmental and ethical issues against their self-interest.

Getting more conscious in consumption has a certain hierarchical order: people become concerned about environmental issues first since it is specific and simple to interpret. The next step is becoming aware of social responsibility, finally, ethical concerns are taken into account (they are harder to understand because they are more abstract) [9]. In Europe, most citizens have understood, that it is vital now, that both our production and consumption must stay within the limits determined by the environment and society. An overwhelming percentage of Europeans (81 %) have recognized that environmental concerns are not just the problem of scientists, but they have a direct impact on their everyday life and health [10].

In Hungary, this proportion was 82 %. However, it is obvious now for most citizens, that not only big companies and governments have a role in this fight since 87 % of Europeans are convinced that as individuals we can also play an essential part in protecting the environment and society. This number has been quite consistent for ten years now: ranging between 85-87 %. A survey conducted in the US and UK came to similar conclusions [10]. The tendency has not changed since more Europeans feel that big companies, industries do not do enough to protect the environment (79 %), than that citizens themselves (66 %) are not active enough on this field [11; pp.4-19].

Concerning the hierarchical order of purchase consciousness, environmental issues occur first, and they can be regarded as the most interpretable and tangible for the customers. The green purchase behaviour of the consumers influenced by several internal (e.g. self-interest, personal achievement) and external factors (e.g. product attributes, social image) [12, 13]. However, these factors can affect the purchase decision in two ways. On the one hand, they can serve as a motivating tool, on the other hand, they can hinder the purchase of green products (Table 1).

Table 1. Factors motivating or limiting green purchase behaviour [14, 15].

MOTIVATING FACTORS	LIMITING FACTORS
Environmental concerns	High price
Product attributes	Low availability and difficulties in accessing green products
Environmental knowledge	Lack of consumer trust in green products
Subjective/social norm and reference groups	Consumer habits
	Neutralization techniques: Denial of responsibility, Denial of benefits, (consumers do not believe, they can make a difference as individuals); Appeal to higher loyalties; Protecting one's self of self (perceived sacrifice, avoiding a negative self-concept); Consumer attachment to the brand

DIFFERENT GENERATIONS WITH DIFFERENT PURCHASE ATTITUDES

Analysing generations is a hot topic – research field – that can support both the academic and market experts. Generation means the group of people who were born in the same period, having similar ideas, attitudes, problems or habits [16] Generational differences emerge in the behaviour of the people belonging to a certain generation. The collective memories, experiences, and opportunities determine the approaches and attitudes towards everyday life. According to Székely and Meretei [17], to set the ‘labels’, characteristics of the generations, it is crucial to know about the self-image of the generations, what they think about themselves. In addition to this, it is vital to mention that the family, the workplace, the form of leisure time and the educational background all contribute to the formation of generational characteristics [17], however not only the social but the technological, legal, environmental, political, legal and economic changes, developments have a significant role in this process, that can also support or limit the opportunities of the people.

The veterans’ (so-called silent generation born 1925-1945) lives have been permeated one or two world wars that fundamentally determined their world view and thinking with full of sadness and tragedy. Therefore, they only wish for safety, peace, and family harmony. They cannot adapt to this accelerated world and rapidly changing technology [18, 19] The Baby-Boomers (1946-1964) having been born after world war II represents a hard-working, but rebel generation who were also witnesses of political and economic changes. Because of mass production they did not care about consciousness [20]. Just as every generation X (1965-1980) tries to learn from the ancestors’ faults, they found the carrier, the status, the money, and the power more important than the older generations. They were born in the era of the first computers and the Internet, so they are also called as digital immigrants. The Millennials are the first digital natives who exactly know what they want, what is the key to success and happiness. They do not focus on the expectation surrounding them; rather they concentrate on themselves and enjoy life [17, 18]. If we thought that, only the oldest generations lived in crisis (wars, regimes), generation Z (1996-2010), the real digital natives also experience an economic depression, terrorism, or climate change. They are highly dependent on the Internet and electronic devices; they cannot live without them [17, 18].

As we have seen above, the different generations vary in many different fields in general terms; it is also true for their purchasing habits detailed in Table 2. Of course, these are rough generalizations, but the tendency is clear.

In our globalized world, there is an urgent need for a more sustainable approach from the younger generations. The way of thinking, the lifestyle and the consumption habits of each generation is determined by many different factors: they are driven by the historical background they live in, the expectations, the values, and the technological changes, as well [27; p.1]. According to Howe and Strauss (2000) the perceived membership to a group; the common behavioral patterns and beliefs, the decisions made determine the characteristics of a generation much deeper, than the age [28, 29; pp.2-3, 30; pp.24-25]. Furthermore, as Parment (2013) states referring to the result of other researches, the „consumer motivations often lie below the surface of age” [31]. He argues that cataclysmic events – which are called defining moment events by him – create different values within roughly the ages of 17-23, and they remain relatively constant during our whole life. These events can be technological developments, wars, even terror attacks [31; p.189].

INSIGHTS INTO THE YOUNGER GENERATIONS’ PURCHASE BEHAVIOUR

Several types of research support this statement, since it was revealed earlier, that youngsters tend to accept innovative concepts, and they are conscious of cultural, environmental, and social

Table 2. The purchase habits of different generations [21-26].

	PURCHASE MOTIVATIONS	PURCHASE DECISION DRIVERS	CHARACTERISTICS OF PURCHASES
VETERANS (1925-1945)	To make reasonable decisions.	Good value for money. Do not like waste.	They prefer small shopping centers. They spend much more on food and medical care than others. They are conservative, careful customers. They do not like adventures, changes. The structure is important for them.
BABY BOOMERS (1946-1964)	Focus on value for their money and product quality.	Prioritize products that are reliable, fairly priced, and budget-friendly The reported popularity of a brand is important.	Do not consider shopping a way to relax, it is stressful for them. They prefer the personal engagement of traditional stores; however, they make regular purchases online. High expectations of customer service.
GEN X (1965-1980)	Want to feel emotionally connected to the purchase experience and to the brand itself The aim to make a good deal.	Speedy shopping is important. Conservative shopping. Deliberate purchasing decisions.	Research the product thoroughly before buying - extensive use of search engines, online reviews, and social media networks before making a purchase.
GEN Y (1981-1995)	To have fun; since shopping is a relaxing activity and a social event for them	Friends and family recommendations. Word of mouth. In-store experience. Social media posts, product reviews, user-generated content.	Use web devices in nearly every aspect of their life. Speedy shopping is important. They like foreign brands, consumer lifestyles, and global advertising.
GEN Z (1996-2010)	To have fun.	Review, atmosphere, tech, speed, word of mouth, coupon offers.	Uses Google resources to compare prices, styles, availability, and ratings of products to make the most educated purchase possible. Technology drives their shopping experience. She still prefers to shop in-store. She enjoys visiting stores as a social excursion. Make comments online.

aspects, as well. They show a positive attitude regarding green products and green marketing. Meanwhile, it is a sad reality that their ecological knowledge seems to be on a lower level, only some of them have deep knowledge in this issue opposite to the fact, that they can access information very easily through the social network and global communication technologies [32, 33].

A Nielsen 26 online global study also seems to strengthen the above-mentioned perception, since Millennial Generation (Gen Y) proved to be the most conscious when making shopping decisions, as 75 % of them answered that they were willing to pay more for sustainable goods. Generation Z considers the CSR activities of companies important even in this case, as 72 % of the respondents were ready to pay more for products of companies that are devoted to CSR activities. It is also a promising trend, that their ratio has grown from 55 % (2014) to 72 %. Based on these findings Grace Farraj (SVP, Public Development, and Sustainability, Nielsen) emphasized that “brands that establish a reputation for environmental stewardship among today’s youngest consumers have an opportunity to not only grow market share but build loyalty among the power-spending Millennials of tomorrow, too.” [34]. However, Baby Boomers are getting to be more conscious as well: 51 % of them are willing to spend more in the above-mentioned case; it means a 7 % increase compared to the previous year [33].

Another survey conducted in the US and the UK affirmed these findings: In biggest ratio, Millennials tend to pay more for eco-friendly, sustainable products (61 %), Generation Z (58 %), Generation X (55 %), Baby-boomers (46 %) come only later in this row [9].

Regarding the products, FMCG brands have to face first the „green motion”, as customers are likely to check the greenness of these products most. According to the earlier survey data (Young, 2018, 9), 73 % of the consumers do consider environmentally-friendly aspects of household cleaning products or personal care products. These products are followed by the food (61 %), electronic devices (49 %), and clothes (48 %) categories.

However, the above-mentioned thesis seems to be refuted by another research. According to the findings of Gilg et al. (2005) the older generations are more likely to be green consumers and save with special regard to the Second World War generation [6]. The same results were highlighted in other researches regarding green marketing, referring to the fact, that green consumers do not belong to the youngest generations [32].

METHODOLOGY

A quantitative approach was chosen to assess the attitude of consumers of different generations toward conscious consumption. An online survey was conducted on 652 people who are the buyers of a German supermarket chain in Hungary. The questionnaire including 22 questions aims to reveal the general demographics and the buying habits of the consumers and the drivers of their shopping. To measure the importance of influencing factors (9 items) and the respondents’ attitude toward conscious consumption based on 16 statements a 5-point Likert type scale was developed. The sample is non-representative for the Hungarian population that can be regarded as one of the limitations of the research article.

RESULTS

Shopping is a much more complex process than we would think. The product choice of consumers depends on many factors. Both descriptive and exploratory analysis methods were applied to reveal the factors playing a role in the decision. According to the Hungarian respondents, product quality (avg. mean = 4,67 on a 5-point Likert type scale) is the most determining factor in the decision-making process of purchase. 67,6 % of the buyers find the product quality extremely important. This is followed by the ‘good value for money’ (avg. mean = 4,38) and the labelling referring to bio or environmentally-friendly products. (avg. mean = 3,41). Concerning the whole sample, the factor with the least influencing power is the CSR activity of the business, while the brand, the packaging, or the design of the product have a moderate effect on the decisions. Considering the differences between generations, the veterans are the only ones, who regard the ‘good value for money’ as a more important factor than the product quality.

Table 3. Profile of the sample ($n = 652$).

	<i>n</i>	%		<i>n</i>	%
Generation			Education		
Veterans	22	3,37 %	Primary school	28	4,29 %
Baby Boomers	106	16,26%	Short vocational school	63	9,66 %
Gen X	200	30,67 %	High school	183	28,07 %
Gen Y	255	39,11 %	Vocational secondary school	101	15,49 %
Gen Z	69	10,58 %	college	158	24,23 %
Gender			university	111	17,02%
Female	80	12,2699 %	other	8	1,23 %
male	572	87,7301 %	Frequency of purchase		
Occupation			Every day	17	2,61 %
Unemployment	15	2,30 %	Few times a week	172	26,38 %
Housewife	29	4,45 %	Once a week	192	29,45 %
Student in middle education	26	3,99 %	Few times a week	133	20,40 %
Student in higher education	29	4,45 %	Once a month	138	21,17 %
Public sector employee		30, 83 %	Monthly net income (HUF)		
Entrepreneur	31	4,75 %	<50,000	25	3,83 %
Private sector employee	229	35,12 %	50,000-100,000	176	26,99 %
Pensioner	68	10,43 %	101,000-150,000	222	34,05 %
other	24	3,68 %	151,000-200,000	116	17,79%
			>200,000	113	17,33 %

As the means indicate that the CSR activity of the supermarket, the recyclability of product packaging, as well as, the environmentally conscious production are not determinants in the product choice. Running One-way ANOVA analysis gave the results that the groups of the Veterans and the Z-generation form distinct groups. LSD comparisons revealed that the mean (2,36) of Veterans was significantly different from the means of all the other generations in terms of the aspects of environmentally-friendly conscious production on a 5 % significant level ($p^{BB}=0,000$, $p^{Gen X}=0,000$, $p^{Gen Y}=0,001$, $p^{Gen Z}=0,023 <0,05$). Like Veterans, Z-generation also differs from the other groups. Another consequence from the LSD analyses is that generations coming after each other (e.g. Baby-boomers and X-generation or X-generation and Y-generation) show many similarities in their attitudes, therefore the real changes can be identified between every second generation only (e.g. between Baby-boomers and Gen Y). In terms of commercials and advertisements, recyclable product packaging there was no significant difference between the groups.

Besides, the analysis of factors playing a role in consumer decision making, another question focused on the investigation of the characteristics and the habits of the survey participants in the light of consciousness.

By analysing the means of the factors, we can conclude that purchasing energy-saving bulbs (avg. mean = 4,49) or taking own textile bags for shopping (avg. mean = 4,41) are relatively popular among the respondents, however choosing recycled, recycled packaged or labelled (bio, fair-trade, etc.) products do not characterize the Hungarian consumers participated in the survey. A possible reason for the relatively higher mean of purchasing energy-saving bulbs can be due to the present EU regulation. Purchasing recycled copy papers is typical for the

Table 4. Importance of factors in purchase.

	Veterans <i>n</i> = 22		Baby-boomers <i>n</i> = 106		Gen X <i>n</i> = 200		Gen Y <i>n</i> = 255		Gen Z <i>n</i> = 69		TOTAL <i>n</i> = 652	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Product quality	4,23	,528	4,62	,489	4,69	,466	4,72	,458	4,65	,590	4,67	,490
Value for money	4,36	,581	4,34	,600	4,34	,698	4,41	,747	4,45	,718	4,38	,701
Labels	3,18	,907	3,65	1,024	3,49	1,066	3,31	1,169	3,23	1,126	3,41	1,108
Product desing	3,55	1,057	3,72	1,067	3,28	1,113	3,06	1,244	3,28	1,110	3,27	1,176
Brand	3,41	1,182	3,37	1,214	2,93	1,222	3,28	1,142	3,55	1,092	3,22	1,190
Environmentally conscious	2,36	1,002	3,49	,959	3,27	1,036	3,17	1,158	2,97	1,200	3,21	1,107
Recyclability of product packaging	2,91	,971	3,39	1,092	3,22	1,074	3,12	1,125	2,81	1,309	3,15	1,128
Advertising	3,73	1,077	3,04	1,218	2,63	1,104	2,64	1,212	2,80	1,324	2,75	1,209
CRS of the supermarket	2,23	,922	2,84	1,034	2,72	1,043	2,65	1,050	2,41	1,089	2,66	1,051

Table 5. Characteristics of consumers by generations (Means).

Statements	Vet.	BB	Gen X	Gen Y	Gen Z	Total
Purchasing energy-saving bulbs	4,14	4,42	4,63	4,57	3,97	4,49
Purchasing recycled copy papers	3,82	4,36	4,59	4,4	4,22	4,41
The quality is the most important factor for me	3,64	4,2	4,21	4,19	3,99	4,16
Purchasing fair-trade products is important for me	4,36	4,23	4,04	4,11	4	4,1
Purchasing labelled products (e.g. bio)	3,95	3,9	3,95	3,9	3,61	3,88
Purchasing returnable/ recycled packaging products	3,45	4,18	3,94	3,67	3,88	3,85
The product I purchase represents me	4,05	3,78	3,58	3,56	3,64	3,63
The price is the most determining factor	4	3,85	3,48	3,53	3,83	3,61
The primary goal is to find wide range of products during shopping	3,41	3,5	3,38	3,51	3,17	3,43
Taking my shopping list	3,14	3,47	3,36	3,45	3,03	3,37
Putting the bakery products into paper bags during shopping	2,73	3,5	3,23	3,01	2,84	3,13
Taking my own basket/textile bag for shopping	2,82	3,14	3,3	3,11	2,71	3,12
Purchasing environmentally-friendly hygiene products	3,23	3,55	3,16	2,89	2,81	3,08
Purchasing recycled toilet papers	2,55	3,12	3,16	2,85	2,57	2,95
I am willing to pay more for fair-trade products to help others	2,5	3,07	3,07	2,86	2,62	2,92
Brand loyalty is important for me	2,36	3	2,97	2,88	2,62	2,88

younger generations, especially for Gen X and Y, which is also statistically proven with the ANOVA F probe ($F = 11,368$; $p = 0,000$).

The labelled and recycled packaged products usually cost more than the other products, which can also hinder the purchase willingness, however, based on the Chi-square test on a 5 % significance

level, there is no association between income and this kind of purchase habit ($p = 0,059 > 0,05$). Since the higher price cannot be blamed for lower purchase intention, other reasons needed to be found. Another surprising result from the survey data is that purchasing fair-trade products is so important for all generations; however, they are not willing to pay more for them. Based on the survey data, real characteristics regarding consumption habits cannot be defined such as in other European and US samples. The younger Hungarians 'attitude toward responsible consumptions and their habits are not promising yet, even though, the hope is invested in the younger generations.

As earlier studies and the research, results above already underpin the fact, that there are limiting and motivating factors in the decision-making process. Sometimes the price limits the purchase opportunities appeals to the buyers. However, how educated they are regarding responsibility and consciousness is still a question. As the previous data show, purchasing labelled products moderately or rather important for the Hungarian customers. In the survey, ten labels were analysed in terms of the awareness among the respondents (shown in Table 6.) The 'Hungarian Product' label was the most known among the respondents, hence the 99 % of them recognized the label. The label of BIO-Siegel was also recognized by most of the survey participants (ca. 79 %).

As Table 6 shows, slight differences can be detected between generations. Significant difference (on 5 % level) was justified only in some cases (e.g. OKÖ-TEST, $p = 0,000$; Naturland $p = 0,000$, ÖEKO-TEX).

Table 6. Label recognition by generations.

	Known	Veterans	Baby-boomers	X-generation	Y-generation	Z-generation	Total	χ^2 test
EU Organic	no	86,4 %	72,6 %	71,5 %	71,8 %	66,7 %	71,8 %	0,517
	yes	13,6 %	27,4 %	28,5 %	28,2 %	33,3 %	28,2 %	
Fairtrade	no	100,0 %	88,7 %	82,5 %	73,7 %	82,6 %	80,7 %	0,001
	yes	0,00 %	11,3 %	17,5 %	26,3 %	17,4 %	19,3 %	
Green Dot	no	100,0 %	72,6 %	38,5 %	22,4 %	5,8 %	35 %	0,000
	yes		27,4 %	61,5 %	77,6 %	94,2 %	65 %	
Egg label	no	59,1 %	74,5 %	71,5 %	66,3 %	78,3 %	71,0 %	0,168
	yes	40,9 %	25,5 %	28,5 %	33,7 %	21,7 %	29,0 %	
OKEO-TEX 100	no	54,5 %	25,5 %	41,5 %	50,2 %	52,2 %	43,9 %	0,000
	yes	45,5 %	74,5 %	58,5 %	49,8 %	47,8 %	56,1 %	
Naturland	no	81,8 %	69,8 %	45,5 %	44,7 %	85,5 %	54,6 %	0,000
	yes	18,2 %	30,2 %	54,5 %	55,3 %	14,5 %	45,4 %	
BDIH (Natural Cosmetics)	no	81,8 %	76,4 %	86,5 %	80,0 %	81,2 %	81,6 %	0,236
	yes	18,2 %	23,6 %	13,5 %	20,0 %	18,8 %	18,4 %	
BIO Siegel	no	36,4 %	28,3 %	21,5 %	16,9 %	20,3 %	21,2 %	0,057
	yes	63,6 %	71,7 %	78,5 %	83,1 %	79,7 %	78,8 %	
ÖKO-TEST	no	86,4 %	64,2 %	34,5 %	24,3 %	59,4 %	39,7 %	0,000
	yes	13,6 %	35,8 %	65,5 %	75,7 %	40,6 %	60,3 %	
Hungarian Product	no	4,5 %	0,9 %	1,5 %	0,4 %	1,4 %	1,1 %	0,398
	yes	95,5 %	99,1 %	98,5 %	99,6 %	98,6 %	98,9 %	

DISCUSSION AND CONCLUSION

Responsibility and consciousness get growing awareness on the institutional, entrepreneurial, and private levels, too [35, 36]. Based on the literature overview and the number of studies

and researches born in the topic, the research field is emerging from generational aspects, as well, however, a clear consensus has not been made yet, if a real difference in the degree of consciousness can be proved according to generations.

By researching in Hungary, we wanted to know the current situation in Hungary, if the younger generation is more responsible than the older ones. Based on our analyses, only every second generation shows a slightly positive shift towards consciousness, a sharp change cannot be experienced through generations – based on the Hungarian data. Comparing the Hungarian results to other international data (e.g. the UK or the US) unfortunately, the difference is detected. After the analysis of the influencing factors in consumer decision-making and consumption habits, the consciousness is rather manifested in the self-interest than in the responsibility. While other international survey data have proven development through generations and found younger consumers more conscious and responsible, in Hungary this has not been statistically proven.

As our survey results show, the younger generations have not brought such a big change in terms of conscious consumption than we expected based on earlier survey data and global trends. Regarding the responsibility in consumption/ shopping, the majority of the Hungarian respondents are not as sensitive to the CSR activity of companies as the other Europeans are. Only 25 % is the proportion of those respondents in each generation, who would pay more for products coming from companies with a strong CSR activity. This proportion in the UK and the US amounts to a minimum of 46 % (Baby-boomers), but concerning Generation Z this is 58 %.

The results above indicate that we have to carry on our research activity in this field in the future, which aims to find answers to the following questions. What can cause the difference between Hungary and other countries? Socio-demographic factors of consumers or education (family or institutional)?

Until the new research starts, the authors highlight some measurements based on earlier analyses. On the one hand, giving more information or introducing training to change the attitudes of people is vital on the state level, however, the marketing communication strategies and tactics of the companies adapted to the generations' media consumption habits is essential. Several types of research revealed, that knowledge, the information belongs to the most influential factors regarding conscious purchase behavior. Having this knowledge still seems to barrier responsible attitudes [14].

The results of Hungarian market research on the FMCG market emphasized that every third Z Gen consumer makes the purchase decision based on the opinions of social media influencers [37, 38]. This result also strengthens us that the power of marketing does alter consumer behaviour, whose deep and detailed analysis is needed in the future.

This article attempted to give insights into the green purchase behaviour of Hungarians by generations; nevertheless, the study has several limitations. The first limitation is linked to the sampling frame. Even though, the sample size was relatively high; the sampling was non-representative. In the future, it is worth to choose a representative sampling from one or more aspects, furthermore, it would be interesting to repeat the research time by time, how much the attitude of the consumers change thanks to political measurements (attitude shaping), education or social media.

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COST AND MANAGEMENT ACCOUNTING IN BUDGET-FUNDED ORGANIZATIONS IN BOSNIA AND HERZEGOVINA

Benina Veledar^{1, *}, Amra Gadžo² and Srđan Lalić³

¹University of Sarajevo – School of Economics and Business in Sarajevo
Sarajevo, Bosnia and Herzegovina

²University of Tuzla – Faculty of Economics in Tuzla
Tuzla, Bosnia and Herzegovina

³University of East Sarajevo – Faculty of Economics in Brcko
Brcko, Bosnia and Herzegovina

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ABSTRACT

This article aims to provide information on the level of application of cost and management accounting practices in the budget-funded organizations in Bosnia and Herzegovina (hereinafter B&H) and the usefulness of these practices in the performance measurement in the B&H public sector. Namely, the current budget accounting system in B&H does not provide measurement and reporting on efficiency, effectiveness, and economy of the public administration, which results in a decrease in transparency and the creation of a favourable ground for corruption. Therefore, the study was conducted among 208 budget-funded organizations by using a survey questionnaire to evaluate the current level of theoretical and practical knowledge in the field of cost and management accounting and the possibilities for their application in the budget-funded organizations in B&H to improve current budget accounting system. Research results have shown that, even though respondents are less familiar with cost and management accounting practices, they believe that the introduction of new forms of accounting (cost and management accounting) into budget accounting system in B&H would improve the quality of accounting information as a basis for decision-making of the public management. This would enable performance measurement in the B&H public sector and therefore improve transparency and accountability of the public management.

KEY WORDS

budget accounting system, cost accounting, management accounting, performance measurement, Bosnia and Herzegovina

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*Corresponding author, *η*: benina.veledar@efsa.unsa.ba; +38733 275934;
Trg oslobođenja – Alija Izetbegović 1, 71000 Sarajevo, Bosnia and Herzegovina

INTRODUCTION

The accounting system encompasses the activities of collecting, recording, publishing and using accounting information to make quality business decisions. Accounting, as a separate business function, is the widest and most reliable information base for the production of financial and non-financial information for the needs of a wide range of users. Therefore, it is emphasized that the main task of accounting is to produce information that supports the management function. In the public sector, new tasks are being put before accounting. It must produce complete and reliable information on all segments of public consumption, making it an essential public management tool and public oversight tool. Budget accounting has many similarities, but also significant differences concerning company accounting. Similarities are reflected in the application of the double-entry bookkeeping system, the keeping of the general ledger, the preparation of basic financial statements, internal control, etc.

The differences between budget accounting and company accounting are, *inter alia*, the following: the operations of budget-funded organizations are not based on profit making; there are legal constraints on revenue generation and spending so that revenue cannot be confronted with expenditures; emphasis is placed on management accountability for public resources; use of fund accounting; etc. There is also a difference between users of accounting information in the private and public sectors. General-purpose financial statements of public sector entities aim to meet the information needs of four broad user groups: (i) the population, (ii) entities providing resources, (iii) government bodies, (iv) other interest groups cooperating with public entities on a commercial or non-commercial, voluntary or involuntary basis. However, the use of a purely normative budget accounting system, which is used to monitor operations and prepare financial statements intended for external users, does not meet the needs of efficient financial management in the budget organizations. A priority issue concerning improving the budget accounting system is the implementation of a comprehensive budget accounting model, which will allow for the monitoring of the purposeful spending of budget funds and the measurement of their effect on meeting public needs. In this context, the research proposition is set out, which assumes the following: Information provided by cost and management accounting must be an integral part of modelling modern budget accounting system, and thus enable performance measurement in the public sector and therefore improve transparency and accountability of the public management.

Unlike the private sector, whose performance is measured by the level of profit achieved, the performance of the individual budget organization and the public sector as a whole is measured by the degree to which the general and common needs of individuals and the wider community are met. It is necessary to measure a particular program and its achievement according to the purpose for which it was implemented. For the long-term sustainability of its activities and programs, public administration must reduce costs while improving the quality of services provided. A cost-cutting mission is an impossible mission without understanding the nature of cost and management accounting practices.

The goal of the article is to evaluate the current level of theoretical and practical knowledge in the field of cost and management accounting, and analyze the possibilities for their application in the budget-funded organizations in B&H to improve current budget accounting system and enable performance measurement of the public management.

The structure of the article is as follows. First, an introduction to the research is defined, and the research goal was set. Second, a literature review is provided, which is oriented to the application of cost and management accounting in the budget accounting system and performance measurement in the public management. The third section, methodology, gives us an insight into how we collected data and explanation of statistical methods used. The

fourth section presents the results obtained through the descriptive statistics and regression analysis. The fifth section, discussion, presents existing practices in the budget accounting system in B&H, discusses existing problems, and proposes activities for overcoming them. Finally, conclusions and recommendations are provided in the sixth section of the article.

LITERATURE REVIEW

Cost accounting is significant as it provides an information basis for estimating the expenditure of government programs, projects, and activities. Management accounting becomes important when formulating and measuring financial and non-financial performance indicators for the evaluation of management processes. By combining appropriate instruments of cost and management accounting in the public sector, it is possible to build the methodology necessary to measure public service expenditures and to assess whether the effects of public services justify the costs associated with their production [1]. In addition to the private sector, cost accounting instruments can also be used in the public sector to control and eventually reduce expenditure. With the help of appropriate expenditure information, public management can: (i) compare expenditures and potential benefits of individual activities; (ii) compare expenditures over time; (iii) identify and reduce wasteful behaviour; and (iv) compare expenditures with similar benchmarking activities, identify the causes of deviations and take appropriate action accordingly to improve the business [2, 3].

The best way to determine if the goals of the business entities have been set and achieved is to measure performance [4, 5]. Although critical financial information derived from management and cost accounting instruments is crucial for rational decision making in profit-oriented entities, the importance and need for non-financial information are extremely emphasized within the public sector. Combining financial indicators with non-financial information further enhances the range of information management tools [1].

Performance Management (PM) in the public administration has a long history, and by all accounts, a long road ahead. Its development course, however, did not pass without problems. Practitioners, consultants, as well as the members of the academic community, are all searching for answers to the paradoxical and often problematic character of the PM. Various models and approaches to managing the public sector have been developed to maximize the efficient use of scarce resources, to increase transparency and accountability in public finances to the highest level and to ensure long-term economic development. One of the most important model, called New Public Management (NPM), originated at the end of the last millennium. Some of the goals of this movement are to improve performance in the public sector, to foster the accountability of budget-funded organizations to the users of their services, to reduce public spending, and to improve and increase public accountability [6].

Public administration reforms across the world have brought various approaches to performance measurement in the public sector. One of the newer tendencies is the correction of certain aspects of the NPM and its expansion towards the New Public Governance (NPG) [7]. This evolution is developing at different speeds in different European countries and public subjects. Performance management is gradually becoming an integral part of all modern arrangements of governance. Some authors go further and advocate the idea of a new movement called the New Public Service (NPS). This movement is a set of NPM-like ideas that focus on residents and their needs, and the main role of public administration should be to meet those needs in the best possible way [8]. Finding an optimal system for measuring public administration success is a challenge for scientists worldwide.

Several systems are being created to measure the performance of public sector entities similar to the so-called 3E group of indicators (efficiency, effectiveness, and economy). However,

there are also multidimensional approaches to performance measurement that emphasize the importance of the interconnections of different stakeholders within the public sector. In their study, Brignall and Modell [9] sought to find adequate performance metrics that a budget organization should discover to meet the information needs of the three major beneficiary groups: those providing funding; those providing professional services; and users of public services.

Smith and Street [10], in their study, work to measure the effectiveness of a budget organization using two methods: Data Volume Analysis (DEA) and Stochastic Frontier Analysis (SFA). Using the DEA methodology, in a combination with other methods, Rayp and Van de Sijpe [11] measured the efficiency of public expenditure management in 52 countries in development. Their research results have shown that the efficiency in the public sector is primarily determined by structural variable and management indicators and Asian countries have significantly greater efficiency in comparison to lower-income European countries.

Performance measurement in the public sector is also possible using Balanced Scorecard (BSC), which is primarily developed for the private sector to measure results from the following perspectives: financial, customer, internal operational processes, and learning and growth [12]. Using the BSC in the public sector is currently equally represented as it is in the private sector, however, it requires certain modifications. The most significant difference, in comparison to the private sector, is that in the public sector, customer perspective is placed first, that is, the customer must be thoroughly identified (donors, government, residents, and such) to satisfy their needs, while the financial perspective is placed second [13]. Detailed instructions about this are given by Niven, who transformed the concept of BSC into a tool, which is completely adapted to the public sector to improve the strategic and fiscal effectiveness and efficiency [14].

The question of measurement and improvement of the public administration efficiency is a subject of continuing research of the academic communities in the countries of the former Yugoslavia as well. A great number of studies place their focus on the improvement of the government efficiency as one of the key items within the public sector reform [15]. Jovanović and Vašiček [16] emphasize the significance of external and internal financial reports in public sector governance and argue the need for making public sector financial reporting in practice very close and similar to that of the entrepreneurship sector. Public sector subjects' financial reports are a source of data and information about spending public funds. They are a source of information about event and business processes that occurred during the year and make a foundation for decision-making since they enable recognition of good qualities of the program, as well as the weaknesses that should be corrected. Using performance indicators, it is possible to compare budget users of the same size, considering the number of employees, number of residents using their services, size of available funds, budget size (the quantity of income and expenses). They increase transparency and enable a constructive dialogue with the public administration [17]. By the introduction of program planning, integration of strategic and budget planning is realized, and this provides a possibility to measure the performance of individual programs, and with that, of the total operations of budget organizations. Program expenditure is a significant factor in political decision-making regarding program approval, modification, or eventual termination of the program. Many countries use cost information when conducting a cost-benefit analysis, all to efficiently allocate scarce resources between competing programs, projects and activities [18].

METHODOLOGY

To provide information on the level of application of cost and management accounting practices in the budget-funded organizations in B&H and usefulness of these practices in the performance measurement in the B&H public sector the study was conducted among 208 budget-funded organizations from all levels of government by using a survey questionnaire.

DATA

B&H is divided into two entities, the Federation of Bosnia and Herzegovina (hereinafter FB&H) with 51 % of the territory and the Republic of Srpska (hereinafter RS) with 49 % of the territory and the Brcko District (hereinafter BD). The FB&H is an entity divided into 10 cantons, each with its own branch of legislative, executive and the judiciary. The cantons are divided into 74 municipalities and 5 cities, all representing local self-government units. RS is an entity that is divided into 4 regions, which are further divided into 54 municipalities and 2 cities. The survey was conducted by mailing the questionnaire to the practitioners from the above mentioned budget organizations including: 79 municipalities/cities in FB&H, 56 municipalities/cities in RS and BD; 10 cantonal ministries for finance (from 10 cantons in FB&H); 16 ministries in entity FB&H; 16 ministries in entity RS; and 9 state-level ministries. The survey was sent also to the theorists in the field of finance, accounting and auditing from the 7 public universities in B&H (total number of 50). Out of 237 sent questionnaires, we received a response to 208 questionnaires, which means that we had a response rate of 87,8 %. The demographic characteristics of the respondents are shown in Table 1.

From Table 1, we may conclude that almost two-thirds of respondents are female (64,4 %); more than half of respondents are aged 36 to 55 (55,3 %); almost all respondents have an undergraduate, masters or doctorate (94,2 %). The table shows that most of the respondents (75,0 %) have one or more certificates relating to the profession. The largest number of respondents are certified accountants (51,4 %), followed by certified external and internal auditors (12,5 %),

Table 1. Demographic characteristics.

Characteristic of the surveyed respondents	Number of respondents (n = 208)	Structure, percentage	Cumulative percentage
Gender			
Male	74	35,58	35,58
Female	134	64,42	100,00
Age			
Up to 25 years of age	2	0,96	0,96
26-35 years of age	52	25	25,96
36-45 years of age	42	20,19	46,15
46-55 years of age	73	35,10	81,25
56 and over	38	18,27	99,52
Not answered	1	0,48	100,00
Level of education			
Secondary school	7	3,37	3,37
Undergraduate	173	83,17	86,54
Masters/PhD	27	12,98	99,52
Not answered	1	0,48	100,00
Certificates relating to the profession			
Certified accounting technician	4	1,9	1,9
Certified accountant	107	51,4	53,4
Certified external auditor	20	9,6	63,0
Internal auditor	6	2,9	65,9
Certified accountant, Internal auditor	6	2,9	68,8
Certified external auditor, Internal auditor	4	1,9	70,7
Other certificates	9	4,3	75,0
No certificates	52	25,0	100,0

and some of them even have more than one certificate (4,8 %) We may conclude that it is very sure that respondents of such profile have special credibility to express their opinions on the research subject, which will ultimately contribute to the relevance and reliability of the research results, and the validity of offered measures for the improvement of the budgeting model. The institutional characteristics of the respondents are shown in Table 2.

In Table 2, we may see that budget organization from the sample are divided depending if they affiliate to the government administration at any level of governance in B&H (63,5 %), or if they are ordered budget-funded organizations (36,5 %). According to International Monetary Fund methodology, an integral part of the public sector is also public enterprises that were omitted from the sample since their accounting system is not based on principles of budget accounting. More than half of organizations from the sample (54,3 %) fall into the group of middle legal entities with 51 to 250 employees. In the sample, organizations from all levels of governance in B&H are included, and according to their total number per individual level of governance.

Table 2. Institutional characteristics.

Organization characteristics	Number of respondents (<i>n</i> = 208)	Structure, percentage	Cumulative percentage
Affiliation to an adequate segment of the public sector			
Other	76	36,54	36,54
Government administration	132	63,46	100,00
Number of employees			
Up to 50 employees	70	33,65	33,65
From 51 to 250 employees	113	54,33	87,98
More than 250 employees	25	12,02	100,00
The administrative level within B&H			
Government level	22	10,58	10,58
Entity level	62	29,81	40,39
Cantonal level	45	21,63	62,02
Municipal level	78	37,50	99,52
Other	1	0,48	100,00

STATISTICAL METHODS

The following descriptive statistics methods were used to present the survey results: absolute and relative frequency distributions, cumulative relative frequencies, average value, standard deviation. To test the stated research proposition we used regression analysis for the variables derived using the Likert scale. Statistical processing was performed using the statistical program SPSS version 16,0.

RESULTS

KNOWLEDGE AND USE OF DIFFERENT FORMS OF ACCOUNTING

To evaluate respondents' familiarity with the theoretical background and practical application of financial, cost and management accounting in the budget accounting system, respondents were asked to rate their knowledge of grades 1 to 5 (1 – I'm not familiar at all, 5 – I'm completely familiar) with the following aspects of accounting: financial accounting cost accounting and management accounting.

Table 3 shows the average of grades related to respondents' familiarity with the theoretical background and practical application of various aspects of accounting. The highest average knowledge of the theoretical background is related to financial accounting (4,41), which is

Table 3. Descriptive statistics of respondents' views on the topic: Familiarity of respondents with the theoretical background and practical application (1 – I'm not familiar at all, 5 – I'm completely familiar).

	N	Average	St. Dev.
Familiarity with the theoretical background			
Financial Accounting	208	4,41	0,846
Cost Accounting	208	4,10	1,036
Management Accounting	208	3,58	1,221
Familiarity with practical application			
Financial Accounting	207	4,36	0,847
Cost Accounting	208	3,89	1,087
Management Accounting	207	3,28	1,273

understandable since it is something that respondents have to deal with daily while performing their work tasks, most often with the help of an appropriate software solution. This is followed by cost accounting (estimated at 4,10), which is still underutilized in the accounting practices of budget users. The lowest average knowledge of the theoretical basis relates to management accounting (3,58), which has not yet taken root in accounting practice, both by private and public sector entities. Similar results were obtained concerning knowledge of the practical application of the aforementioned parts of accounting. Thus, the highest average is related to financial accounting (4,36), followed by cost accounting (3,89) and management accounting (3,28). It is recommended that in the future, through various types of education, the training of public servants in the field of cost and management accounting will be done, as this is the only way to identify and reap their benefits in the budget accounting system.

To evaluate respondents' attitude to the use of financial, cost and management accounting in the budget accounting system, respondents were asked to rate the level of use with a score of 1 to 5 (1 - Not used at all, 5 - Fully used) for the following forms accounting: financial accounting, cost accounting, and management accounting.

Table 4. Descriptive statistics of respondents' views on the use of forms of accounting within the existing budget accounting system (1 – Not used at all, 5 – Fully used).

	N	Average	St. Dev.
Using forms of accounting within the existing budget accounting system			
Financial Accounting	207	4,28	0,886
Cost Accounting	205	3,26	1,199
Management Accounting	205	2,38	1,189

Table 4 shows the average of estimates related to the use of particular forms of accounting (financial, cost, management) within the existing budget accounting system. The highest average of respondents' assessments of use within the existing budget accounting system was achieved for financial accounting (average score 4,28), followed by cost accounting with a slightly lower average score of 3,26, and management accounting with the lowest average score of 2,38.

Judging by the average marks in Table 3 and Table 4 respondents are most familiar with the theoretical basis and practical application of financial accounting as they use it in their daily work. Therefore, their view is that financial accounting can, to the greatest extent, contribute to the improvement of the budget accounting system. An additional circumstance that supports this claim is the fact that accounting software is nowadays available which makes it much easier to record business events, prepare financial statements and analyse them.

The foregoing supports the claim that cost and management accounting are underutilized in the accounting practices of budget users. We consider this unacceptable since it is impossible

to measure performance (efficiency, effectiveness, and economy) of public management without a cost and management accounting practices application in the budget accounting system. This is not yet the case since their application is not legally required, and therefore not sufficiently represented in the budget accounting system.

To evaluate the respondents' attitude on the usefulness of financial, cost and management accounting in the budget accounting system, respondents were asked to evaluate the usefulness of the information generated by each form of accounting with a rating from 1 to 5 (1 – Completely useless, 5 – Completely useful) for the following forms accounting: financial accounting, cost accounting and management accounting.

Table 5. Descriptive statistics of respondents' views on the use of forms of accounting within the existing budget accounting system (1 – Fully useless, 5 – Fully useful).

	<i>N</i>	Average	St. Dev.
The usefulness of the forms of accounting within the existing budget accounting system			
Financial Accounting	207	4,49	0,787
Cost Accounting	207	4,44	0,845
Management Accounting	205	4,34	0,980

Table 5 shows the average of the respondents' assessments regarding the contribution of information obtained by a particular form of accounting (financial, cost, management) to performance measurement in the public sector and improving transparency and accountability of the public management. Financial accounting has the highest average (4,49). It is followed by cost accounting with an average of 4,44 and management accounting with an average of 4,34.

However, it is interesting to note that, even though respondents have less knowledge and still not apply cost and management accounting practices, they believe that their implementation can greatly contribute to performance measurement in the public sector. In this regard, it is necessary to work on raising the level of knowledge in cost and management accounting, to find out the possibilities of their application in the budget accounting system, and thus improve the transparency and accountability of public administration.

CONTRIBUTION OF DIFFERENT FORMS OF ACCOUNTING

In this context, we consider cost and management accounting should be implemented within the budget accounting system in B&H. Both disciplines complement each other, with cost accounting dealing with the collection of information on incurred expenditures, their analysis, and information, while management accounting provides information support to management to make business decisions.

In testing this assertion, it is assumed that greater knowledge of cost and management accounting statistically significantly influences respondents' attitudes about the importance of their application in modelling a modern budget accounting system. The proposition of the article was tested using the multiple regression method, whereby two models were created, for cost and management accounting.

COST ACCOUNTING

As a dependent variable, respondents' assessment of the contribution of information provided by cost accounting to performance measurement in the public sector and therefore transparency and accountability of the public management. Three independent variables were used. The first independent variable captures respondents' attitudes about their familiarity with the theoretical basis of cost accounting. The second independent variable captures

respondents' views on their familiarity with the practical application of cost accounting. The third independent variable captures respondents' views on the use of cost accounting within the existing budget accounting system.

Table 6 shows the results of the regression analysis. Regression analysis showed that variations in respondents' attitudes about knowledge of the theoretical basis and practical application, and the use of cost accounting in practice in the existing budget accounting system, could be interpreted by 22,0 % of the respondents' views on the contribution of information provided by cost accounting to performance measurement in the public sector and therefore transparency and accountability of the public management. If the corrected coefficient of determination is used, which is corrected for the number of independent variables, the percentage of variations interpreted is only slightly lower and amounts to 20,8 %. The variable measuring the respondents' familiarity with the theoretical basis of cost accounting is not statistically significant (p -value = 0,835). The variable measuring respondents' familiarity with the practical application of cost accounting is statistically significant with a 1 % probability (p -value = 0,000), and the same applies to the variable measuring respondents' attitude to the use of cost accounting within the existing budget accounting system.

Table 6. Regression analysis – dependent variable: respondents' assessment of the contribution of cost accounting information to performance measurement in the public sector and therefore transparency and accountability of the public management.

	Estimates of regression coefficients	Standard error	p-value
Constant	2,843	0,237	0,000
Familiarity with theoretical background	0,020	0,097	0,835
Familiarity with practical application	0,300	0,095	0,002***
Using forms of accounting within the existing budget accounting system	0,154	0,047	0,001***
Determination coefficient	0,220		
Corrected coefficient of determination	0,208		

***significant with a 1 % probability

MANAGEMENT ACCOUNTING

As a dependent variable, respondents' assessment of the contribution of information provided by management accounting to performance measurement in the public sector and therefore transparency and accountability of the public management. Three independent variables were used. The first independent variable includes respondents' views on their familiarity with the theoretical basis of management accounting. The second independent variable includes respondents' views on their familiarity with the practical application of management accounting. The third independent variable captures respondents' views on the use of management accounting within the existing budget accounting system. As it can be observed, a management accountant is not the same as a management, which task is to help the management in making business decisions with financial and non-financial information.

Table 7 shows the results of the regression analysis. Regression analysis showed that variations in respondents' attitudes about knowledge of the theoretical basis and practical application and use of management accounting in practice in the existing budget accounting system could be interpreted by 8,6 % of respondents' views on the contribution of management accounting information to performance measurement. If the corrected coefficient of determination is used, which is corrected for the number of independent variables, the percentage of variations interpreted is only slightly lower and is 7,2 %. Such a low degree of

Table 7. Regression analysis – dependent variable: respondents' assessment of the contribution of management accounting information to performance measurement in the public sector and therefore transparency and accountability of the public management.

	Estimates of regression coefficients	Standard error	p-value
Constant	3,439	14,369	0,000
Familiarity with theoretical background	0,040	0,434	0,665
Familiarity with practical application	0,167	1,872	0,063*
Using forms of accounting within the existing budget accounting system	0,084	1,445	0,150
Determination coefficient		0,086	
Corrected coefficient of determination		0,072	

***significant with a 10 % probability

variation is the result of the fact that management accounting has been used to a lesser extent in modern budget accounting practice. The variable measuring respondents' familiarity with the theoretical basis of management accounting is not statistically significant (p -value = 0,835), and the same is true of the variable measuring respondents' attitude to the use of management accounting within the existing budget accounting system. The variable measuring respondents' familiarity with the practical application of management accounting is statistically significant with a 10 % probability (p -value = 0,063).

Regression analysis in both cases showed that greater knowledge of cost and management accounting statistically significantly influences respondents' attitudes about the importance of its application in modelling a modern budget accounting system. From all of the above, it can be concluded that the budget accounting system with integrated cost and management accounting plays a significant role in ensuring transparency and accountability when managing the public sector.

DISCUSSION

Analysing the documentation and established practices of budget-funded organizations at all levels of government in B&H in recent years, we can see that most of them used the conventional planning approach in the planning and budgeting process in such a way that the process was concentrated within the finance department, with relatively poor management involvement. The most common reasons for this are lack of knowledge and commitment of staff, short deadlines and inadequate support of public management in the planning process in general. The result of this practice is the inability to evaluate the performance of a budget organization in performing its activities, even assuming the absolute realization of the budget, ie. if all planned revenues are collected and all planned expenditures are realized following the relevant legal regulations. This is precisely the main drawback of conventional budgeting.

Even though the existing laws and by-laws, which provide for the implementation of programmatic classification of public expenditures by budget-funded organizations at all levels of government in B&H, there is a lack of initiative and creativity regarding the preparation of budget requests in the program format. In particular, the underdevelopment of the performance indicators of the candidate programs is expressed, which prevents their quality analysis and making optimal decisions on priorities when allocating limited budgetary resources. The introduction of new forms of accounting (cost and management accounting) into the budget accounting system in B&H would improve the quality of accounting information as a basis for the decision-making of public management. This would enable performance measurement in the B&H public sector and therefore improve transparency and accountability of the public management.

One of the main prerequisites for the implementation of cost and management accounting instruments in the budget accounting system is the change in the current practice of recognizing the elements of financial statements of budget organizations. It is recommended to switch to accrual accounting to enable the application of International Public Sector Accounting Standards. It is a practice that is preferred in the accounting systems of the budgets of EU Member States and which is imperative in reforming the public administration of countries aspiring to become its members. The main advantage of financial statements prepared using the accrual accounting basis is that they provide a quality information base for managing assets, liabilities, revenues and expenses, and effective internal and external supervision within the public sector. This will mean abandoning the stereotypical budgeting principle that is still applicable today and moving to more modern budgeting principles, which is a prerequisite for performance measurement.

CONCLUSION

In this article we conducted study among 208 budget-funded organizations in order to analyze the level of theoretical and practical knowledge in the field of cost and managerial accounting that public servants in BiH have. Research results have shown that despite the fact that respondents are less familiar with cost and management accounting practices, they believe that the introduction of these forms of accounting into budget accounting system in B&H would improve the quality of accounting information as a basis for decision-making of the public management. This would enable performance measurement in the B&H public sector and therefore improve transparency and accountability of the public management.

Research results of the previously conducted studies in other countries also showed that the budget accounting system with integrated cost and management accounting plays a significant role in ensuring transparency and accountability when managing the public sector.

From all of the above, it can be concluded that application of cost and management accounting in the budget accounting system in B&H would also improve the quality of accounting information as a basis for the decision-making of public management. This would enable performance measurement in the B&H public sector and therefore improve transparency and accountability of the public management.

The main limitation of the research is the fact that the focus of interest is placed on budget organizations, which represent the largest, but not the only, component of the public sector. Public companies, as an important factor within the public sector, were omitted from the analysis because of their specificity. Specifically, public enterprises are state-owned business entities whose accounting framework is the same as that of private enterprises. This means that they are already largely structured as well as for profit-oriented entities since they apply accrual accounting basis, International Accounting Standards and International Financial Reporting Standards. However, this does not indicate that public companies do not encounter similar problems, as do budget-funded organizations when delivering their goods and services. In this regard, the opportunity opens up for similar research, which will focus on this segment of the public sector. This would allow creating a more complete picture of the advantages and disadvantages of the accounting information system of the entire public sector in B&H.

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QUALITY OF E-COMMERCE PRACTICES IN EUROPEAN ENTERPRISES: CLUSTER ANALYSIS APPROACH

Jovana Zoroja^{1,*}, Igor Klopotan² and Ana-Marija Stjepić¹

¹Faculty of Economics and Business Zagreb
Zagreb, Croatia

²University North
Varaždin, Croatia

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ABSTRACT

Development and usage of e-Commerce has a positive impact on business, while it offers better services to clients and higher profitability for enterprises. Easier and effective communication processes between sellers and buyers provides an additional benefit for further expansion of e-Commerce especially in developing countries. The goal of the article is to determine the quality and usage of e-Commerce practice in enterprises with 10 or more employees in European countries in 2018. The analysis will be conducted using hierarchical cluster analysis aiming to investigate whether there are significant differences among selected European countries regarding e-Commerce practices. Research results indicate that selected European countries can be divided into four homogeneous groups with similar characteristics regarding e-Commerce practices. According to the results of this study, e-Commerce practices are more often used in European countries with a more developed ICT sector such as Belgium and Ireland.

KEY WORDS

cluster analysis, e-Commerce, enterprises, European countries

CLASSIFICATION

JEL: C38, L81, L86, P13

*Corresponding author, *η*: jzoroja@efzg.hr; +385 1 2335 633;
Faculty of Economics and Business, J.F. Kennedy Square 6, HR – 10 000 Zagreb, Croatia

INTRODUCTION

Risk and intensive progress of information and communication technology (ICT) provoked the appearance and development of a new trend as e-Commerce is. Including rapid ICT development, globalization is also one of the most important triggers for e-Commerce phenomenon expansion [1]. Applying ICTs as well as digital technologies to perform commerce activities in the Internet environment is a crucial characteristic of e-Commerce [1-3]. This phenomenon enters almost every sphere of business such as creating new products and/or services, advancing existing products and/or services, establishing communication with business partners and customers, promoting products and services on web locations, selling and distributing products around the world, etc. [4]. Different participants in businesses can be encompassed by mentioned changes caused by using e-Commerce. Therefore, this trend can also affect various established business models such as business-to-business (B2B), business-to-customers (B2C), business-to-government (B2G), customers-to-government (C2G), etc. [3]. Although e-Commerce generates many business benefits, using Internet possibilities to execute serious business activities can often be risky and untrustworthy for both sides in business transactions (supply-side and demand-side). Therefore, the quality of organized e-Commerce practices is one of the most critical factors for businesses that want to establish or sustain successful performance in the e-Commerce market [5].

The expansion of e-Commerce removes spatio-temporal borders in the business world which consequently contributes to the agility and mobility of various enterprises in the global economy [2]. Therefore, many enterprises are deciding to invest more of their resources (financial, human, technological) in adopting some of the e-Commerce features in their business processes since they are aware of its benefits regarding business performance [6]. This intensified use of ICT and digital technology for performing activities within e-Commerce, at the business and personal level, undoubtedly contributes to digital economy growth ([7] according to [8]). Namely, e-Commerce represents a basis for establishing the digital economy [7] that is composed of social, demographic, competitive, and other changes in the global economy and society, caused by intensive digital technology use in all spheres of life [9]. Today, the importance of e-Commerce can be observed through the constantly growing number of businesses that are operating modern ways of doing business activities via the Internet and an assessment that only retail e-Commerce could globally reach about 4,1 trillion dollars this year [10]. European e-Commerce market generates 346,5 billion USD coming after the North American e-Commerce market with 552,6 billion USD and the Asian e-Commerce market as the leader in this market with achieved 831,7 billion USD ([10] according to [11]).

According to [12], e-Commerce has a strong impact on society and economy, especially in terms of increasing employment rates in different countries across the European Union, as well as enhancing the productivity level of employees in different enterprises. Bearing that in mind, many researchers are focusing on the e-Commerce practices adoption factors in small and medium enterprises as the key drivers of the national economy (e.g. [13-16]). Recognized e-Commerce significance for the economy is not a surprise, since this trend transforms the way of conducting traditional business transactions, making them available 24/7, not making any losses due to time difference to enterprises that offer products/services via the Internet worldwide, as well as saving customers' time and cost in the same time. Since e-Commerce has a strong impact on the economy worldwide, as well as in European countries, it is important to investigate e-Commerce practices that mostly generate total turnover within enterprises. Therefore, this article has scientific and practical contributions. Firstly, it provides all European but also worldwide practitioners with insight into which e-Commerce practices engender the highest profit for enterprises. Secondly, the results of this article

enable researchers and practitioners to understand the difference, in the context of digitalization and e-Commerce advancement, between developed and developing European countries. Thirdly, this article fills the gap in the still scarce existing literature that investigates the quality of e-Commerce practices in European countries.

In this article, the authors investigated differences among European countries according to e-Commerce practices, such as enterprises' total turnover from e-Commerce and web sales focusing on B2C, B2B, and B2G clients. Used datasets are available at Eurostat for enterprises in the year 2018. Statistical measures included descriptive and hierarchical cluster analysis. Findings showed that there is digital divide among European countries. At the level of European Union, policies, procedures and strategies should be done to reduce digital divide and to encourage economies and societies to use ICTs more to gain competitive advantage.

The article is arranged into six parts. In the Introduction part, e-Commerce as one of the drivers of economic development is emphasized. Also, the quality of e-Commerce practices has been recognized in the Introduction part. The goal of the article and methodology are shortly described in the Introduction part also. In the Literature review part, the main issues of the article are presented: impacts of the e-Commerce on economy and development of ICTs as a prerequisite for e-Commerce usage. Data and statistical analysis are defined in the methodology part. Definitions of the variables for the descriptive and hierarchical cluster analysis are explained also in the methodology part of this article. The results of the descriptive and hierarchical cluster analysis of different levels of e-Commerce practices among selected European countries are presented in the Results part. Given results are explained in the Discussion part. The concluding remarks of the article and compares with similar research are given in the conclusion part. Furthermore, the Conclusion part presents the practical implications of the results, future research steps, and the limitations of the article.

LITERATURE REVIEW

E-COMMERCE AND ICT

E-Commerce represents a topic that has been in the focus of researchers for many years, which is not astonishing since e-Commerce activities provide a foundation for the recent generation of doing business in a digital form. According to [17], the phenomenon of e-Commerce is the best indicator that points out how our lives are transforming digitally, including changes on personal, organizational, and global levels. Therefore, for developing the digital economy in a country, it is critical to ensure its support by using well-organized and effective e-Commerce practices [18]. The e-Commerce trend represents new business models comprising different commercial activities conducted through wireless networks, ICT, digital technologies, and Web 2.0 technologies [19-21]. Recently, up-to-date technologies as artificial intelligence (AI) -based technologies, business intelligence application and technologies for big data analysis are becoming the key technological backbone for various businesses operating in the e-Commerce market [22]. In addition to AI and Big Data technology, contemporary trends of e-Commerce focus on various e-Commerce activities (e.g. online marketing, ordering, selling, buying, paying, and distributing) that are conducted using social media, smartphones, promoting videos, webchats, pop-ups, etc. [23]. Owing to the above-mentioned technologies and Internet possibilities, e-Commerce enables buyers and sellers to carry out commerce-related business transactions without direct physical contact [20, 23].

CHARACTERISTICS AND QUALITY OF E-COMMERCE

Considering how participants act within business models, e-Commerce divides into two parts: e-Commerce sales and e-Commerce purchases [24]. During the sale process, participants can

place business orders via websites or electronic data interchange (EDI). Hence, e-Commerce sales consist of two main methods: “web sales” and “EDI-type sales” [24]. E-Commerce methods such as buying and selling products and services via websites or EDI [24, 25] mostly encompass business models like B2B, B2C, B2G, customer-to-customer (C2C), C2G, etc. [3]. Still, the two most important forms of e-Commerce are (i) B2B in which enterprises are executing their businesses via electronic networks with their partners and (ii) B2C in which enterprises are selling goods/services to their customers [26]. Apart from individuals and enterprises, governments are also part of the e-Commerce community [27]. Therefore, altogether with B2B and B2C models, it is substantial to observe the B2G model as an equally important business model in which the government participates as a buyer and enterprise as a seller [27]. In this way, individuals as participants in e-Commerce practices are achieving many benefits as (i) saving time needed for physically going to the store (ii) selling and using services from their own home, (iii) buying and selling products available all around the world, (iv) promoting their products or services worldwide, (v) saving money by using lower web-shop prices of products, etc. On the other hand, using e-Commerce practices enables enterprises to (i) timely predict and understand clients’ needs and requirements, (ii) promptly fulfil personalized customers’ orders, (iii) effectively execute business processes, (iv) diminish costs, (v) increase profits, etc. [22, 28]. Through e-Commerce practices, governments and enterprises within B2G model are also gaining benefits such as (i) reduced paperwork, (ii) reduced time for additional administrative work, (iii) reduced additional costs, (iv) easier and quicker access to legal, financial and tax demands from the business side, (v) increased quality level of products and services, (vi) new ways developed for offering and selling goods and services, etc. [27]. To achieve the mentioned benefits of applying e-Commerce practices in different business models, it is important to ensure that they are of sufficient quality. According to [27], the quality of e-Commerce is mainly focused on i) quality of web sites content, ii) quality of technology in charge of timely business transactions execution worldwide, iii) quality of ancillary services of the transactions performed, iv) quality of security methods, and v) quality of e-Commerce community support.

E-COMMERCE DEVELOPMENT AND SIGNIFICANCE FOR THE ECONOMY

The development of e-Commerce begins in the 70s and 80s of the last century with using EDI between enterprises, enabling them to conduct business transactions in the context of exchanging business information and documents, also including funds for executing electronic payments [26, 29] according to [30]. With ICT and Internet progress, the real process of growth and advancement of the e-Commerce phenomenon started in the mid-90s and arose through the following four phases [31, 32]. The first phase was focused on using Internet possibilities to share information about goods/services [31, 32]. In the second phase, everything was about World Wide Web usage to obtain customers’ orders and distribute information about the use of goods/services [31, 32]. Utilizing ICT technologies to deliver goods/services in a digital forms, was present in the third phase [31, 32]. In the current fourth phase, the focus is on the appearance of Web 2.0 technologies, 3G and 4G networks enables faster and easier communication between participants on demand-side and supply-side [31, 32]. Today, the most popular trends of e-Commerce practices are animations included in promoting activities, online sales, and marketing activities. Mentioned activities involve business process automation, AI technologies as chatbots on websites, and 360° images/videos [33]. The aforementioned technology advancement is constantly encouraged by the progress of e-Commerce, which is, on the other hand, developing parallelly with the growth of the digital economy [31]. Therefore, it can be concluded that the same as the digital economy is changing the society and economy we know, also does e-Commerce. E-Commerce is especially important in the time of social distancing caused by today’s COVID-19 pandemic. According to [34], people are spending 10-30 % more on

online shopping in the last 3 months than usual [35], particularly on buying essential household goods, groceries, baby products, as well as medical and cleaning products [36].

E-COMMERCE IN EUROPEAN UNION

Despite the global crisis in 2020 and the consequently increased use of web sales in the whole world, European countries are generally more engaged in digital activities in the last several years [37]. According to the “Digital Economy and Society Index” (DESI) that includes digital execution and follows digital competitive advantage of countries within the EU, Finland, Sweden, the Netherlands, and Denmark are ranked in the highest positions according to the results for 2019 [37]. They are followed by the United Kingdom, Luxembourg, Ireland, Estonia, and Belgium [37]. Among the other indicators, the DESI index also investigates the integration of digital technology in the European countries, therefore including business digitization and e-Commerce [37]. E-Commerce index investigates the rate of SMEs included in web sales, SMEs’ turnover achieved by using e-Commerce practices and the rate of SMEs using web sales worldwide [38]. According to all three indicators within e-Commerce, Ireland, Belgium, and Czechia are reaching the highest results in 2019 [38]. Sweden and Denmark also reveal admirable results according to some of the indicators within the e-Commerce index [38]. For instance, Denmark is achieving the most notable results concerning the number of enterprises included in web sales in 2019 [38]. In developing countries as Bulgaria, Romania, Latvia, and Greece, e-Commerce index is still very low [38]. Comparing the e-Commerce index with the business digitization index (percentage of social media, electronic information sharing, big data analysis, and cloud technologies usage), enterprises in Bulgaria, Romania, Latvia, and Greece are acquiring higher results in using digital technologies in businesses than realizing e-Commerce activities [38]. Therefore, it can be concluded that developing countries are also interested in using digital opportunities in their businesses but they still have to additionally explore, understand, and finally use conveniences that e-Commerce can offer to them.

PREVIOUS RESEARCH ON E-COMMERCE PRACTICES QUALITY IN ENTERPRISES

Regarding emphasized importance of e-Commerce in today’s economy and society, many authors are examining this topic on the enterprises of all sizes in various countries. Therefore, the authors [39] investigated the significance of the e-Commerce practices quality on perceived risk, value, loyalty, and satisfaction of customers. Accordingly, the results of their study show how enterprises can achieve higher revenues and competitive advantage by investing in e-Commerce quality (especially in websites for web sales) that positively influence customer loyalty, satisfaction, and perceived value [39]. Given its many opportunities for businesses, e-Commerce practices are increasingly replacing or complementing traditional procedures of buying and selling products/services [40]. Hence, many researchers are investigating the turnover shares of e-Commerce methods in the total turnover of enterprises within different countries. Bearing that in mind, authors [24] researched the turnover of e-Commerce in European countries during 2009 and 2010. According to their results, EDI-type sales occupied a higher rate in total turnover within mostly observed countries in EU27 during 2010, while Lithuania, Latvia, Greece, Bulgaria, and Cyprus achieved a higher percentage of using web sales in total turnover [24]. Similarly, [41] investigates B2C e-Commerce turnover in European countries in her study, which results indicate that developed countries like Ireland and the UK are more involved in e-Commerce activities. On the other hand, developing countries like Romania, Bulgaria, Greece, Italy, and Cyprus are still lagging with a lower rank of total participants engaged in B2C e-Commerce practices. Commonly, online processes and procedures in many industries worldwide have a strong impact on increasing their sales turnover. For example, authors [42] concluded that

online rental activities have a positive impact on car rental services in the Indonesian city of Medan. Likewise, authors [43] found out that online sales offer also influence increasing sales turnover in the airline industry in Nigeria. Digital opportunities as mobile and Internet banking were also positively experienced in the financial sector in Italy ([44] according to [45]). Except for the private sector, also the public sector encountered the benefits of online procedures and digital technologies involved in operating business processes. Accordingly, using the Internet and digital technologies in public services, established e-government improves public services giving the citizens broader authority to involve in public services due to simultaneously improved administration businesses, social value, and reduced cost [46].

As it is shown with relevant literature on this topic, e-Commerce practices, as well as their quality, have a positive impact on enterprises as well as on the economy and society in the whole world. Enterprises worldwide are mostly focused on using websites, or EDI technology to promote, sell, or purchase and distribute their products and services. Therefore, in the following section, the significance and positive characteristics of two main e-Commerce methods (web sales and EDI-type sales) on enterprises in European countries will be further analysed.

METHODOLOGY

DATA

Seven variables used in the analysis are collected from the European Commission statistical database – Eurostat (Table 1) and refer to enterprises’ turnover from e-Commerce and web sales with different clients: B2C, B2G, and B2B. Data are collected for the year 2018 for 29 European countries.

Table 1. Variables used in analysis, percentage of turnover, all enterprises, without financial sector (10 persons employed or more); authors’ work based on Eurostat [47].

Enterprises’ turnover related to e-Commerce	Name of the variable
Enterprises’ total turnover from e-Commerce	e-Comm
Enterprises’ turnover from web sales	e-Comm_web
Enterprises’ turnover from EDI-type sales	e-Comm_EDI
Enterprises’ turnover from web sales - B2C	e-Comm_B2C
Enterprises’ turnover from web sales - B2B and B2G	e-Comm_B2C_B2G
Turnover of the enterprises where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales	e-Comm_B2C_10
Turnover of the enterprises where web sales via an e-Commerce marketplace are at least 20 % of the web sales	e-Comm_B2C_20

Selected variables refer to enterprises’ total turnover from e-Commerce, from web sales and from EDI-type sales as well as from web sales according to business with other business partners and government. Countries for which data are not available are excluded from the analysis. E-commerce implicit sales of products or services via Internet. E-sales refers to sales via websites or apps (web sales) or in an automated way via EDI (electronic data interchange) type messages.

STATISTICAL ANALYSIS

Data regarding e-Commerce practice in European countries are collected from the European database [47]. We used seven variables regarding e-Commerce practice among enterprises without the financial sector and with 10 persons employed and more, for the year 2018. Statistical measures like mean, minimum, maximum, and standard deviation are used to present data together with column graphs. Descriptive analysis was used to graphically present collected

data about e-Commerce practices for 29 European countries for the year 2018. Hierarchical cluster analysis was used to identify homogenous groups of selected variables and to investigate different level among European countries regarding e-Commerce usage. Given results are presented using a graph of the cost sequence, ANOVA analysis, and cluster means. In addition, the graph of cost sequence presenting the error function for the various number of clusters was used (Figure 5) in order to define the optimal number of clusters which is four.

RESULTS

RESULTS OF DESCRIPTIVE ANALYSIS

Table 2 presents descriptive statistics of enterprises' turnover from e-Commerce and web sale, for the year 2018.

Table 2. Descriptive statistics of percentage of turnover, all enterprises, without financial sector (10 persons employed or more); authors' work based on Eurostat [47].

	Valid N	Mean	Minimum	Maximum	Std. Dev.
e-Comm	29	16,34	2,00	35,00	8,43
e-Comm_web	29	6,45	1,00	15,00	3,46
e-Comm_EDI	29	9,86	0,00	21,00	6,03
e-Comm_B2C	29	2,52	1,00	8,00	1,40
e-Comm_B2C_B2G	29	4,10	1,00	12,00	2,32
e-Comm_B2C_10	29	13,69	4,00	27,00	5,42
e-Comm_B2C_20	29	3,66	0,00	10,00	2,73

The highest mean values have following two variables: *Enterprises' total turnover from e-Commerce* (e-Comm: 16,34) and *Turnover of the enterprises where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales* (e-Comm_B2C_10: 13,69). Other variables have lower mean values. It can be concluded that regarding e-Commerce activities, enterprises are mostly focused on sales of products or services via Internet.

Figure 1 presents enterprises' total turnover from e-Commerce in percentage for all enterprises, without financial sector, with 10 persons employed or more. Enterprises from only two countries have more than 30 % of total turnover from e-Commerce (Belgium: 32 % and Ireland: 35 %). In developing countries there is lower percentage of enterprises' total turnover

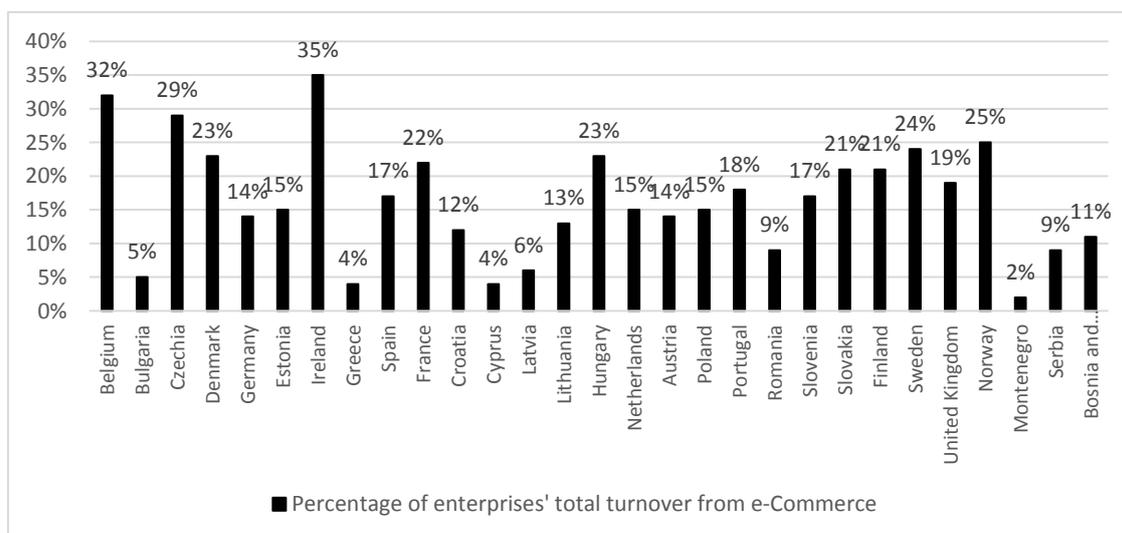


Figure 1. Enterprises' total turnover from e-Commerce, % of turnover, all enterprises, without financial sector (10 persons employed or more); Authors' work based on Eurostat [47].

from e-Commerce (Montenegro: 2 %; Cyprus: 4 %; Greece: 4 %; Bulgaria: 5 %; Latvia: 6 %; Romania and Serbia: 9 %). It can be noticed that digital divide among European countries exists in the area of e-Commerce.

Data regarding enterprises' total turnover from web sales and EDI-type sales in percentage for all enterprises, without financial sector, with 10 persons employed or more are presented in Figure 2. The greater difference among enterprises' total turnover from web sales and EDI-type sales is in Czechia and Slovenia. In addition, there is quite higher percentage of enterprises' turnover from EDI-type sales compared to turnover from web sales. In most of the other selected European countries the situation is quite similar with lower difference among two mentioned variables and their values. The exception is Greece where there are no enterprises with total turnover from EDI-type sales. In Cyprus, Lithuania, Serbia and Bosnia and Herzegovina, there is higher percentage of enterprises' total turnover from web sales than from EDI-type sales.

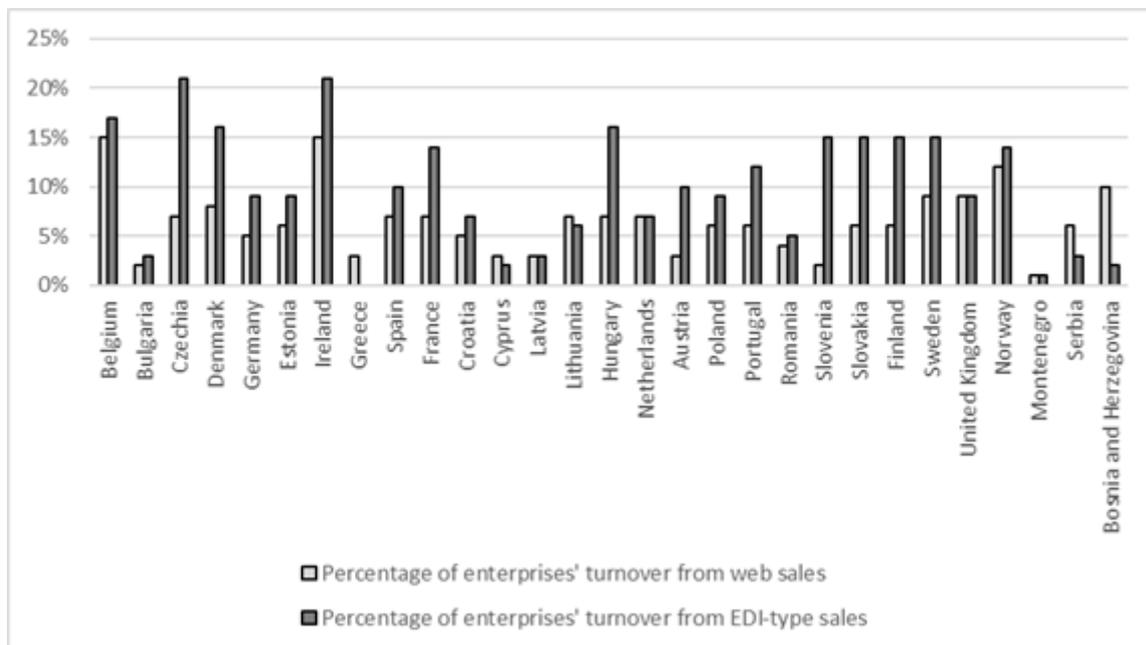


Figure 2. Enterprises' turnover from web sales and EDI-type sales, percentage of turnover, all enterprises, without financial sector (10 persons employed or more); Authors' work based on Eurostat [47].

Percentage of enterprises' turnover from web sales – B2C, and turnover from web sale – B2B and B2G for all enterprises, without financial sector, with 10 persons employed or more are presented in Figure 3. The greater difference among enterprises' turnover from web sales – B2C and turnover from web sales – B2B and B2G is in Belgium. In addition, there is quite higher percentage of enterprises' turnover from web sales – B2B and B2G compared to turnover from web sales – B2C. In most of the other selected European countries there is almost the same percentage of enterprises' total turnover from web sales – B2C, and from web sales – B2B and B2G. In Ireland and the United Kingdom, the situation is vice versa; enterprises' total turnover from web sales – B2C is higher that enterprises' total turnover from web sales – B2B and B2G.

Collected data regarding enterprises' turnover where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales and where web sales via an e-Commerce marketplace are at least 20 % of the web sales for all enterprises, without financial sector, with 10 persons employed or more are graphically presented in Figure 4. The greater difference among enterprises' total turnover where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales and where web sales via an e-Commerce marketplace are at least 20 % of the web sales for all enterprises is in Croatia,

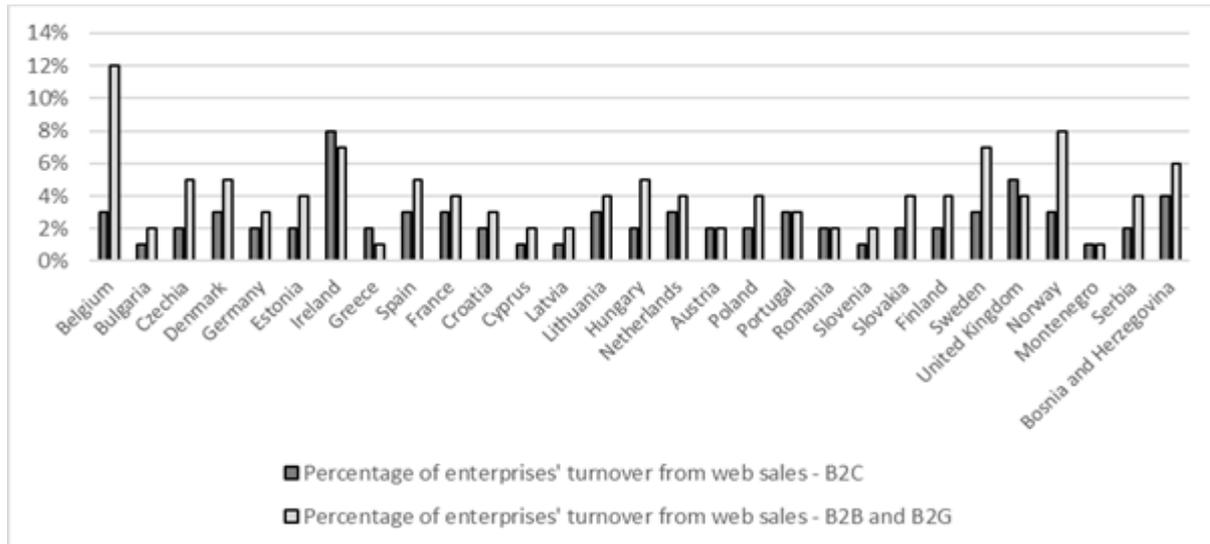


Figure 3. Enterprises' turnover from web sales – B2C, B2B and B2G, percentage of turnover, all enterprises, without financial sector (10 persons employed or more); authors' work based on Eurostat [47].

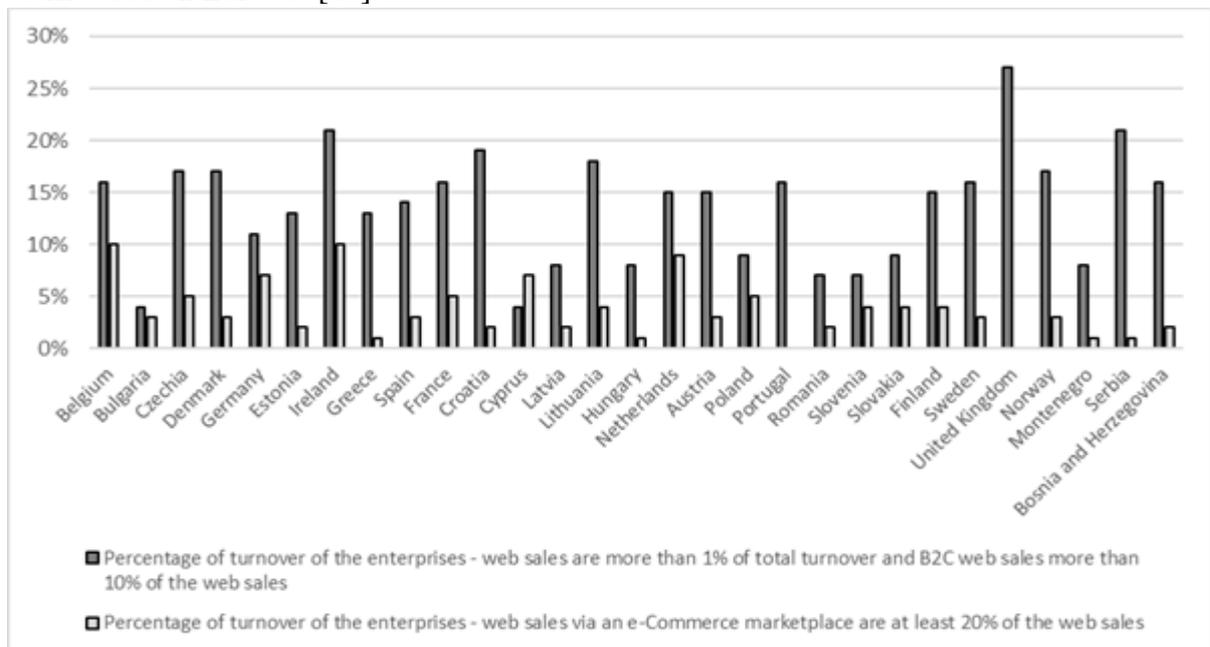


Figure 4. Turnover of the enterprises where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales; at least 20 % of the web sales, % of turnover, all enterprises, without financial sector (10 persons employed or more); Authors' work based on Eurostat [47].

Lithuania, Norway, Serbia, Bosnia and Herzegovina. In addition, there is quite higher percentage of enterprises' total turnover where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales compared to turnover from web sales via an e-Commerce marketplace are at least 20 % of the web sales in above mentioned countries. In Portugal and the United Kingdom there are only enterprises with total turnover where web sales are more than 1 % of total turnover and B2C web sales more than 10 % of the web sales.

RESULTS OF CLUSTER ANALYSIS

ANOVA analysis test (Table 3), cluster means values (Table 4) and graph of cost sequence (Figure 5) are conducted and present results for hierarchical cluster analysis.

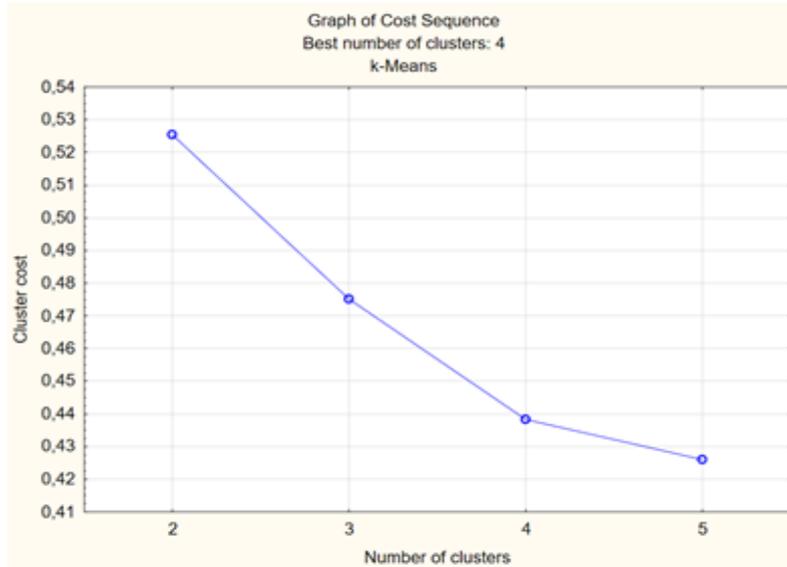


Figure 5. Graph of the cost sequence; authors' work based on Eurostat [47].

Figure 5 defines the graph of cost sequence presenting the error function for the various number of clusters (Figure 6) in order to define the optimal number of clusters, which is in this case four clusters.

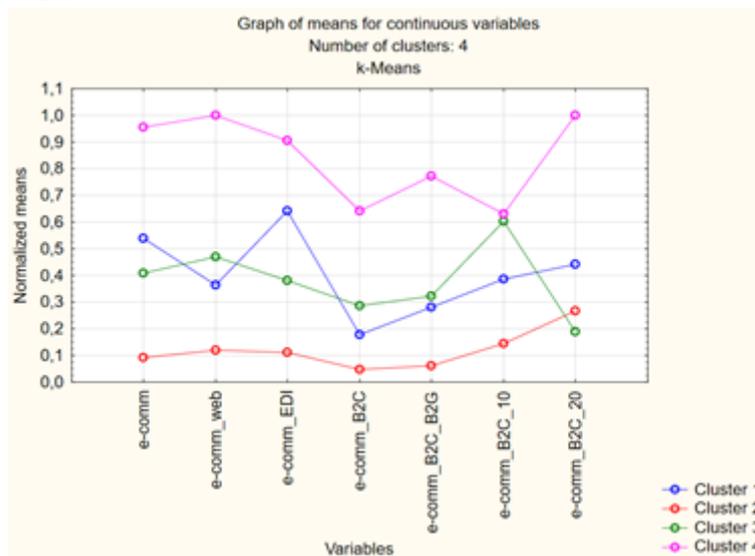


Figure 6. Graph of the cluster means; authors' work based on Eurostat [47].

Table 3. ANOVA analysis, k-means clustering; 7 variables, 4 clusters, $n = 29$ countries; authors' work based on Eurostat [47].

	ANOVA for continuous variables; Number of clusters: 4, Total number of training cases: 29					
	Between SS	df	Within SS	df	F	p-value
e-Comm	1514,163	3	476,389	25	26,487	0,000***
e-Comm_web	244,700	3	90,472	25	22,539	0,000***
e-Comm_EDI	697,115	3	320,333	25	18,135	0,000***
e-Comm_B2C	29,158	3	26,083	25	9,316	0,000***
e-Comm_B2C_B2G	95,717	3	54,972	25	14,510	0,000***
e-Comm_B2C_10	454,568	3	367,639	25	10,304	0,000***
e-Comm_B2C_20	121,413	3	87,139	25	11,611	0,000***

***statistically significant at 1 %

Results for ANOVA analysis and k-means clustering for seven variables which are grouped into 4 clusters are presented in Table 3. Selected data refers to e-Commerce usage in the year 2018 for 29 European countries. All selected variables are statistically significant at 1 % which implies that solution of using four clusters is justified.

Mean values for each of four clusters according to seven variables are presented in Table 4. The highest mean values for all seven variables are for Cluster 4 where are grouped Belgium and Ireland. However, comparing all seven variables, the highest mean value has variable Enterprises' total turnover from e-Commerce for Cluster 4 (33,50). The lowest mean values for all seven variables are in Cluster 2, especially for variable Enterprises' turnover from web sales – B2C (1,33).

Table 4. Cluster means, k-means clustering; 7 variables, 4 clusters, $n = 29$ countries; Authors' work based on Eurostat [47].

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
e-Comm	19,83	5,00	15,44	33,50
e-Comm_web	6,08	2,67	7,56	15,00
e-Comm_EDI	13,50	2,33	8,00	19,00
e-Comm_B2C	2,25	1,33	3,00	5,50
e-Comm_B2C_B2G	4,08	1,67	4,56	9,50
e-Comm_B2C_10	12,92	7,33	17,89	18,50
e-Comm_B2C_20	4,42	2,67	1,89	10,00
Number of cases	12	6	9	2

DISCUSSION

Table 5 presents countries across clusters. In Cluster 1 there are following countries: Czechia, Denmark, Germany, France, Hungary, Netherlands, Austria, Poland, Slovenia, Slovakia, Finland, and Sweden. Cluster 2 consists of: Bulgaria, Greece, Cyprus, Latvia, Romania, and Montenegro. Estonia, Spain, Croatia, Lithuania, Portugal, the United Kingdom, Norway, Serbia, Bosnia and Herzegovina are part of Cluster 3. In Cluster 4 are grouped Belgium and Ireland. The less developed European countries, in the context of digitalization and e-Commerce advancement, are grouped into Cluster 2 and they have the lowest mean values for all seven variables in the area of e-Commerce. There is the lowest percentage of enterprises' turnover from web sales and e-Commerce. Some of the possible reasons that influence on low usage of e-Commerce could be: employees with low digital skills, high cost of ICTs usage, and low level of ICTs infrastructure.

Countries grouped into Cluster 1 and Cluster 3 have quite similar mean values. Enterprises grouped into Cluster 1 and Cluster 3 should try to use more benefits from e-Commerce and to improve their business using latest advances in the area of the ICTs. Belgium and Ireland are leaders in the area of e-Commerce. Enterprises from Belgium and Ireland have the highest

Table 5. Countries across clusters; Authors' work based on Eurostat [47].

Cluster	Countries
Cluster 1	Czechia, Denmark, Germany, France, Hungary, Netherlands, Austria, Poland, Slovenia, Slovakia, Finland, Sweden
Cluster 2	Bulgaria, Greece, Cyprus, Latvia, Romania, Montenegro
Cluster 3	Estonia, Spain, Croatia, Lithuania, Portugal, the United Kingdom, Norway, Serbia, Bosnia and Herzegovina
Cluster 4	Belgium, Ireland

percentage of turnover from web sales an e-Commerce. In addition, Belgium and Ireland are quite high ranked regarding ICTs usage and development, which has positive impact on their social and economic development.

Figure 6 presents graph of the cluster normalized means, where it is showed that Cluster 4 (Belgium and Ireland) has the highest mean values for all selected variables regarding e-Commerce usage.

CONCLUSION

In this article, data regarding e-Commerce practice in European countries are presented aiming to investigate are there any significant differences among selected European countries. Therefore, the authors conducted descriptive statistics methods and cluster analysis and classified 29 observed countries into 4 clusters due to given distinctions among the countries according to 7 analysed variables on e-Commerce usage. Final results show how enterprises from developing countries like Bulgaria, Greece, Cyprus, Latvia, Romania, and Montenegro reach the lowest percentage of turnover from web sales and e-Commerce. On the other hand, results present that enterprises from western European countries such as Belgium and Ireland have a leading position considering turnover from web sales and e-commerce practices. They are also the highest positioned countries in the field of e-Commerce as well as in the usage and development of ICT that consequently had a positive influence on their economy and society. Accordingly, it can be concluded that enterprises from countries which lag behind regarding ICT development, less employ e-Commerce practices with lower quality standards than enterprises within western European countries. Therefore, it is apparent that the significant difference between the selected European countries regarding the usage and quality of web sales and e-Commerce practices exists.

Results obtained from this analysis confirm previous research on the same topic and for the same sample in 2010 in which the same countries were lagging in e-Commerce practices usage. Similarly, some previously conducted research shows that countries that are leaders in ICT sector, such as Ireland, the United Kingdom, Sweden, the Netherlands, Denmark, Germany, Finland, and Belgium utilize more B2C e-Commerce than other European countries like Bulgaria, Romania, Italy, Cyprus, Greece, Hungary, Latvia.

Therefore, this study can be particularly important for developing countries considering the results of the research that are pointing to e-Commerce effects on the development of economies. Likewise, previously published literature on this topic points to how e-Commerce can have a strong impact on society and the economy of different countries. Accordingly, evolved awareness of ICT and e-Commerce usage importance in various national business models can contribute to the social and economic prosperity of developing countries.

Based on the results of this research as well as relevant scientific researches on this field, the following conclusions can be made. It is noted that the untapped potential of using e-Commerce activities on the supply side and unrealized benefits of e-Commerce practices on the demand side is still present in most of the European countries. Hence, European Commission should focus more on how to make it easier for developing European countries to adopt and implement advanced ICTs and digital technologies in businesses and initiate effective use of e-Commerce practices within different business models. The limitations of this article come out of the fact that potential drivers or constraints by which some countries successfully (not)employ e-Commerce opportunities are unconsidered. Consequently, the recommendation for future research is to investigate the technological, organizational, and environmental factors that could be potential initiators of ICT, digital technology, and e-Commerce practice usage on the national or enterprise level in different countries.

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