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Faculty of Economics**

ICEI

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"ECONOMY OF INTEGRATION" ICEI 2021
ECONOMIC RESPONSE AND CRISIS RECOVERY CAUSED
BY THE COVID-19 PANDEMIC**

CONFERENCE PROCEEDINGS

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by the Covid-19 Pandemic**

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EKONOMSKI FAKULTET PODGORICA



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Predgovor

Na dvogodišnjoj vremenskoj osnovi Ekonomski fakultet Univerziteta u Tuzli, Bosna i Hercegovina, organizuje konferenciju “Ekonomija integracija”, poznatiju pod akronimom “ICEI”. Naime, riječ je o vrlo dobroj etabliranoj konferenciji regionalnog karaktera, koju Fakultet organizuje u saradnji sa koorganizatorima iz Hrvatske, Slovenije, Crne Gore, Srbije i Sjeverne Makedonije. Uspješno povezivanje Ekonomskog fakulteta Univerziteta u Tuzli sa navedenim visokoškolskim institucijama obezbjeđuje mu niz mogućnosti za poboljšanje performansi vezanih za obrazovni proces i naučno-istraživački rad te osigurava pretpostavke za uspješnije integrisanje Univerziteta u evropski prostor visokog obrazovanja

Dok su na prvoj ICEI konferenciji, eksperti iz regiona Jugoistočne Evrope raspravljali na temu “*Kako upravljati u vrijeme krize?*”, druga konferencija bila je posvećena temi “*Izazovi i perspektive integracija zemalja Jugoistočne Evrope*”. Treća konferencija bila je fokusirana na temu “*Znanjem od recesije ka prosperitetu*”, četvrta na temu “*Izazovi ekonomija u kriznom okruženju*”, dok se na petoj raspravljalo na temu “*Uloga ekonomske misli u savremnom okruženju*”. Šesta konferencija iz 2019. Godine pod nazivom “*(E)migracije i konkurentnost zemalja Jugoistočne Evrope*” predstavljala je priliku za nove diskusije i mjesto ponovnog susreta velikog broja istraživača, praktičara i naučnika iz oblasti ekonomije i biznisa zemalja Jugoistočne Evrope. Sedma naučna konferencija održana je 2021. godine na temu “*Ekonomski odgovor i oporavak u odnosu na krizu uzrokovanu pandemijom Covid-19*” i bila je za Ekonomski fakultet Univerziteta u Tuzli veliki izazov, s obzirom da se održavala u periodu epidemiološke krize - pandemije korona virus (COVID-19), što je podrazumijevalo održavanje ove manifestacije u hibridnom obliku.

Sedma naučna konferencija ICEI 2021 imala je za cilj da kroz razmjenu ideja, iskustava i kritičkog promišljanja doprinese diseminaciji znanja i poticanju rasprava o mogućnostima ekonomske nauke u kvalitetnijem razumijevanju izazova s kojim se suočavamo i ponudi adekvatne odgovore. Ekonomski fakultet Tuzla je Sedmu naučnu konferenciju ICEI 2021 realizovala u saradnji sa šest ekonomskih fakulteta iz regije: Ekonomski fakultet u Osijeku, Sveučilište J. J. Strossmayer, Hrvatska, Ekonomsko-poslovna fakulteta, Univerza v Mariboru, Slovenia, Beogradska bankarska akademija - Fakultet za bankarstvo, osiguranje i finansije, Beograd Srbija, Ekonomski fakultet u Podgorici, Crna Gora, Ekonomski fakultet Prilep, Univerzitet „Sv. Kliment Ohridski“, Makedonija, te Fakultet za hotelijerstvo i turizam Vrnjačka Banja, Univerzitet u Kragujevcu, Srbija.

Centralna tema Sedme naučne konferencije ICEI 2021 „*Ekonomski odgovor i oporavak u odnosu na krizu uzrokovanu pandemijom Covid-19*“ realizovana je kroz 15 tematskih područja, i to: 1) Makroekonomski odgovor i multilateralna saradnja; 2) Ekonomske mjere i oporavak; 3) Društvena kohezija i otpornost zajednica; 4) Digitalna transformacija; 5) Zelena tranzicija; 6) Turizam nakon doba korone; 7) Korona virus – globalne ekonomske i finansijske posljedice; 8) Uticaj pandemije virusa COVID-19 na bankarski sektor; 9) Računovodstvo i revizija u doba pandemije COVID-19; 10) Poslovanje u doba korone; Menadžment u uslovima pandemije; 12) COVID-19 i poduzetnici – kako iskoristiti lošu situaciju za pozitivne promjene; 13) Međunarodno poslovanje i menadžment u uslovima pandemije; 14) Marketing u doba korone; 15) Digitalni marketing u doba korone.

Sedma naučna konferencija ICEI 2021 programski je realizovana kroz četiri sesije: plenarnu sesiju, naučno-istraživačku sesiju, specijalnu sesiju „*Principi otvorene nauke i prakse arhiviranja podataka u društvenim naukama u BiH*“, i Biznis forum (paneli).

Plenarna sesija pod nazivom „*Ekonomski odgovor i oporavak u odnosu na krizu uzrokovanu pandemijom Covid-19*“ realizirana je kroz predavanja eminentnih profesora. Na zadatu temu promišljali su i diskutovali panelisti: Dr. sci. Kadrija Hodžić, redovni profesor, Ekonomski fakultet Univerziteta u Tuzli; Dr. sci. Vjekoslav Domljan, rektor, Sarajevo School of Science and

Technology (SSST); Dr. sci. Slavica Singer, profesor emeritus, Ekonomski fakultet Univerziteta Josipa Jurja Strossmayera u Osijeku; Dr. sci. Željko Šain, redovni profesor, Ekonomski fakultet Univerziteta u Sarajevu i Prof. Dr Mališa Djukić, redovni profesor, Beogradska bankarska akademija. Panelistima su uručene zahvalnice i prigodni pokloni, Prosutni su imali priliku čuti veoma značajnu diskusiju iz područja makroekonomije i menadžmenta.

Sesija prezentiranja rezultata istraživanja autora i koautora čiji su radovi prošli dvostruku recenziju i odobreni za publikovanje, realizovana je kroz sedam sesija. Najveći broj autora i koautora saopštilo je rezultate svojih istraživanja (kako u formi *in class*, tako i *on line*), a sesije su bile posjećene od strane nastavnika, asistenata i studenata sva tri ciklusa studija. Moderatorima sesija su bili profesori Ekonomskog fakulteta i profesori ekonomskih fakulteta iz BiH.

Specijalna sesija održana je on line, prvog dana konferencije. Ova sesija namijenjena je istraživačima iz društvenih nauka (akademskom osoblju i studentima) koji žele saznati više o otvorenoj nauci i prednostima dugoročnog čuvanja podataka, kao i na koji način ispuniti zahtjeve za izradom DMP-a u okviru svojih prijedloga projekata. Naručio je istraživanja uključujući relevantna ministarstva koja objavljuju pozive za finansiranje/sufinansiranje istraživačkih projekata, kao i nevladine organizacije kojima su potrebni istraživački projekti takođe mogu u okviru ove sesije dobiti korisne informacije o načinima kako da efektivnije utroše svoja sredstva u finansiranje istraživačkog rada kroz smanjenje troškova prikupljanja primarnih podataka. Sesiju je realizirao Centar za razvojne evaluacije i društvena istraživanja (CREDI). Učesnicima sesije su obezbijedeni i odgovarajuće zahvalnice.

Biznis forum je koncipiran kao panel diskusija i zaista je pomogao da ICEI 2021 dobije novi izgled. Teme Biznis foruma i diskusije su usklađene s ciljevima ICEI 2021. Dobila se prilika da akademska zajednica, privatni sektor uz učešće javnog sektora i UNDP doprinesu u svojim raspravama mogućim ekonomskim odgovorima na krizu uzrokovanom pandemijom COVID-19. Sadržajno bilo je pet panela, na sljedeće teme: Panel 1. Puls ekonomije BiH (UNDP); Panel 2. COVID-19 I UTICAJ NA PRIVREDU: Mogućnost ekonomskog oporavka i transformacija (Ministarstvo Privrede TK); Panel 3. Unaprjeđenje istraživanja tržišta rada: Uticaj COVID-19 na zaposlenost; Panel 4. COVID-19: Izazovi i prilike za BiH turizam (predstavnicima iz oblasti ugostiteljstva, hotelijerstva); Panel 5. Doprinos finansijskog sektora oporavku ekonomije od krize uzrokovane pandemijom COVID-19 (mikrokreditni sektor, bankarski sektor i sektor osiguranja) Moramo istaći da je indeksacija Zbornika radova s ICEI 2019. u *Conference Proceedings Citation Index* značajno doprinijela da ICEI bude prepoznatljiv i posjećen i 2021. godine. Naime, za konferenciju je bilo prijavljeno 41 rad, i svu su izvršeni u program, od kojih su 12 iz inostranstva, a iz 29 Bosne i Hercegovine. Sudjelovalo je oko 87 autora radova: 50 autora je iz bilo iz Bosne i Hercegovine, a 37 iz inozemstva (Srbija, Hrvatska, Italija, Poljska, Mađarska, i td.). U procesu recenziranja apstrakata i radova sudjelovalo je 34 recenzenta. Prema dozvoljenim važećim epidemiološkim mjerama, zabilježena je i zadovoljavajuća posjećenost Specijalnoj sesiji i Biznis forumu (sa svih pet panela).

Konferenciji su posjetili i visoki uzvanici sa Univerziteta u Tuzli, drugih univerziteta, ekonomskih fakulteta iz BiH i inozemstva, Grada Tuzle, premijer i ministri Vlade TK. Prema dostupnim informacijama od sudionika konferencije i reakcija na društvenim mrežama, konferencija je ocijenjena kao izuzetno organizovana i uspješna. S time u vezi, ističemo samo neke od brojnih benefita organizovane ICEI 2021 konferencije: povećana je vidljivost fakulteta, prikazana je društvena odgovornost fakulteta prema okruženju, pružena je prilika za saopštavanje i publikovanje naučnih radova koji će biti objavljeni u Zborniku radova indeksiranom u prestižnim bazama podataka.

Preface

On a two-year basis, the Faculty of Economics of Tuzla University, Bosnia and Herzegovina, organizes the conference "Economy of Integration", better known by its acronym "ICEI". This is a very well-established regional conference, which the Faculty organizes in cooperation with the co-organizers from Croatia, Slovenia, Montenegro, Serbia, and North Macedonia. A successful connection of the Faculty of Economics of Tuzla University with these higher education institutions provides it with a number of opportunities for improving performances related to the education process and science and research, and ensures the prerequisites for a more successful integration of the University into the European area of higher education.

While at the first ICEI conference, the experts from the region of South East Europe discussed the topic "How to manage in times of crisis?", the second conference was dedicated to the "Challenges and perspectives of integration of the countries of South East Europe". The third conference was organized under the name "With knowledge from recession to prosperity", while the topic of the fourth conference was "Challenges of the economy in a crisis environment". The fifth conference discussed the topic "The role of economic thought in the modern environment". The sixth conference, held in 2019, titled "(E)migration and competitiveness of the countries of South East Europe" stood as an opportunity for new discussions and a place for the reunion of a large number of researchers, practitioners and scientists in the field of economy and business of the countries of South East Europe. The seventh scientific conference took place in 2021 on the topic "Economic response to and recovery from the crisis caused by the Covid-19 pandemic". It was a great challenge for the Faculty of Economics of Tuzla University, given that it was held during the period of the epidemiological crisis - the corona virus pandemic (COVID-19), which imposed the hybrid form of the event.

The seventh scientific conference ICEI 2021 aimed to contribute, through the exchange of ideas, experiences, and critical reflection, to the dissemination of knowledge, promotion of discussions about the possibilities of economic science to help us in a better understanding of the challenges we face and search for appropriate answers. The Faculty of Economics Tuzla organized the Seventh Scientific Conference ICEI 2021 in cooperation with six faculties of economics from the region: Faculty of Economics in Osijek, J. J. Strossmayer University, Croatia, Faculty of Economics and Business, University of Maribor, Slovenia, Belgrade Banking Academy - Faculty of Banking, Insurance and Finance, Belgrade Serbia, Faculty of Economics in Podgorica, Montenegro, Faculty of Economics Prilep, University "St. Kliment Ohridski", Macedonia, and the Faculty of Hotel Management and Tourism Vrnjačka Banja, University of Kragujevac, Serbia

The central theme of the Seventh Scientific Conference ICEI 2021 "Economic response to and recovery from the crisis caused by the Covid-19 pandemic" was realized through 15 topics, namely: 1) Macroeconomic response and multilateral cooperation; 2) Economic measures and recovery; 3) Social cohesion and community resilience; 4) Digital transformation; 5) Green transition; 6) Tourism after the COVID-19 pandemic; 7) The corona virus – global economic and financial consequences; 8) The impact of the COVID-19 pandemic on the banking sector; 9) Accounting and auditing during the COVID-19 pandemic; 10) Doing business in the age of corona; 11) Management under the pandemic conditions; 12) COVID-19 and entrepreneurs - how to use a bad situation for positive changes; 13) International business and management in the pandemic; 14) Marketing in the age of corona; 15) Digital marketing in the age of corona.

The program of the seventh scientific conference ICEI 2021 had four sessions: a plenary session, a science and research session, a special session "Principles of open science and data filing practices in social sciences in Bosnia and Herzegovina", and a business forum (panels).

The plenary session entitled "Economic response to and recovery from the crisis caused by the Covid-19 pandemic" offered lectures by eminent professors. The topic was reflected on and discussed by the panelists: Kadrija Hodžić PhD, full professor, Faculty of Economics, Tuzla University; Vjekoslav Domljan PhD, rector, Sarajevo School of Science and Technology (SSST); Slavica Singer PhD, professor emeritus, Faculty of Economics, Josip Juraj Strossmayer University in Osijek; Željko Šain PhD, full professor, Faculty of Economics, Sarajevo University, and Mališa Djukić PhD, full professor, Belgrade Banking Academy. The panelists were given appreciation letters and appropriate gifts. All those present had the opportunity to follow a very important discussion in the field of macroeconomics and management.

The presentation of the research results – the findings by authors and co-authors whose works underwent a double review and were approved for publication included seven sessions. The largest number of authors and co-authors presented the results of their research (both in-person and online), and the sessions were attended by professors, teaching assistants and students of all three study cycles. The session moderators were professors at the Faculty of Economics Tuzla and at other faculties of economics from Bosnia and Herzegovina.

The special session was held online on the first conference day. This session is intended for social science researchers (academic staff and students) who want to learn more about open science and the benefits of long-term data storage, as well as how to meet the DMP requirements in their project proposals. Contracting entities, including relevant ministries that announce calls for funding/co-funding research projects, as well as non-governmental organizations that need research projects, were also able to obtain useful information during this session on how to effectively spend their resources for research funding by reducing the cost of collecting primary data. The session was carried out by the Centre for Development Evaluation and Social Science Research (CREDI). The participants were also given appreciation letters.

The Business Forum was designed as a panel discussion and it indeed helped ICEI 2021 getting a new form. The topics of the Business Forum and discussions were in line with the ICEI 2021 goals. The opportunity was created for academia, the private and the public sectors and the UNDP to contribute in their discussions to possible economic responses to the crisis caused by the COVID-19 pandemic. There were five panels with the following topics: Panel 1. Pulse of the BiH economy (UNDP); Panel 2. COVID-19 and impact on the economy: Possibility for economic recovery and transformation (Ministry of Economy of Tuzla Canton); Panel 3. Improvement of labor market research: Impact of COVID-19 on employment; Panel 4. COVID-19: Challenges and opportunities for BiH tourism (representatives from the fields of hospitality and hotel industry); Panel 5. Contribution of the financial sector to the recovery of the economy from the crisis caused by the COVID-19 pandemic (microcredit sector, banking sector, and insurance sector).

We have to point out that the indexing of the Proceedings of ICEI 2019 in the Conference Proceedings Citation Index significantly contributed to ICEI being recognizable and visited in 2021 as well. Namely, 41 papers were registered for the conference, and all of them were included in the program, out of which 12 were from abroad, and 29 from Bosnia and Herzegovina. Eighty-seven authors participated: 50 authors from Bosnia and Herzegovina, and 37 from abroad (Serbia, Croatia, Italy, Poland, Hungary, etc.). A number of 34 reviewers participated in the process of reviewing abstracts and papers.

According to the valid epidemiological measures, the turnout at the Special Session and the Business Forum (with all five panels) was rather satisfactory.

A number of high-ranking guests visited the conference – representatives of Tuzla University, other universities, faculties of economics from BiH and abroad, the City of Tuzla, the Prime Minister and ministers of the Government of Tuzla Canton. Based on the feedback from conference participants and reactions on social networks, the conference was assessed as extremely well organized and successful. In this regard, we would like to highlight only some of many benefits of the ICEI 2021 conference: the Faculty visibility has increased, the social responsibility of the Faculty towards the environment has been demonstrated, the opportunity has been provided to present and publish scientific papers that will be published in the Proceedings indexed in prestigious databases.

Editors

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**APPLICATION OF ARAS METHOD IN ASSESSMENT OF TRADE
EFFICIENCY IN SERBIA****PRIMENA ARAS METODE U EVALUACIJI EFIKASNOSTI
TRGOVINE U SRBIJI****Abstract**

The issue of trade efficiency assessment based on multi-criteria analysis is very actual, complex, and important. It provides a basis for improvement through the application of adequate trade efficiency measures in the future. Bearing that in mind, this paper analyzes the efficiency of Serbia's trade based on an additive ratio assessment (ARAS) method. The results obtained from the empirical research of trade efficiency in Serbia using the ARAS method show that it was the best in 2020. Recently, trade efficiency in Serbia has been continuously increasing. This was positively influenced by numerous factors, such as: economic climate, living standard, employment, inflow of foreign direct investment (global chains), digitalization of the entire business, online sales, contemporary business management concepts, etc. Negative impact of the coronavirus COVID-19 pandemic on trade efficiency in Serbia is negligible (compared to other economic activities, for example, tourism and hospitality) and partially alleviated by increased sales via the Internet.

Keywords: efficiency, Serbia's trade, determinants, ARAS method

JEL: L81, M31, M41, O32

Sažetak

Problematika evaluacije efikasnosti trgovine na bazi višekriterijumske analize je vrlo aktuelna, složena i značajna. Ona pruža osnovu za unapređenje primenom adekvatnih mera efikasnosti trgovine u budućnosti. Imajući to u vidu, u ovom radu se analizira efikasnost trgovine Srbije na bazi ARAS metode. Dobijeni rezultati empirijskog istraživanja efikasnosti trgovine u Srbiji pomoću ARAS metode pokazuju da je ona bila najbolja u 2020. godini. U poslednje vreme kontinuirano se povećavala efikasnost trgovine u Srbiji. Na to su pozitivno uticali brojni faktori, kao što su: ekonomska klima, životni standard, zaposlenost, priliv direktnih stranih investicija (globalni lanaci), digitalizacija celokupnog poslovanja, online prodaje, savremeni koncepti upravljanja poslovanjem i sl. Negativni uticaj pandemije korona virusa COVID-19 na efikasnost trgovine u Srbiji je zanemariv (u odnosu na druge privredne delatnosti, na primer, turizam i ugostiteljstvo) i delom je kompenziran povećanom prodajom putem interneta.

Ključne reči: efikasnost, trgovina Srbije, determinante, ARAS metoda

JEL: L81, M31, M41, O32

1. Introduction

The importance is growing of trade company assessment based on multi-criteria analysis. This served as the starting point of the research presented in this paper, which analyzes the efficiency of trade in Serbia based on the ARAS method. Its goal and purpose is to provide a complex qualitative and particularly quantitative elaboration of the given issues, aimed at obtaining the knowledge on the real efficiency of trade in Serbia as the base reference for future improvement by taking the appropriate measures. This is also the scientific and professional contribution of this paper.

The literature on the assessment of trade company performance based on multi-criteria analysis has been on the increase (Saaty, 2008; Ersoy, 2017; Gaur, Agarwal & Anshu, 2020; Lukić & Hadrović Zekić, 2019; Lukić, Hadrović Zekić & Crnjac Milić, 2020; Lukić, Vojteski-Kljenak & Anđelić, 2020; Lukic, 2020; Berman, Evans & Chatterjee, 2018; Levy, Weitz & Grewal, 2019). Consequently, the role and importance of the ARAS method is also on the increase. As to the authors' knowledge, the literature available in Serbia does not include a single paper entirely dedicated to the assessment of efficiency of the trade companies in Serbia, using the ARAS method. This paper is an attempt to fill this gap and provide a scientific and professional analysis.

The main hypothesis of the study into the problem presented in the paper is that constant analysis based on a multi-criteria approach is the premise for the improvement of trade (in Serbia for this particular case) in the future by taking appropriate measures. A significant role in that task is certainly given to the implementation of the ARAS method.

The research methodology for the given hypothesis is based on the implementation of the ARAS method. In order to provide a complex analysis of the problem dealt with in this paper, a statistical analysis is also used to a certain extent.

In order to analyze the problem by using the given methodology, the empirical data were collected from the Serbian Business Registers Agency. The data were "produced" in accordance to the relevant international standards. Hence, there are no limitations in terms of international comparison.

2. ARAS method

The ARAS method is one of multi-criteria analysis techniques. It was developed by Zavadskas and Turskis (Zavadskas & Turskis, 2010). Unlike other method of multi-criteria decision making, ranking alternatives is based on the value of utility function (Chatterjee & Chakraborty, 2013; Sliogene *et al.* 2013; Rostamzadeh, 2017; Koc & Uysal, 2017; Dahooie *et al.*, 2019; Jovčić *et al.*, 2020). The procedure of the ARAS method includes several steps (Zavadskas *et al.*, 2010).

Step 1: Forming decision-making matrix

The decision-making matrix (DMM) is formulated as follows:

$$X = \begin{bmatrix} x_{01} & \dots & x_{0j} & \dots & x_{0n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ x_{i1} & \dots & x_{ij} & \dots & x_{in} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ x_{m1} & \dots & x_{mj} & \dots & x_{mn} \end{bmatrix}; i = \overline{0, m}; j = \overline{1, n} \quad (1)$$

where m - number of alternatives, n - number of criteria describing each alternative, x_{ij} - value representing the performance value of the i alternative in terms of the j criterion, x_{0j} - optimal value of j criterium. If optimal value of j criterion is unknown, then

$$\begin{aligned}
 x_{0j} &= \max_i x_{ij}, \text{ if } \max_i x_{ij} \text{ is preferable;} \\
 x_{0j} &= \min_i x_{ij}^*, \text{ if } \min_i x_{ij}^* \text{ is preferable}
 \end{aligned}
 \tag{2}$$

Step 2: Normalizing the criteria values

In this stage, the initial values of the criteria are normalized – by defining values \bar{x}_{ij} of normalized decision-making matrix - \bar{X} .

$$\bar{X} = \begin{bmatrix} \bar{x}_{01} & \dots & \bar{x}_{0j} & \dots & \bar{x}_{0n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \bar{x}_{i1} & \dots & \bar{x}_{ij} & \dots & \bar{x}_{in} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \bar{x}_{m1} & \dots & \bar{x}_{mj} & \dots & \bar{x}_{mn} \end{bmatrix}; i = \overline{0, m}; j = \overline{1, n} \tag{3}$$

If the preferable value is maximal, normalization is as follows:

$$\bar{x}_{ij} = \frac{x_{ij}}{\sum_{i=0}^m x_{ij}} \tag{4}$$

If the preferable value is minimal, the procedure includes two stages:

$$x_{ij} = \frac{1}{x_{ij}^*}; \bar{x}_{ij} = \frac{x_{ij}}{\sum_{i=0}^m x_{ij}} \tag{5}$$

Step 3: Defining normalized-weighted matrix - \hat{X}

Weight coefficients are most often determined by the expert evaluation method. Naturally, only well-founded weights should be used as they are always subjective and affect the final solution. The sum of weight coefficients is limited (meaning it equals 1):

$$\sum_{j=1}^n w_j = 1 \tag{6}$$

$$\hat{X} = \begin{bmatrix} \hat{x}_{01} & \dots & \hat{x}_{0j} & \dots & \hat{x}_{0n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \hat{x}_{i1} & \dots & \hat{x}_{ij} & \dots & \hat{x}_{in} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \hat{x}_{m1} & \dots & \hat{x}_{mj} & \dots & \hat{x}_{mn} \end{bmatrix}; i = \overline{0, m}; j = \overline{1, n} \tag{7}$$

Normalized-weighted value of the criteria is calculated as follows:

$$\hat{x}_{ij} = \bar{x}_{ij} w_j; i = \overline{0, m} \tag{8}$$

where w_j is the weight (importance) of the j criterion and \bar{x}_{ij} is the normalized rating of the j criterion

The value of optimality function is defined as follows:

$$S_i = \sum_{j=1}^n \hat{x}_{ij}; \quad i = \overline{0, m} \quad (9)$$

where S_i is the value of optimality function of i alternative. If S_i is the biggest, the criterion is the best.

The calculation of the utility degree (K_i) of an alternative a_i is made (using the previous equation) as follows:

$$K_i = \frac{S_i}{S_0}, \quad i = \overline{0, m} \quad (10)$$

where S_i and S_0 are the optimality criterion values.

The calculated values K_i are in the interval $[0, 1]$. The relative efficiency (position, rank) of the alternative is determined in accordance to the value of utility function. The best is the one with the biggest value.

3. AHP method

As the weight coefficients criteria for the application of the ARAS method are determined by using the method of the analytic hierarchy process (AHP), we shall briefly reflect on its theoretical and methodological characteristics. The AHP method proceeds through the following steps (Saaty, 2008).

Step 1: Forming pairwise comparison matrix

$$A = [a_{ij}] = \begin{bmatrix} 1 & a_{12} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2n} \\ \dots & \dots & \dots & \dots \\ 1/a_{1n} & 1/a_{2n} & \dots & 1 \end{bmatrix} \quad (11)$$

Step 2: Normalizing pairwise comparison matrix

$$a_{ij}^* = \frac{a_{ij}}{\sum_{i=1}^n a_{ij}}, \quad i, j = 1, \dots, n \quad (12)$$

Step 3: Defining relative importance (weight vector)

$$w_i = \frac{\sum_{i=1}^n a_{ij}^*}{n}, \quad i, j = 1, \dots, n \quad (13)$$

The consistency index (CI) is the measure of inconsistency of n from λ_{max} and it can be formulated as follows:

$$CI = \frac{\lambda_{max} - n}{n} \quad (14)$$

If $CI < 0.1$ the assessed values of the coefficients a_{ij} are consistence while inconsistency of λ_{max} from n is negligible. In other words, this means that the AHP method accepts inconsistency lower than 10%. Using the CI, we can calculate the consistency ratio $CR = CI/RI$, whereby RI is the random index.

4. Assessing Serbia's trade efficiency using the ARAS method

In measuring Serbia's trade efficiency based on the ARAS method, the following criteria were used: C1 - employee number, C2 - employee earnings, C3 - assets, C4 - capital, C5 - sales, and C6 - net profit. The alternatives were the years observed: A1 - 2013, A2 - 2014, A3 - 2015, A4 - 2016, A5 - 2017, A6 - 2018, A7 - 2019, and A8 - 2020. The calculation was made by using the software program ARAS Software-Excel, and the obtained results are presented in the tables and graphs that follow. Table 1 shows the initial data for Serbia's trade.

Table 1. *Initial data*

| | Employee number | Employee earnings | Assets | Capital | Sales | Net profit |
|------|-----------------|-------------------|-----------|-----------|-----------|------------|
| 2013 | 193,210 | 151,978 | 2,160,474 | 746,992 | 2,891,518 | 89,730 |
| 2014 | 191,621 | 154,833 | 2,157,564 | 761,305 | 2,594,602 | 86,955 |
| 2015 | 159,621 | 164,718 | 2,197,931 | 805,009 | 2,731,999 | 95,265 |
| 2016 | 206,092 | 180,367 | 2,324,843 | 859,749 | 3,009,651 | 105,238 |
| 2017 | 208,020 | 194,924 | 2,375,290 | 920,992 | 3,172,393 | 122,727 |
| 2018 | 219,373 | 218,410 | 2,524,897 | 1,007,972 | 3,361,094 | 121,816 |
| 2019 | 222,049 | 238,022 | 2,682,931 | 1,073,056 | 3,608,329 | 139,409 |
| 2020 | 227,618 | 262,322 | 2,837,599 | 1,183,026 | 3,664,505 | 171,010 |

Note: The data are in million dinars. Employee number is an integer figure.

Source: The Serbian Business Registers Agency

Table 2 shows the statistics of initial data.

Table 2. *Statistics*

| | | Statistics | | | | | |
|------------------------------|---------|-------------------|---------------------|--------------------|--------------------|---------------------|-----------------|
| | | 1 Employee number | 2 Employee earnings | 3 Assets | 4 Capital | 5 Sales | 6 Net profit |
| N | Valid | 8 | 8 | 8 | 8 | 8 | 8 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 |
| Std. error of mean | | 7,765.75139 | 14,344.42335 | 89,632.96460 | 55,471.58315 | 139,264.95990 | 10,115.84043 |
| Median | | 207,056.0000 | 187,645.5000 | 2,350,066.5000 | 890,370.5000 | 3,091,022.0000 | 113,527.0000 |
| Std. deviation | | 21,964.86187 | 40,572.15608 | 253,520.30840 | 156,897.33040 | 393,900.79000 | 28,611.91747 |
| Variance | | 482,455,156.900 | 1,646,099,849.000 | 64,272,546,750.000 | 24,616,772,290.000 | 155,157,832,400.000 | 818,641,821.100 |
| Skewness | | -1.119 | .565 | .717 | .576 | .141 | .960 |
| Std. error of skewness | | .752 | .752 | .752 | .752 | .752 | .752 |
| Kurtosis | | 1.355 | -1.028 | -.773 | -.869 | -1.373 | .519 |
| Std. error of kurtosis | | 1.481 | 1.481 | 1.481 | 1.481 | 1.481 | 1.481 |
| Range | | 67,997.00 | 110,344.00 | 680,035.00 | 436,034.00 | 1,069,903.00 | 84,055.00 |
| Minimum | | 159,621.00 | 151,978.00 | 2,157,564.00 | 746,992.00 | 2,594,602.00 | 86,955.00 |
| Maximum | | 227,618.00 | 262,322.00 | 2,837,599.00 | 1,183,026.00 | 3,664,505.00 | 171,010.00 |
| Friedman test | | | | | | | |
| Ranks | | | | | | | |
| | | | | | | Mean rank | |
| 1 Employee number | | | | | | 2.63 | |
| 2 Employee earnings | | | | | | 2.38 | |
| 3 Assets | | | | | | 5.00 | |
| 4 Capital | | | | | | 4.00 | |
| 5 Sales | | | | | | 6.00 | |
| 6 Net profit | | | | | | 1.00 | |
| Test statistics ^a | | | | | | | |
| N | | | | | | 8 | |
| Chi-square | | | | | | 38.929 | |

| | |
|------------------|------|
| Df | 5 |
| Asymp. sig. | .000 |
| a. Friedman test | |

Note: Authors' calculation using the SPSS software program.

All the observed variables were above average in the recent period. This had a positive effect on Serbia's trade efficiency. As Asymp. sig. = 0.000 < 0.05, the hypothesis that differences between the variables (measurements) equal zero, meaning that differences between them are statistically significant.

Table 3 shows the correlation matrix of initial data.

Table 3. Correlation matrix

| | | Correlations | | | | | |
|---------------------|---------------------|--------------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 Employee number | Pearson correlation | 1 | .802* | .813* | .793* | .852** | .769* |
| | Sig. (2-tailed) | | .017 | .014 | .019 | .007 | .026 |
| | N | 8 | 8 | 8 | 8 | 8 | 8 |
| 2 Employee earnings | Pearson correlation | .802* | 1 | .997** | .999** | .961** | .975** |
| | Sig. (2-tailed) | .017 | | .000 | .000 | .000 | .000 |
| | N | 8 | 8 | 8 | 8 | 8 | 8 |
| 3 Assets | Pearson correlation | .813* | .997** | 1 | .995** | .963** | .976** |
| | Sig. (2-tailed) | .014 | .000 | | .000 | .000 | .000 |
| | N | 8 | 8 | 8 | 8 | 8 | 8 |
| 4 Capital | Pearson correlation | .793* | .999** | .995** | 1 | .956** | .979** |
| | Sig. (2-tailed) | .019 | .000 | .000 | | .000 | .000 |
| | N | 8 | 8 | 8 | 8 | 8 | 8 |
| 5 Sales | Pearson correlation | .852** | .961** | .963** | .956** | 1 | .933** |
| | Sig. (2-tailed) | .007 | .000 | .000 | .000 | | .001 |
| | N | 8 | 8 | 8 | 8 | 8 | 8 |
| 6 Net profit | Pearson correlation | .769* | .975** | .976** | .979** | .933** | 1 |
| | Sig. (2-tailed) | .026 | .000 | .000 | .000 | .001 | |
| | N | 8 | 8 | 8 | 8 | 8 | 8 |

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

Note: Authors' calculation using the SPSS software program.

The correlation matrix suggests that there is a strong positive correlation between the observed variables at the level of statistical significance.

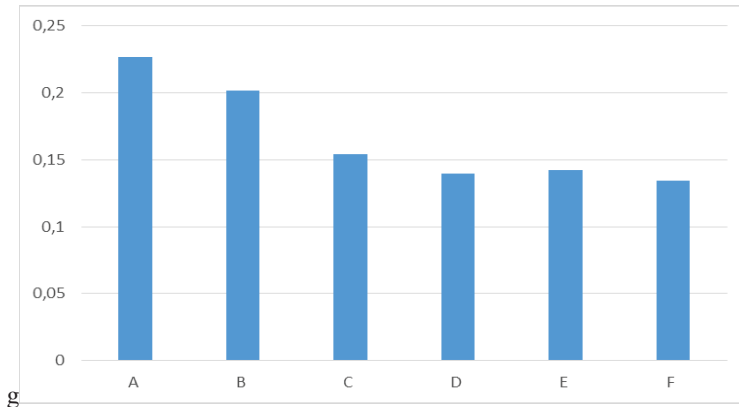
Weight coefficients are calculated using the AHP methods (Saaty, 2008). They are given in Table 4 and Graph 1. The calculations was made using the AHP Software-Excel.

Table 4. Weight coefficients of criteria

| AHP with arithmetic mean method | | | | | | | |
|---------------------------------|----------|----------|-----|---|---|---|---------------------|
| Initial comparisons matrix | | | | | | | |
| | A | B | C | D | E | F | |
| A – Employee number | 1 | 2 | 3 | 1 | 1 | 1 | |
| B – Employee earnings | 0.5 | 1 | 1 | 2 | 1 | 3 | |
| C – Assets | 0.333333 | 1 | 1 | 1 | 2 | 1 | |
| D – Capital | 1 | 0.5 | 1 | 1 | 1 | 1 | |
| E – Sales | 1 | 1 | 0.5 | 1 | 1 | 1 | |
| F – Net profit | 1 | 0.333333 | 1 | 1 | 1 | 1 | |
| Sum | 4.83333 | 5.83333 | 7.5 | 7 | 7 | 8 | |
| Normalized matrix | | | | | | | |
| | A | B | C | D | E | F | Weights of criteria |

| | | | | | | | |
|--|--------|--------|--------|--------|--------|--------|--------|
| A – Employee number | 0.2069 | 0.3429 | 0.4000 | 0.1429 | 0.1429 | 0.1250 | 0.2267 |
| B – Employee earnings | 0.1034 | 0.1714 | 0.1333 | 0.2857 | 0.1429 | 0.3750 | 0.2020 |
| C – Assets | 0.0690 | 0.1714 | 0.1333 | 0.1429 | 0.2857 | 0.1250 | 0.1545 |
| D – Capital | 0.2069 | 0.0857 | 0.1333 | 0.1429 | 0.1429 | 0.1250 | 0.1394 |
| E – Sales | 0.2069 | 0.1714 | 0.0667 | 0.1429 | 0.1429 | 0.1250 | 0.1426 |
| F – Net profit | 0.2069 | 0.0571 | 0.1333 | 0.1429 | 0.1429 | 0.1250 | 0.1347 |
| | | | | | | Sum | 1 |
| Consistency ratio 0.0762 Compare with 0.1, it should be less than 0.1. | | | | | | | |

Note: Authors’ calculations using AHP Software-Excel



Graph 1. Weight coefficients of criteria

In terms of significance of the observed criteria, the first is employee number, followed by employee earnings, assets, capital, and net profit. This means that efficient human capital management (through training, flexible hiring, appropriate rewarding system, etc.) can, above other things, significantly influence the increase of Serbia’s trade efficiency. In order to achieve the target efficiency of Serbia’s trade, it is also necessary to manage assets, capital, sales, and profit as efficiently as possible (Berman, Evans & Chatterjee, 2018; Levy, Weitz & Grewal, 2019).

Table 5 shows initial decision-making matrix.

Table 5. Initial matrix

| Initial matrix | | | | | | |
|---------------------|---------|---------|-----------|-----------|-----------|---------|
| Weights of criteria | 0.2267 | 0.202 | 0.1545 | 0.1394 | 0.1426 | 0.1347 |
| Kind of criteria | I | -I | I | I | I | I |
| | C1 | C2 | C3 | C4 | C5 | C6 |
| A1 | 193,210 | 151,978 | 2,160,474 | 746,992 | 2,891,518 | 89,730 |
| A2 | 191,621 | 154,833 | 2,157,564 | 761,305 | 2,594,602 | 86,955 |
| A3 | 159,621 | 164,718 | 2,197,931 | 805,009 | 2,731,999 | 95,265 |
| A4 | 206,092 | 180,367 | 2,324,843 | 859,749 | 3,009,651 | 105,238 |
| A5 | 208,020 | 194,924 | 2,375,290 | 920,992 | 3,172,393 | 122,727 |
| A6 | 219,373 | 218,410 | 2,524,897 | 1,007,972 | 3,361,094 | 121,816 |
| A7 | 222,049 | 238,022 | 2,682,931 | 1,073,056 | 3,608,329 | 139,409 |
| A8 | 227,618 | 262,322 | 2,837,599 | 1,183,026 | 3,664,505 | 171,010 |
| Max | 227,618 | 262,322 | 2,837,599 | 1,183,026 | 3,664,505 | 171,010 |
| Min | 159,621 | 151,978 | 2,157,564 | 746,992 | 2,594,602 | 86,955 |
| 0-optimal value | 227,618 | 151,978 | 2,837,599 | 1,183,026 | 3,664,505 | 171,010 |

Table 6 shows normalized decision-making matrix.

Table 6. *Normalized matrix*

| | | | | | | |
|---------------------|--------|--------|--------|--------|--------|--------|
| Normalized matrix | | | | | | |
| Weights of criteria | 0.2267 | 0.202 | 0.1545 | 0.1394 | 0.1426 | 0.1347 |
| Kind of criteria | 1 | -1 | 1 | 1 | 1 | 1 |
| | C1 | C2 | C3 | C4 | C5 | C6 |
| 0-optimal value | 0.1227 | 0.1344 | 0.1284 | 0.1385 | 0.1277 | 0.1550 |
| A1 | 0.1041 | 0.1344 | 0.0978 | 0.0875 | 0.1008 | 0.0813 |
| A2 | 0.1033 | 0.1319 | 0.0976 | 0.0891 | 0.0904 | 0.0788 |
| A3 | 0.0860 | 0.1240 | 0.0995 | 0.0943 | 0.0952 | 0.0864 |
| A4 | 0.1111 | 0.1133 | 0.1052 | 0.1007 | 0.1049 | 0.0954 |
| A5 | 0.1121 | 0.1048 | 0.1075 | 0.1078 | 0.1105 | 0.1113 |
| A6 | 0.1182 | 0.0935 | 0.1143 | 0.1180 | 0.1171 | 0.1104 |
| A7 | 0.1197 | 0.0858 | 0.1214 | 0.1256 | 0.1257 | 0.1264 |
| A8 | 0.1227 | 0.0779 | 0.1284 | 0.1385 | 0.1277 | 0.1550 |

Table 7 shows normalized weighted decision-making matrix.

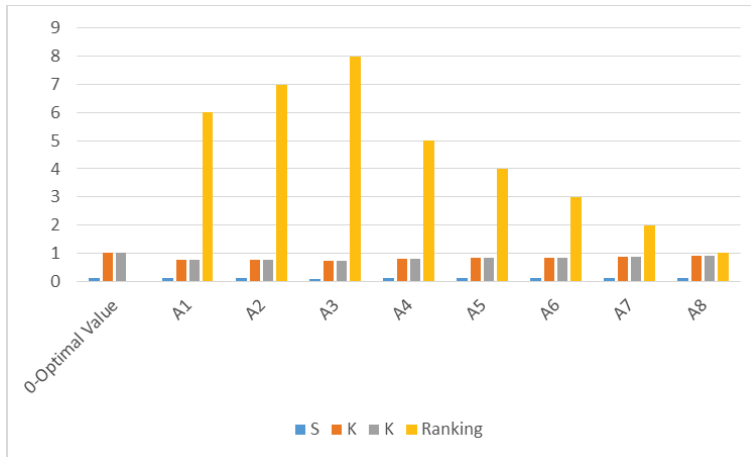
Table 7. *Normalized weighted matrix*

| | | | | | | |
|----------------------------|--------|--------|--------|--------|--------|--------|
| Normalized weighted matrix | | | | | | |
| | C1 | C2 | C3 | C4 | C5 | C6 |
| 0-optimal value | 0.0278 | 0.0271 | 0.0198 | 0.0193 | 0.0182 | 0.0209 |
| A1 | 0.0236 | 0.0271 | 0.0151 | 0.0122 | 0.0144 | 0.0110 |
| A2 | 0.0234 | 0.0266 | 0.0151 | 0.0124 | 0.0129 | 0.0106 |
| A3 | 0.0195 | 0.0250 | 0.0154 | 0.0131 | 0.0136 | 0.0116 |
| A4 | 0.0252 | 0.0229 | 0.0163 | 0.0140 | 0.0150 | 0.0128 |
| A5 | 0.0254 | 0.0212 | 0.0166 | 0.0150 | 0.0158 | 0.0150 |
| A6 | 0.0268 | 0.0189 | 0.0177 | 0.0165 | 0.0167 | 0.0149 |
| A7 | 0.0271 | 0.0173 | 0.0188 | 0.0175 | 0.0179 | 0.0170 |
| A8 | 0.0278 | 0.0157 | 0.0198 | 0.0193 | 0.0182 | 0.0209 |

Table 8 and Graph 2 show ranking alternatives.

Table 8. *Ranking alternatives*

| | | | | | |
|------|-----------------|--------|--------|--------|---------|
| | | S | K | K | Ranking |
| | 0-optimal value | 0.1332 | 1.0000 | 1.0000 | |
| 2013 | A1 | 0.1034 | 0.7761 | 0.7761 | 6 |
| 2014 | A2 | 0.1011 | 0.7589 | 0.7589 | 7 |
| 2015 | A3 | 0.0983 | 0.7377 | 0.7377 | 8 |
| 2016 | A4 | 0.1062 | 0.7969 | 0.7969 | 5 |
| 2017 | A5 | 0.1090 | 0.8181 | 0.8181 | 4 |
| 2018 | A6 | 0.1114 | 0.8362 | 0.8362 | 3 |
| 2019 | A7 | 0.1157 | 0.8686 | 0.8686 | 2 |
| 2020 | A8 | 0.1218 | 0.9143 | 0.9143 | 1 |



Graph 2. Ranking alternatives

Based on the obtained results of the empirical research into trade efficiency in Serbia using the ARAS method, it can be stated that the trade was the best in the year 2020. This year is then followed by 2019, 2018, 2017, 2016, 2013, 2014, and 2015. A direct negative effect of COVID-19 on trade efficiency in Serbia is negligible and largely mitigated by online sales. Namely, as *people* around the world have been blocked from leaving their homes due to the pandemic, they generally no longer needed luxury goods, while their demand for office as well as sports equipment, online education, online shopping and delivery, *etc.*, has increased (Kozarevic, S. & Kozarevic, E., 2020).

As the results of the empirical research using the ARAS method show, trade efficiency in Serbia has lately increased at a constant pace. That is the result of a positive impact of numerous macro and micro factors such as: economic climate, living standard, employment, inflow of foreign direct investment (global retail chains), digitalization of the entire business, and contemporary business management concepts.

5. Concluding remarks

When it comes to significance of the observed criteria, employee number is placed first. It is then followed by employee earnings, assets, capital, and net profit. This means that efficient human capital management can be used to significantly influence the increase of Serbia’s trade efficiency.

Based on the obtained results of the empirical research into trade efficiency in Serbia using the ARAS method, it can be stated that the year 2020 was the best. It is then followed by the years: 2019, 2018, 2017, 2016, 2013, 2014, and then 2015. Bearing in mind the nature of business, it is interesting that there was no significantly negative effect of COVID-19 on Serbia’s trade efficiency. As it stated, this negative effect is largely mitigated by increased online sales.

Generally speaking, trade efficiency in Serbia has been continuously increasing lately. This was positively influenced by numerous factors, such as: economic climate, living standard, employment, inflow of foreign direct investment (global retail chains), digitalization of the entire business, online sales, contemporary business management concepts, *etc.* Their efficient control can significantly affect improvement of trade efficiency in Serbia. In order to achieve the target efficiency of Serbia’s trade in the future, it is necessary to manage human capital, assets, financial capital, sales, and profit as efficiently as possible.

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**BANK AND SYSTEM-WIDE NPL RESOLUTION STRATEGIES:
THEORETICAL AND PRACTICAL INSIGHTS****STRATEGIJE RJEŠAVANJA NPL-A U BANKAMA I SISTEMU:
TEORIJSKI I PRAKTIČNI UVIDI****Abstract**

Non-performing loans (NPLs) are as old as banks, they bring a certain degree of risk of loss on bank loans, often noticeably increasing in times of crises. Research conducted worldwide has mostly confirmed negative relationship between NPLs and economic growth. Bearing in mind the global financial crisis as well as the ongoing crisis caused by the COVID-19 pandemic, the main goal of this article is to present a brief theoretical insight into policy instruments, both debtor-focused and bank-focused, in resolving NPL issues, including a review of country/region-specific experiences regarding resolving these issues.

Keywords: banking sector, non-performing loans, resolution strategies, policy instruments

JEL: G21, G01

Sažetak

Neperformansni zajmovi (NPL) su stari koliko i same banke, podrazumijevaju određeni stepen rizika gubitka na bankarskim zajmovima i često primijetno rastu u vrijeme kriza. Istraživanja provedena širom svijeta uglavnom su povrdila negativnu vezu između NPL-a i ekonomskog rasta. Imajući u vidu globalnu finansijsku krizu i trenutnu krizu uzrokovanu pandemijom COVID-19, glavni cilj ovog rada je da obezbijedi sažet teorijski uvid u instrumente politike, i one fokusirane na dužnike i one fokusirane na banke, kod rješavanja pitanja NPL-a, uključujući pregled iskustava na nivou zemalja/regiona u pogledu rješavanja ovih pitanja.

Ključne riječi: bankarski sektor, neperformansni zajmovi, strategije rješavanja, instrumenti politike

JEL: G21, G01

1. Introductory considerations

Despite all the precautions most lenders foresee in their loan programs, some loans become problematic or non-performing loans (NPLs). As a rule, this means that lender missed making one or more payments or the value of loan collateral significantly reduced. Often such problems appear due to overemphasizing loan quantity instead its quality (Rose & Hudgins, 2010, p. 537). Resolving complications with loans not being serviced by the repayment plan is a constant process in banks. Although banks try to avoid them by prevention activities and serious credit analysis of borrowers, loan losses are an integral part of banking business. Under normal market conditions, the level of debtor-late-in-paying loans is within reasonable limits, according to Fung *et al.* (2004) below 5%, which keeps their potentially harmful consequences under control, from the point of view of an

individual bank and the entire banking sector. Contrary to occasional NPLs under regular circumstances, there is a systemic escalation during strong economic and financial disturbances (Lukić & Popović, 2020, p. 55). Since the global financial crisis and subsequent recession, banks worldwide have struggled with high levels of NPLs. The GlobalEconomy.com regularly publishes data on NPL by country, as well as region, using the World Bank as a source. For example, when it comes to Europe, the problem with high NPL levels is particularly evident in Cyprus, Greece, Portugal, Ireland, Italy, and some countries of Central and Eastern Europe (*e.g.*, Bulgaria, Croatia, Romania, and Slovenia). NPLs across the euro area peaked at 8% of total loans in 2013 and have fallen only gradually in some countries since then (KPMG, 2018). Despite significant efforts made by the Middle East and North Africa (MENA) countries to improve the banking sector and risk management instruments over the last few decades, the region incurred an NPL to gross loans ratio of 4.6%, which was higher than the average calculated for the world as a whole, 4.1%, but lower than South Asia, 7.8%, in 2014 (Sharma, 2016). NPLs decrease banks' capital and their profitability, and require additional time for management and attention needed for reducing NPL level, the time taken from banks' main activities. Also, they can put bank's survival on the market at risk. Hence, banks have strong reasons to actively get rid of NPLs, for higher profitability, better capitalization, higher rating, better allocation of internal resources, *etc.* There are also reasons why banks are still slow at resolving NPLs. If their level is systematically threatening, as it negatively reflects on macroeconomic aggregates, the state engages in the solving process. Interstate institutions also take an active role in resolving NPLs, so as to reduce the risk of the crisis spilling over to states (Popović, 2014, p. 61). For example, the International Financial Corporation (IFC), a member of the World Bank Group, has joined forces with Omni Bridgeway, a leading specialist in resolving NPLs and legal disputes, to create IFC's first NPL resolution platform in the MENA, helping financial institutions unlock their capital and encouraging new lending (*e.g.*, in 2018 they jointly made available USD 100 million to establish a new investment vehicle managed by Omni Bridgeway' regional expertise center in Dubai).

2. A review of previous research

Although extensive literature about the determinants of NPLs exists, "there is still scarcity regarding to the research that explains the differences of each resolution method and management technique of NPLs" (Anastasiou, 2016, p. 3). According to Anastasiou (2016, pp. 5-15), NPL management involves:

- Ex ante NPL management,
- Regulatory forbearance and bank resolution, and
- Ex post NPL management.

In the euro area case, the authors suggested that main ex ante measures that can effectively help banks to overcome the NPL problem are the following: (a) tightening bank supervision and strengthening capital requirements (*e.g.*, existing more collateral valuation and a more conservative provisioning will encourage banks to deal with NPLs quickly), (b) structural reforms (*e.g.*, court procedures should be shortened and out-of-court arrangements highly encouraged), and (c) developing internal NPL management skills (*e.g.*, developing inclusive management plans for NPLs by banks). On the other hand, ex post NPL measures implemented in the euro area since the global financial crisis outbreak are the following: (a) bad banks (their role is to take over the impaired loans/assets and relieve private banks), (b) system-wide bad banks (to these banks, banks with problematic loans which are under restructuring transfer their non-performing assets), (c) system-wide aid free mechanisms (mechanisms in which state aid is not involved), and (d) asset protection schemes (schemes that have the ability, through an insurance mechanism, to cover the losses until we have favourable market conditions again).

When it comes to NPL resolution methods, Anastasiou (2016, p. 15-17) presented the most popular as follows:

- Debt-for-equity-swap,
- Direct sales to investors, and
- Securitization.

Furthermore, in 2018 the European Central Bank (ECB) (2017) launched “Guidance to banks on non-performing loans”, including “Addendum to the ECB Guidance to banks on non-performing loans: supervisory expectations for prudential provisioning of non-performing exposures”, as a part of the strategy to tackle the NPL problem in Europe. It provides a helpful and constructive starting point for developing NPL strategy, NPL governance and operations, forbearance, NPL recognition, NPL impairment measurement and write-offs, and collateral valuation for immovable property. While the Guidance clarifies supervisory expectations regarding the identification, management, measurement, and write-off of NPLs in the existing regulations, directives, and guidelines, the Addendum supplements the Guidance by specifying the ECB’s supervisory expectations when assessing a bank’s levels of prudential provisions for non-performing exposures. Investigating resolution strategies for NPLs from a post-crisis European perspective, Louri (2017, p. 163) identified two ways both of which should be complemented by appropriate reforms in the legal framework facilitating debt enforcement - (a) the banks enhancing their efforts to manage NPLs on their own through internal NPL workout and external servicing, and (b) the banks transferring impaired assets to a third party, such as outright sales to investors, or to a special purpose securitization vehicle or to an asset management company (AMC). Further, Kalfaoglou (2018, pp. 173-185) emphasized two approaches related to NPL resolution - (a) the “off-balance sheet” approach, where a “bad bank” is created which aggregates all NPLs and tries to manage them effectively; and (b) the “on-balance sheet” approach where NPLs are managed by an internal work-out unit or a special purpose subsidiary. The solution, in terms of right balance between approaches, depends on the economic and political environment, the institutional framework, as well as the intensity of the problem. Management of NPLs, in particular the resolution methods, in different regions/countries was investigated in numerous articles, for example in Eastern Europe by Matoušek and Sergi (2005), China by Peiser and Wang (2002), Korea and Japan by Lee (2002), Bangladesh (2019) by Amin, Imam and Malik, India by Kumar (2020-21), Mongolia by Luvsannyam, Minjuur, Lkhagvadorj and Bekhbat (2021), etc.

3. Theoretical basis of investigation

According to Baudino and Yun (October 2017, p. 11), the members of the Financial Stability Institute, which was founded by the Bank for International Settlements and the Basel Committee on Banking Supervision in 1998, policy instruments to resolve NPLs can be classified into two broad groups - debtor-focused and bank-focused, as presented in Table 1.

Table 1. Policy instruments to resolve NPLs

| Policy instruments | Solution(s) | Description |
|--------------------|---|--|
| Debtor-focused | Debt restructuring, including out-of-court workouts | Either corporate or loan restructuring, involving the banks that are creditors to the same customer (to a non-financial company, in this case) |
| Bank-focused | Write-off* | Loans are written off from banks’ balance sheets |
| | Direct sale | Banks or AMCs sell NPLs in dedicated markets |
| | Securitisation | Banks, special purpose vehicles or AMCs pool and tranche loans and sell the securitised products in dedicated markets |
| | Asset protection schemes | State-backed entities offer insurance on loss on NPLs in order to restart banks’ provision |
| | Centralised AMC | Dedicated companies buy bad assets from the problem bank(s) |

* It could be observed as both groups’ instrument.

Source: Adapted from (Baudino & Yun, p. 11)

While debtor-focused resolution instruments represent debt restructuring, including out-of-court workouts, bank-focused resolution instruments involve a set of policy instruments applicable to banks and authorities can promote their usage. In this respect, the research based on transaction cost theory/economics (Rottke & Gentgen, 2008, pp. 75-76) suggested that for NPLs with collaterals of high asset and site specificity, own workout management is recommended, whereas for NPLs with collaterals of low asset and site specificity, a market solution is recommended via disposal of the distressed loans to an investor (“sell”) or outsourcing to an external third-party workout manager (“buy”). In principle, measures focused to NPL resolution such as restructuring should start from within the banking sector. Regulators need to push banks towards early recognition of NPLs. It will also promote the development of secondary loan markets (for example, the higher the sale price for NPLs, be it via outright market sale or via a bank merger, the lower the eventual capital loss incurred by the originating bank). Moreover, a strong and well-developed secondary loan market contributes to the stability of the banking sector, as well as the economy of the country/region (Kasinger *et al.*, 2021, pp. 27-28).

3.1. NPL resolution strategies on bank level (debtor-focused policy instruments)

According to the credit monitoring and restructuring department of a bank, the worst possible option for debtors is to refuse cooperation with a bank when they are late with payments and to fail to make contact with a bank. This only speeds up court procedures and foreclosure. The best option is the cooperation with loan officer to find ways to pay the remaining debt, by means of extending payment period, lowering interest rate, lowering debt amount, taking a more quality collateral from debtor, *etc.* NPL Guidance, for example, contains a list of most common forbearance measures, both short-term and long-term (see ECB, 2017, pp. 42-43). The credit monitoring and restructuring department aims to take all the necessary activities to collect NPL payment, primarily fully due accounts receivable, taking into consideration that collection cost does not surpass the debt. In order to do so, certain unified measures are implemented throughout the collection procedure, which, as a rule, are tax deductible expenses. Collection of NPLs is implemented as

- Out-of-court and/or
- Judicial recovery.

3.1.1. Strategies of out-of-court NPL collection

Activities of out-of-court collection of NPLs include: constant contact with clients (face to face and phone conversations), written notices of client debts, letters of notices for collection, tasks of blocking and unblocking accounts, collateral instruments, assessment of collateral adequacy, draft contract on debt payment, settlement, protocol, contract on cession, compensation, *etc.* However, out-of-court collection does not include only types of communication aimed at debt collection. It is a process each bank creates in its own way and it includes the collection as well as the entire procedure that a loan officer follows with every debtor, until the case (loan file) is transferred. First, a loan officer sends formal notices in line with the set procedures, defined by bank’s internal documents. A loan officer may also communicate to the authorities (ministries of the interior, the jurisdiction, *etc.*) so as to obtain official records data such as residence certificate, employment records, real-estate ownership, *etc.* He/she can communicate with other banks and check the balance on the accounts at other banks, when access is given to the central account of a debtor (the common practice now includes giving the written consent for such an access prior to the approval of placement). Based on the documents delivered and the obtained data on the debtor from the loan register, transaction accounts register, court register, *etc.* the assessment of bank’s position in the collection process is assessed. During or after the stage of sending formal notices to a debtor, a bank employee may, provided that there is mutual interest, start negotiating with a debtor on potential changes in payment in the existing loan contract. Depend on the agreement with a debtor, bank approves the change of some of the loan contract, after which an annex to the contract is made. If a

debtor still fails to fulfil the contractual obligations and does not make payments, a bank employee may cancel the loan contract. However, in respect of debtor's specific circumstances and financial status, loan officer may still reach an agreement with debtor on the amount and means of payment of receivables. While trying to find the way for the debt to be paid, loan officer and debtor should find the optimal solution and overcome the problems that emerged. For example, mutual business cooperation may be suggested with bank's solvent clients, such as providing certain services, renting or selling business premises and equipment, *etc.* If a debtor still has no intention of paying the debt, the bank employee carries the activities in order to realize collaterals, depending on the given contract type of collateral. The bank employee delivers the documents on due receivables to the legal department, if out-of-court collection was not successful.

3.1.2. Strategies of court NPL collection

If the department of restructured placements within a given deadline (90 days for example) from the period of document submission denies potential restructure, debtor is then sent a pre-suit notice letter. If the delivery of such letter is not successful, the department tries to find debtor's new address and transfers the document to the legal department. Such process requires permanent cooperation among the departments relative to court proceedings (civil procedure or enforcement). When a file is transferred to the legal department, it usually includes the report with the chronology of all the activities undertaken by the department of restructured placements. Prior to initiating the court procedure, the department of restructured placements declares the loan fully matured and the lawsuit does not cover late payment but the entire debt amount with regular and default interest. The legal department needs within a given deadline (30 days for example) to initiate court collection, if the documents are delivered from the loan file, necessary for initiating court procedures. In every individual case, given the collateral and the legal position of bank relative to debtor, the legal department decided on the most effective court procedure against debtor. During court proceedings, activities are taken and possibilities are evaluated for court or out-of-court settlements. Proposals for court or out-of-court settlements are made by the legal department and the department of restructured placements. Depending on loan type and collateral, bank may start out-of-court or court settlement (usually by filing the enforcement of execution based on mortgage or the lien on movables). Out-of-court settlement is usually initiated for housing loans, whereby bank can sell the real-estate it financed. Bank's only obligation in such a case is to announce the sale prior to the auction. That is why out-of-court settlement is initiated earlier than court proceedings so that bank can claim settlement no later than 180 days after the debt was registered. If a mortgaged real-estate is sold, bank has to claim settlement from the auctioned price and return the remaining amount to debtor or other creditors. However, bearing in mind the days of debtor being late on payment and default interest billed, the selling price often covers only bank's claim.

With other types of loan, depending on contractual clauses, some other activities may be taken without court proceedings, although it is the most frequent way of settling claims. Urgent measures then taken include:

- Blocking all accounts client has at a bank;
- Taking client's deposit, if available, or client's other positive accounts;
- Making a bill effective (issuing promissory note and filing the claim against the promissory note) and guaranteeing the payment from regular monthly income;
- Foreclosing movable and immovable property (depending on the amount of bank's claim).

Also, court NPL collection may be initiated by filing a lawsuit to start the proceedings and submitting a motion for debtor declaring bankruptcy or being liquidated. While taking court collection of NPLs, bank's legal department carries: executive proceedings, litigation, criminal proceedings, inheritance, and bankruptcy and/or liquidation proceedings. In this respect, effective insolvency regime can play a positive role in facilitating NPL resolution - insolvency regime

provides a range of tools facilitating nonfinancial corporations (or debtors) restructuring and liquidation with the overall objective of maximizing creditor recovery and allocating risk among stakeholders in a predictable, equitable, and transparent manner (World Bank Group, 2021, p. 9).

3.1.3. NPL write-off

When all the options and out-of-court and court settlements are exhausted, bank has only one option – to write off loan. Write-off may be complete and partial (write-down). Banks will opt for write down, which usually means the write-off of default interest. Write-off implies the payment of principal related liabilities and a part of interest-related liabilities (regular or interest earned and suspended or off-balance sheet interest). However, write-off can also refer to the main debt plus accrued interest but only if there are valid reasons a bank can document. Hence, prior to the decision on write-off, loan officer needs to identify one or more reasons pointing to the fact that payment would be unsuccessful, economically unfounded, and legally impossible. Every individual case needs careful assessment and should establish all the facts important for the final evaluation if the claim is appropriate for write-off and if write-off is tax deductible. The reasons for NPL write-off are various. One of the most justifiable reasons for bank to give up its claim is the inefficiency of court collection. This happens when debtor does not pay the debt after the call for default payment and notices and after other activities of out-of-court collection were made, while further payment is not realistic due to legal expenses, in view of the amount of claim. It is understandable that bank would write off claims when out-of-court collection was not efficient and when it is informed by the authorities that the debtor is not employed and has no property to be foreclosed. Also, a court order may suspend executive proceedings after it is established that debtor has no property to be foreclosed, property auctioning is unsuccessful and/or debtor address is not known. In addition, the claim registered in bankruptcy estate is paid following the decision of the bankruptcy council on bankruptcy estate division and if debtor has not property, bankruptcy proceedings is initiated and finalized immediately. Other reasons why banks may write off debt are: claim from the deceased debtor (insignificant amounts), debtor disputes payment and bank has no appropriate documents to prove it, claim limitation period is over (if property is evidenced for foreclosure prior to write-off, bank may decide for court collection as court does not implement limitation ex officio but at debtor's suggestion), *etc.* Write-off can also be bank's business decision but then it is not tax deductible unless it can be based on one of the above given reasons. The proposal for write-off, regardless of which bank department prepares it, needs to be unified and include some of the basic data, such as: description of debtor and its activities, activities during out-of-court and court collection, main reasons for write-off, list of receivables to be written off (principal, interest, default interest, fees, *etc.*), information on whether write-off burdens bank's income, whether the claim written-off is tax deductible expense, and information on person(s) that approved the claim proposed for write-off. International experience regarding NPL write-off differs. In the EU countries, the European Banking Authority (EBA) as regulator does not specify rules for writing off NPLs beyond the International Financial Reporting Standard 9 – Financial Instruments (IFRS 9). IFRS 9, Article 5.4.4 (IASB, 2014, p. 12) requires write-off “when the entity has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof.” Under the US regulation, the loan should be written off within the same month that is placed in loss category; the loan is classified as loss when its collectability is questionable. Similarly, based on the Bank for International Settlements survey, two out of 11 countries in Asia and six out of 10 in the Latin America and Caribbean region set a requirement for mandatory NPLs write-off when the loan is classified in loss category and is considered unrecoverable. Some African countries such as Uganda and Kenya require the write-off of loans classified as loss within 90 and 180 days, respectively, since the date of classification (Bauze, 2019, pp. 4-6).

3.2. System-wide NPL resolution strategies (bank-focused policy instruments)

All bank-focused policy instruments except asset protection schemes can be activated by banks themselves; however, authorities can at times apply these instruments directly (*e.g.*, public AMCs) or encourage banks to apply them. For example, AMCs have been used extensively in NPL resolution, set up in various ways according to countries' needs. AMCs are companies to which the problem banks can transfer their bad assets. AMCs can be privately or publicly owned, centralized or bank-specific, and the scope of banking assets to be treated under AMCs varies (Baudino & Yun, 2017, p. 20). The study conducted by Balgova, Nies and Plekhanov (2016, pp. 21-29) suggested that countries that adopted targeted measures for the active NPL reduction (including encouraging the move of NPLs into AMCs, facilitating the restructuring of NPLs, and reforming insolvency laws) achieved more economic growth than countries that failed to take any action to reduce their stock of NPLs. The differences revealed were as much as a three to four percentage point increase in GDP growth, as well as an at least 13 percentage point increase in investment growth. In this respect, the fourth section of the paper gives a practical insight into the NPL strategies of selected countries or world regions.

4. Practical insight into the NPL strategies

Table 2 contains some examples of the policy instruments to resolve NPLs across countries.

Table 2. *Main NPL resolution instruments in selected jurisdictions*

| | Period (crisis episode) | Debt restructuring and out-of-court workouts | Write-offs | Direct sale | Securitization | Asset protection scheme | AMCs |
|----------|---------------------------|--|------------|-------------|----------------|-------------------------|------|
| USA | S&L crisis of the 1980s | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | Global financial crisis | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Sweden | Nordic crisis of 1992 | | ✓ | ✓ | | | ✓ |
| UK | Global financial crisis | | ✓ | ✓ | | ✓ | ✓ |
| Ireland | Global financial crisis | | ✓ | ✓ | | | ✓ |
| Italy | Global financial crisis | | ✓ | ✓ | ✓ | | |
| Spain | Global financial crisis | | ✓ | ✓ | | | ✓ |
| Japan | Japan crisis of the 1990s | ✓ | ✓ | | ✓ | | ✓ |
| Korea | Asian crisis in 1997 | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Malaysia | Asian crisis in 1997 | ✓ | ✓ | | ✓ | | ✓ |

Source: Adapted from (Baudino & Yun, p. 23)

4.1. European resolution form for NPLs

Although elevated NPL ratios are not a new phenomenon in EU member states, the global financial crisis was followed by a notable increase in NPLs in a number of countries. Patterns of NPL developments have nonetheless varied significantly across the member states, reflecting different problems and cycles in national banking sectors. Moreover, the member states have to different degrees proactively addressed the emerging NPL problems through policy measures, including legislative reforms, which also partly explains different developments across countries (Berti, Engelen & Vasicek, 2017, p. 9). Resolving the issue of NPLs has generally been slow in Europe,

and slowest where it should be fastest - in countries where the rate of these loans is the highest. NPLs are usually concentrated in the corporate sector, most notably among SMEs, which contribute almost two-thirds of Europe's output and employment, and tend to be more reliant on bank financing than large firms (Aiyar et al., 2015, p. 6). Aiyar *et al.* (2015, pp. 16-25), the authors of the first specialized study of post-crisis NPLs in Europe prepared by the International Monetary Fund, identified several non-financial factors that have caused the issue of NPL to grow into a chronic perennial problem. They are classified into the following five categories:

- 1) Prudential supervision,
- 2) Legal obstacles,
- 3) Distressed debt markets,
- 4) Informational obstacles, and
- 5) Tax and other obstacles.

A comprehensive strategy, which is most effective in resolving NPLs (Hagan, Kalter & Weeks-Brown, 2003; Liu & Rosenberg, 2013), should include three crucial elements (Aiyar *et al.*, 2015, p. 25):

- Tightened supervisory policies,
- Insolvency reforms, and
- Development of a distressed debt market.

4.1.1. NPL resolution in Ireland, Spain and Slovenia

The key role in first implemented resolutions for NPLs in European countries endangered by the global financial crisis was given to AMC or “system-wide bad banks”. The National Asset Management Agency (NAMA) was the first AMC in Europe, founded by the Ireland government in 2009, aimed at taking over NPLs into commercial real-estate from six banks that had previously received capital injection from the state (Lukić, Popović, 2020, p. 65). NAMA created special purpose vehicles controlled by NAMA but with the majority of the shares (51%) held by private investors, so NAMA's ownership is a private/public hybrid. NAMA's objectives are, among others, acquiring impaired assets from financial institutions and dealing expeditiously with the assets. NAMA acquired EUR 31.8 billion of NPLs from the banks (Baudino, Yun, 2017, p. 21), with the discount of 58% (Lukić, Popović, 2020, p. 66). In November 2012, Spain founded the *Sociedad de Gestión de Activos Procedentes de la Reestructuración Bancaria* (SAREB), also known as Spain “bad bank”, to consolidate the sector of savings banks and smaller banks that became insolvent after the real-estate market crashed. In order to finance SAREB, Spain used EUR 40 billion from the Eurozone program for the financial sector. SAREB has a dual purpose – it is a mechanism for disposing off bad assets and the means for managing the banking sector restructure (Lukić, Popović, 2020, pp. 65- 66). The majority of the shares, 55%, are privately owned, while 45% are owned by the public Fund for Olderly Bank Restructuring (FROB), which was established in 2009 to manage the restructuring and resolution of credit institutions. SAREB's mandate is to acquire and dispose of the assets that are transferred by credit institutions. SAREB acquired EUR 106 billion of NPLs from the banks (Baudino, Yun, 2017, p. 21), with the discount of 52% (Lukić, Popović, 2020, p. 66). The projected lifespan of NAMA was 11 years and of SAREB 15 years, which supports the fact that resolving NPLs is a long-term process. In fact, Scardovi (2016, p. 19) noted that “national institutions may be too slow in reacting at the evolution of possible problems...; therefore preventing the intervention of the government if not in cases of extreme severity, as the notable Irish and Spanish examples... In any case, it is worth to remember how ‘bad bank’ is really a misnomer... It is actually safer to comment that there are in fact no such things as bad or good banks, but just bad or good ‘bankers’ and ‘banking’”. The Slovenian Bank Assets Management Company (BAMC), *Družba za upravljanje terjatev bank* (DUTB), majority owned by the state, was founded in March 2013. It acquired the assets of four problematic banks (NLB, Nova KBM,

Abanka, and Banka Celje) worth almost EUR 5 billion, with the discount of 71% (Lukić, Popović, 2020, p. 66).

4.1.2. NPLs resolution in Nordic countries

Nordic crises are characterized by a strong credit boom emerging as a consequence of deregulation in the banking sector during mid 1980s which eliminated quantitative limitations to loans. Credit boom, as many other similar processes, had many wrong decisions that started manifesting in the medium-term (Lukić, Popović, 2020, p. 58). The main aim of crisis management and resolution is to keep to a minimum the short- and long-term costs (*i.e.*, net present value) of lost output. A broad consensus exists on three principles of crisis management that are conducive to this goal. This consensus is based on lessons drawn from the handling of financial crises in both industrial and emerging markets over years. The principles relate to (a) early recognition and intervention, (b) comprehensive and in-depth intervention, and (c) balancing systemic costs with moral hazard (Borio, Vale & von Peter, 2010, pp. 2-3). During the Nordic crisis, credit losses were resolved comprehensively. Additional allowances of problematic claims made for recapitalization of the banking sector and the mechanisms were made for efficient management over bas assets. Public funds mobilized by AMCs in Finland and Sweden were 6.6% and 1.8% of GDP, respectively (Lukić, Popović, 2020, p. 60). The specificity of the Nordic crisis lies in the fact that credit losses, resulting from the correction of net amount of NPLs, erased banks' share capital, which made them insolvent. That is why the majority ownership was taken by the state, which facilitated the transfer of bad assets to AMCs. The Swedish model is seen as a specific resolution. It assumes that creditor takes possession of the pledged assets and uses them freely so as to maximize their value. A successful example of such an approach is Securum, the AMC founded in 1992 in order to restructure the largest Swedish bank Nordbanken. Securum divided the real-estate it operated into four regional companies for managing commercial real-estate. The most promising company Fastighets AB Norrporten made an initial stock offering on Stockholm stock market in 1994, and the last state stocks (owned by Securum) were sold in 1996. The amount collected for selling stocks of these companies was significantly higher than the amount Securum could earn from simply selling the acquired real-estate (Lukić, Popović, 2020, p. 61).

4.2. International Financial Reporting Standard 9

The IFRS 9 was issued by International Accounting Standards Board (IASB) in July 2014 and it replaced the *International Accounting Standard IAS 39* (Financial Instruments – Recognition and Measurement) from January 2018. As it is known, International Accounting Standards are accounting standards, or rules, introduced in order to achieve transparency and uniformity of financial statements of any economic entity, regardless of the activity, as well as country, in which it operates. IFRS 9 changed the principles of classification and measurement of financial assets. In order to be compliant with new financial products and services, banks therefore changed the business model in managing financial products and services in the context of risk management and the new accounting principles in measuring of fair value of financial assets (Ercegovic, 2018, p. 59). The aim of this standard is to establish principles for financial reporting of financial assets and financial liabilities that will provide relevant and useful information to users of financial statements for their assessment of amount, timing, and uncertainty of the entity's future cash flows. IFRS 9 specifies how to classify and measure financial assets and financial liabilities for accounting purposes. It introduces a new financial asset classification model that focuses more on the risk management and purpose of the entity/financial institution than the previous requirements of IAS 39. Financial assets are classified based on the characteristics of contracted cash flows and business models. IFRS 9 requires earlier recognition of impairment and an estimate of expected credit losses for a wider range of assets. IFRS 9 represents an improvement over IAS 39 in the area of

accounting for financial instruments of the bank. IFRS 9 will improve the accounting recognition of provisions for credit losses by including a wider range of credit risk information. The application of IFRS 9 will contribute, among others, to greater financial stability.

4.3. How is coronavirus pandemic affecting NPLs?

The data for the first half of 2020 revealed a halt in the downward trend in NPLs driven mainly by reduced NPL sales and banks' restructuring activities, as well as new defaults. As a result, the NPL ratio, covering all EU banks, has unfortunately started to rise again. At the end of Q2 2020, the NPL ratio for all EU banks was 2.8% (+0.2 p.p. compared to Q4 in 2019). Due to the coronavirus pandemic, households and businesses in the EU, especially SMEs, have encountered financial problems. In practice, this means that they experience, or are likely to experience, difficulties in the repayment of their loans. Depending on how the crisis evolves, the number of NPLs might be on the rise in the coming months. This may prevent banks from continuing to lend to households and businesses, which in turn would lead to a delay in the EU's economic recovery, creating a tangible and lasting effect on the real economy (European Commission, 2020).

5. Concluding remarks

The study found that, while under normal market condition the level of NPLs in banking stays at a reasonable level (e.g., below 5%), during the episodes of financial/economic disturbances it can come to a systemic escalation of NPLs. In resolving the NPL issue, both debtor-focused and bank-focused policy instruments could be used. Debtor-focused resolution instruments refer to debt restructuring, including out-of-courts workouts, as well as write-offs, whereas bank-focused resolution instruments involve instruments such as direct sale, securitization, asset protection schemes, centralized AMC, as well as write-offs. While debt restructuring follows standard procedures handled internally within banks, the usage of bank-focused instruments is much more diverse, considering different countries/regions during the certain episodes such as global financial crises. We also see increased use of "bad bank"/AMC mechanisms. Even though IFRS 9 will improve (or has improved) the accounting recognition of provisions for loan losses by including a wider range of credit risk information, special issue posed by the ongoing coronavirus COVID-19 pandemic crisis will impact on NPL level, especially because many SMEs' credit worthiness has deteriorated due to subsequent lockdown recession. Further issues of the researchers' interest are related to the development of early warning mechanisms, "manipulations" with NPLs, collateral valuation criteria such as those by TEGoVA, as well as IFRS 13 – Fair Value Measurement. A special issue refers to the challenges for regulatory authorities raised due to the pandemic.

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TRENDS IN FINANCING PUBLIC INVESTMENT OF LOCAL GOVERNMENT UNITS

TRENDОВИ ФИНАНСИРАЊА ЈАВНИХ ИНВЕСТИЦИЈА ЈЕДИНИЦА ЛОКАЛНЕ САМОУПРАВЕ

Abstract

In every country due to fiscal decentralization, revenue sources for local government units vary. Therefore, the goal of local government is to create an efficient business environment by increasing domestic and foreign investment, employment, and quality of life. Local government units play an important role in providing of public services and goods to citizens. Unfortunately, they have less revenue and expenditure autonomy than regional government. Therefore, the aim of this paper is to present the trends and the level of financing of public investment by local government. The results of the analysis show that there are significant differences in the trends and levels of local government public investment across countries. Moreover, this analysis could serve as a basic tool for improving the economic, social or environmental development of local government units.

Keywords: public investment, expenditures, local government

JEL: H11, H70, H72

Sažetak

U svakoj zemlji, izvori prihoda unutar jedinica lokalne samouprave različito se prikupljaju zbog fiskalne decentralizacije. Stoga, cilj jedinica lokalne samouprave je stvoriti učinkovito poslovno okruženje povećavajući domaće i strane investicije, zaposlenost i kvalitetu života. Jedinice lokalne samouprave igraju važnu ulogu u osiguravanju javnih usluga i dobara svojim građanima. Nažalost, u odnosu na jedinice regionalne samouprave ostvaruju manje prihoda i imaju manju autonomiju rashoda. Cilj ovog rada je prikazati trendove i razinu financiranja javnih investicija lokalne samouprave. Rezultati analize pokazali su da postoji značajna razlika u trendovima financiranja i razini javnih investicija lokalne samouprave među zemljama. Povrh toga, analiza može služiti kao osnovni instrument za poboljšanje ekonomskog, društvenog i ekološkog razvoja jedinica lokalne samouprave.

Ključne riječi: javne investicije, rashodi, lokalna vlast

JEL: H11, H70, H72

1. Introduction

The level of public investment has declined significantly in Europe and beyond after the financial crisis. Nowadays, the situation is even worse due to COVID-19 pandemic. In accordance with economic theory, investment as a factor of production increases output and also affects the growth rate. According to Solow model (1956), the higher the investment rate, the higher the level of output. Focusing on public investment theory, the effect is positive in most cases and depends on the extent to which it crowds out or displaces private investment (Aschauer, 1989). Similarly, Abiad *et al.* (2015) found that public investment increases output and crowds out private investment, and that the positive effect is more pronounced when there is slack in the economy and accommodative

monetary policy, and the efficiency of public investment is high. Despite the positive effect, public investment as a share of gross domestic product (GDP) declined slightly in OECD countries from the early 1980s to the late 2000s (Sutherland *et al.*, 2009, p. 9). One of the reasons for this decline was a general decrease in investment in hard infrastructure due to the ownership of well-developed infrastructure and a shift in type of investment to more intangible investments, such as the purchase of software or training. Fournier (2016) found that the share of public investment in total government increases when large growth gains are made, especially in public investments such as health and research and development. On the other hand, Goeminne and Smolders (2014) found that political powers significantly affect the level of public infrastructure investment in Flemish municipalities over the period 1996-2009.

The aim of this paper is to present the trends and levels of financing local government public investment over the period 2013 – 2018 in most European countries and beyond. Most of these countries face fiscal decentralization, where the sources of revenue and expenditure vary for local and regional government units. This paper not only contributes to the academic literature in the field of local government public investment financing, but this analysis could also serve as a basic tool to improve the economic, social or environmental development of local government units. Moreover, it will help all government stakeholders to achieve long-term financial sustainability and fiscal efficiency. The paper is organized as follows. After the brief introduction, the investment funding framework and financing capacity, and the pillars and principles for public investment in local government units are presented. The third section presents the analysis of local government expenditure with a particular focus on public investment in EU countries and beyond. The last section provides a conclusion, limitations and a recommendation for further research.

2. The framework of investment funding and financing capacity in local government

Following the global financial crisis, the share of local public investment has declined in the European Union (EU). Moreover, the share of funding sources also varies across EU countries. According to Vammalle and Bambalaite (2021), in the EU countries, the share has decreased from 1.6% of GDP in 2009 to just over 1% of GDP in 2017 in the EU-28 countries. The main drivers for promoting and financing local public investment are divided into six groups (Vammalle & Bambalaite, 2021, p. 9):

1. "The funding framework refers to how the investment is ultimately paid for. It consists of revenue mix which refers to the share of own revenues (mainly taxes and fees) and transfers in the revenues of local government units; expenditure autonomy reallocate funds to higher priority areas, in particular public investment; and donor funding refers to capital grants from international or national institutions.
2. The fiscal discipline mechanisms consist of fiscal rules and direct controls, monitoring and enforcement mechanisms and insolvency frameworks. Mainly affect the capacity of local government units to borrow to finance public investment.
3. Financial instruments consist on debt (loans and bonds), public private partnerships, and alternative financing. Loans can be regular loans from private banks or multi-lateral financial institutions, from local government funding agencies or from the central government. Bonds have longer maturities than loans, but to attract investors they must have a sufficient size and liquidity. The alternative sources of financing refer to availability of private partners to enter into public private partnership.
4. Financial institutions refer to the intermediaries and institutions which make funds available to local government units. The most frequent financial institutions are local government financing agencies and public investment funds.
5. The public financial management systems are composed of budgeting practices, strategic planning practices and administrative capacity of local government units.

6. Multi-level governance consists of vertical and horizontal coordination mechanisms. The first one is necessary to align policies across levels of government, ensure monitoring of local government units' situation and provide them technical support. The second one increase efficiency by avoiding redundancies of projects, and pooling resources together".

In addition, it is also important to ensure the fiscal efficiency and sustainability of local government units. According to standard classification of Vammalle and Bambalaite (2021, p. 11), there are four types of systems to ensure fiscal sustainability of local government units:

1. "Market-based systems – rely on lenders to monitor local debt, ensuring the quality of debt-financed investment projects and fiscal sustainability. In this system, local government units must have a high level of capacity and autonomy.
2. Cooperative approach to debt controls – rely on the definition of the macroeconomic objectives and the allocation of deficit and debt targets across levels of government.
3. Rules-based systems – is based on fiscal rules. It consists of limits to the absolute level of local government indebtedness, restricting borrowing to specific purposes, setting limits to the debt-service to revenues ration, or requiring repayment of short-term liquidity loans before the end of the fiscal year.
4. Direct controls systems – can take different forms, such as setting annual limits on individual local government debt, an ex-ante central government review and approval of local government debt transactions, the centralisation of all borrowing at the central level, and on-lending to local government units for specific projects. Within this system, the quality of investments is ensured by central government control".

Since most EU countries apply a mix of elements to achieve fiscal efficiency and sustainability of local government units, it is also important to emphasize the interaction between these elements. Therefore, Table 1 presents the interaction between the elements affecting borrowing capacity under different systems.

Table 1. *The interaction between elements affecting borrowing capacity under different systems*

| ELEMENTS | SYSTEMS | | | |
|---------------------------------------|----------------------|------------------------------|--------------------|------------------------|
| | Market-based systems | Cooperative approach systems | Rule-based systems | Direct control systems |
| Revenue mix | High | Moderate | Moderate | Low |
| Donor funding | Low | Low | Low | Low |
| Fiscal rules | Low | Low | High | High |
| Direct controls | Low | Low | Low | High |
| Monitoring and enforcement mechanisms | Low | High | High | Low |
| Insolvency frameworks | High | Low | Moderate | Low |
| Central government lending | Low | Low | Low | High |
| Public investment funds | Low | Moderate | Moderate | High |
| Local government financing agencies | High | High | High | Low |
| Guarantees | Low | Low | Low | High |
| Budgeting practices | High | High | High | Low |
| Strategic planning practices | High | High | High | Low |
| Administrative capacity | High | High | High | Low |
| Horizontal coordination mechanisms | Moderate | High | Moderate | Low |

| | | | | |
|--|-----|------|----------|------|
| Vertical coordination and support mechanisms | Low | High | Moderate | High |
|--|-----|------|----------|------|

Source: Vammalle and Bambalaite (2021), p. 13.

Based on the data in Table 1, we can conclude that of all the elements, the best elements to achieve fiscal efficiency and sustainability are local government funding agencies, budgeting practices, strategic planning practices, and administrative capacity. In addition to these elements, in order to increase growth, subnational governments must have the capacity to plan, prioritize and implement public investment projects at the appropriate scale. In addition, effective principles to increase public investment should be established at all levels of government. Therefore, in 2014, the OECD established 12 principles, which are grouped into three pillars of policy recommendations for effectively increasing public investment at the national and subnational levels. The pillars and principles are presented in Table 2.

Table 2. Pillars and principles for public investment

| PILLARS | PRINCIPLES |
|----------|--|
| Pillar 1 | Invest using an integrated strategy tailored to different places |
| | Adopt effective co-ordination instruments across levels of government |
| | Co-ordinate across subnational governments to invest at the relevant scale |
| Pillar 2 | Assess upfront long term impacts and risks |
| | Encourage stakeholder involvement throughout investment cycle |
| | Mobilise private actors and financing institutions |
| | Reinforce the expertise of public officials & institutions |
| Pillar 3 | Focus on results and promote learning |
| | Develop a fiscal framework adapted to the objectives pursued |
| | Require sound, transparent financial management |
| | Promote transparency and strategic use of procurement |
| | Strive for quality and consistency in regulatory systems across levels of government |

Source: OECD (2019), p. 9

All levels of government must follow the above pillars and principles to increase the level of public investment. Therefore, the general objective of Pillar 1 is to coordinate across governments and policy areas, for Pillar 2 it is important to strengthen capacity and promote policy learning at all levels of government, and for Pillar 3 to ensure sound frameworks at all levels of government. In addition, each pillar has its own mandate, with the mandate for Pillar 1 being to define the allocation of responsibilities across a broad range of policy areas, for Pillar 2 being to ensure value for money of projects that mobilise private sector resources and improve the operation and maintenance of infrastructure investments over the long term, and for Pillar 3 being to establish regulatory framework at all levels of government that must be consistent and stable. To achieve the goals and objectives, the OECD developed an online toolkit to monitor and assess the strengths and weaknesses of public investment capacity in each country.

3. Analysis of public investment of local government

In each country, subnational government, which include local government, are major player in public investment. Moreover, public investment is the most volatile item of government expenditure. This also depends on the responsibilities assigned to different levels of government. Therefore, decentralisation is an essential feature, as such it promotes economic growth and equalises economic inequality. The average share of local government expenditure in general government expenditure for the period 2013 – 2018 is shown in Figure 1.

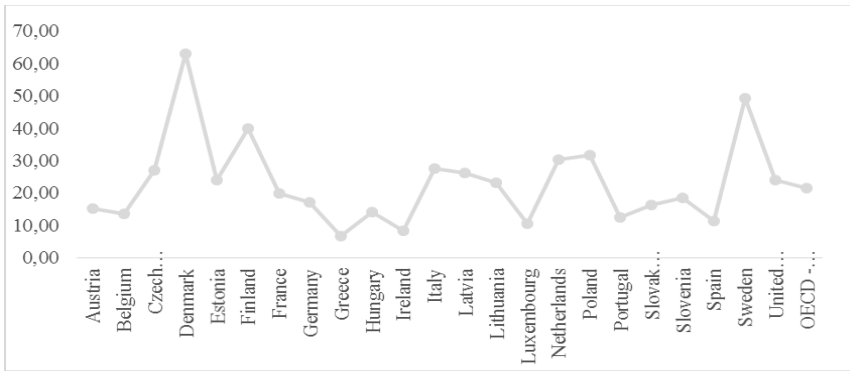


Figure 1. Average of local government expenditure as a percentage of general government expenditure in the period 2013 – 2018

Source: Own calculations based on data from OECD, Government at a Glance (2019a)

From the observed data, it can be concluded that the countries with the highest shares of local government expenditure in the period 2013 - 2018 are Denmark (64.28% in 2017), Sweden (50.73% in 2018) and Finland (40.60% in 2013). On the other hand, the countries with the lowest shares are Greece (7.52% in 2018), Ireland (7.67% in 2015) and Luxembourg (9.81% in 2015). Looking only at the average share of local government expenditure, the countries with highest average shares are Denmark (62.98%), Sweden (49.35%) and Finland (39.95%). Greece (6.73%), Ireland (8.24%) and Luxembourg (10.60%) are the countries with the lowest average shares of local government expenditure.

Figure 2. shows the average share of public investment expenditure by local government as a percentage of general government investment over the period 2013-2018. The term public investment refers to capital expenditure on physical infrastructure (e.g. roads, government buildings, etc.) and soft infrastructure (e.g. human capital development, innovation support, research and development, etc.) with productive benefits that extend beyond one year. They include both direct and indirect investments.

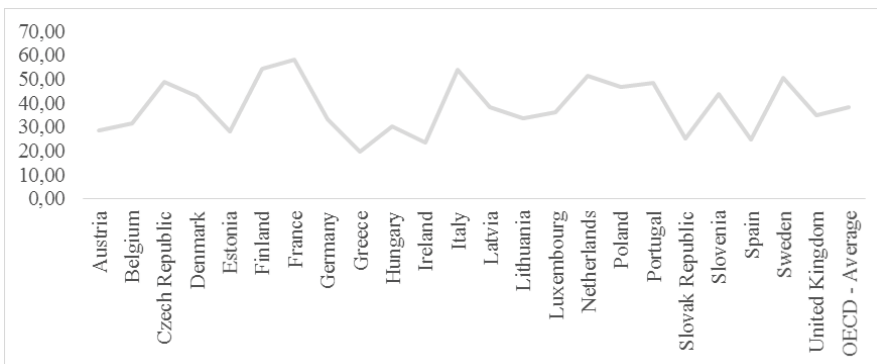


Figure 2. Average share of local government public investment expenditure as a percentage of general government investment in the period 2013 – 2018

Source: Own calculations based on data from OECD, Government at a Glance (2019a)

From the observed data, it can be concluded that there are differences between countries in the public investment expenditure of local governments. The countries with the highest shares of local government public investment in 2013 are France (60.63%), Italy (58.72%) and Netherlands (53.94%). Greece (14.60%), Spain (21.66%) and Slovak Republic (23.57%) are the countries with

lowest share of local government public investment. Looking only at the average share of local government public investment, the countries with highest shares are France (57.90%), Italy (53.88%) and the Netherlands (51.24%). Greece (19.67%), Ireland (23.40%) and Spain (24.82%) are the countries with lowest average share of public investment by local government.

The current trend in the financing of public investment in local governments units is shown in Figure 3.

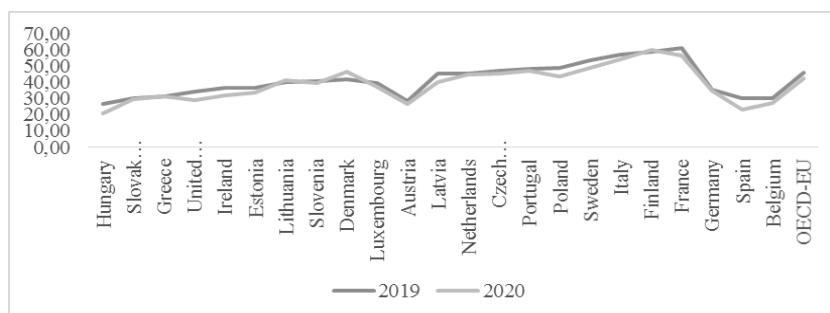


Figure 3. Share of investment expenditure in local governments in 2019 and 2020

Source: OECD, Government at a Glance (2021).

Looking at each year separately, we noticed the significant differences between countries. In 2019, the countries with the highest share of investment expenditure in local government units are France (61.20%), Finland (58.87%) and Italy (56.91%), while the countries with the lowest share are Hungary (26.56%), Austria (28.61%) and Spain (29.90%). In 2020 the trend is a little different. Finland (60.03%), France (56.45%) and Italy (54.19%) are countries with the highest share, while Hungary (20.86%), Spain (22.95%) and Austria (26.78%) are countries with the lowest share of public investment in local government units. An interesting case is Finland, where 57% of public investment are made at local level. The reasons for this are the long tradition of municipal self-government and high administrative capacity, unlimited tax collection capacity, strict financial supervision and strong peer pressure and market incentives. All other countries should follow Finland's example, as its framework for budgeting and financing local government public investment provides adequate conditions. These include high level of transparency and reporting mechanisms, a very high level of financial management capacity of local governments, very strong monitoring mechanisms and strong market incentives to maintain fiscal sustainability.

Based on the analysed data, it can be concluded that the fluctuations in public investment are not entirely surprising, due to the specific circumstances (global financial crisis and COVID-19 pandemic). According to De Haan *et al.* (1996) in times of fiscal contraction, governments tend to cut investment spending more than other categories of expenditure. Moreover, there are major public investment capacity challenges for each sub-national government (Table 3).

Table 3. Public investment capacity challenges

| By national governments | By regional governments |
|---|--|
| Sectoral priorities dominate over an integrated approach | Lack of involvement of the private sector |
| Weak long-term strategic planning for public investment; a focus on short-term priorities | Reduced fiscal capacity for public investment |
| Difficulty of involving the private sector | Lack of capability to administer public procurement |
| Weak capacities for administering public-private partnerships | Excess of administrative procedures and red tape |
| | Public employees' salaries not competitive with the private sector |

Source: Allain-Dupré (2011)

In addition to these challenges, individual capacities in each sector, depending on the nature of the region and the level of development, are also important.

4. Conclusion

The key element to increase regional and local development is to increase public investment in hard and soft infrastructure and assets. From the analysed data it can be concluded that the level of public investment in local government has been slowly but steadily increasing over time. The best examples in 2020 are Finland (60.03%), France (56.45%) and Italy (54.19%). This is due to several key factors such as the decline in national spending on public investment, decentralisation trends, the increasing number of projects implemented by sub-national governments and the impact of European Structural Funds, especially in the new Member States. In addition, trends in financing and implementation of public investment are caused by a number of complex vertical and horizontal interdependencies. The first relates to different levels of government and the second to different sectors and the same levels of government. To align public investment policy and implementation across sectors and levels of government, three sets of issues must be resolved – information, accountability and consent. According to OECD (2013) new models are proposed to address these challenges - conditionality and accountability. This is particularly true for public-private partnerships, which are not yet very widespread in European countries. A limitation of this research is that there is no publicly available data for all EU and non-EU countries. Therefore, the recommendation for further research is to examine the efficiency of local government public investment in each country individually.

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MARKETING

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COUNTRY OF ORIGIN PHENOMENON IN THE CONTEXT OF EXPORT BRANDING

FENOMEN ZEMLJE PORIJEKLA PROIZVODA U KONTEKSTU IZVOZNOG BRENDINGA

Abstract

Companies from transitional economies and with orientation towards international markets face a set of challenges in the process of gaining a competitive position. One of the most relevant challenges is the negative image of the company's country of origin. The challenge is particularly significant in cases of products with greater added value, or in cases when the company engages into technology intensive production. Purpose of this paper is to present the possibility of Signal Theory application in the context of export branding. The Signal Theory can be used as basis for building powerful corporate brands focused on creating strong consumer perceptions in international markets, detaching them from the negative image of the country of origin. Therefore, aim of this paper is to investigate how managers of export oriented companies in the wood industry of Bosnia and Herzegovina perceive branding possibilities which would include combination of country of origin and brand name as an option for avoiding negative effects of the country of origin. Qualitative research methodology was applied, with semi-structured interviews as data collection method. The sample consisted of wood industry SMEs from Bosnia and Herzegovina, producing furniture and conducting business operations in international markets. Relevance of this paper is mainly practical, in terms of how Signal Theory postulates are applied in the case of export-oriented SMEs from Bosnia and Herzegovina. Research results point to the conclusion that negative effects can be exceeded by adequate branding strategies which are based on Signal Theory postulates. Results further indicate that brands, brand strength and brand associations are perceived as the only valid symbol of value for customers

Keywords: signal theory, export branding, country of origin image, SMEs, Bosnia and Herzegovina

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Sažetak

Kompanije iz zemalja u tranziciji, koje su orijentirane na međunarodno tržište, susreću se sa nekoliko problema u ostvarenju svoje konkurentske pozicije. Među njima se posebno ističe negativan imidž zemlje porijekla iz koje potiču te kompanije. Problem zemlje porijekla posebno dolazi do izražaja kada se radi o proizvodima veće dodatne vrijednosti, ili kada preduzeća ulaze u proizvodne oblasti više tehničko-tehnološke intenzivnosti. Svrha ovoga rada je da ukaže na mogućnost primjene teorije signaliziranja u kontekstu izvoznog brendinga, kao osnove u građenju jakih kompanijskih brendova koji će svojom snagom stvarati pozitivne percepcije potrošača na međunarodnom tržištu i odvojiti ih od negativnog imidža zemlje porijekla proizvoda. U tom smislu, cilj rada je da istraži kakva je percepcija menadžera izvozno orijentisanih

kompanija iz drvne industrije BiH o mogućnostima brendinga, koje bi uključivale kombinaciju elemenata zemlje porijekla i naziva brenda kao načina izbjegavanja negativnih efekata zemlje porijekla. Metodologija istraživanja se bazira na provođenju kvalitativnog istraživanja, uz korištenje polustrukturiranih intervjua. Istraživački uzorak se sastoji od malih i srednjih kompanija iz drvnog sektora koje proizvode namještaj, a čiji je fokus međunarodno tržište. Značaj ovog istraživanja ima prevashodno praktičnu utemeljenost, u smislu zaključaka o primjeni teorijskih postulata signalne teorije na primjeru izvoznih kompanija iz BiH. Dobijeni rezultati ovog istraživanja ukazuju na to da se negativan efekt zemlje porijekla može prevazići adekvatnim strategijama brendiranja, utemeljenim na postulatima teorije signaliziranja i da isključivo brend i njegova snaga i asocijacije, čini validan znak vrijednosti za potrošače.

Ključne riječi: teorija signala, izvozni brending, imidž zemlje porijekla, mala i srednja preduzeća, Bosna i Hercegovina

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1. Introduction

Companies from countries in transition, *i.e.*, emerging markets, which are oriented to the international market, face several major problems in achieving their competitive position. Among them, the negative image of the country of origin (country of origin phenomenon-COO) from which these companies originate stands out. Signaling theory has brought a lot of new light to the COO problem. Applied to the phenomenon of branding and the role of COOs in the perception of the value of emerging market products, its results confirmed that consumers from developed countries are exposed to asymmetry of information about emerging market products (Brouthers *et al.*, 2005). In product evaluation they have two sources of signals or signs. The first one is about the origin of the country, and the second one is the brand name. However, according to the postulates of this theory, only the brand is a valid signal, and the country of origin is not. This suggests that companies from emerging market countries can improve the perception of their products by choosing a brand that in itself suggests a positive image in consumer perception. The choice can be twofold, the first use of a brand that is associated with international leadership brands in the subject area, or the choice of a brand that is associated with a country to which positive connotations are associated with respect to the product concerned.

In accordance with the results of previous research on this topic (Amine *et al.*, 2005; Ozretić – Dosen *et al.*, 2007; Magnusson, Haas & Zhao, 2008) we want to explore the perception of managers of Bosnian-Herzegovinian export-oriented small and medium companies about the possibilities of active branding which would include a combination of country of origin variables and a combination of brand name with all name implications on identity and brand associations for consumers from target markets.

2. The phenomenon of the country of origin in international marketing

Previous research supports the fact that the country of origin in international marketing has a very important influence on consumers when choosing and deciding to buy a particular product. According to Schooler (1965), who is one of the pioneers in writing about this phenomenon, products that are the same in all other characteristics except the country of origin, have a different acceptance by consumers.

The effect of the country of origin, simply put, refers to how consumers perceive products coming from a particular country (Roth & Romeo, 1992). Consumers tend to prefer products coming from certain countries more or less depending on the economic, historical and political factors of the exporting country. Research shows that consumers rate products coming from countries with positive associations and image better than products coming from countries with a negative image.

Country of origin in many cases affects product evaluation more than price or brand (Head, 1988; Wall, Liefeld & Heslop, 1991). In a situation where this information is introduced after other product attributes, consumers generally consider it as just another product characteristic (Eroglu & Machleit, 1989).

Manrai, Lasco and Manrai (1998) proved that knowledge about COO depends on the economic development of the country of origin, and the activated COO cognitive mechanism and the strength of the COO effect differ in this respect. According to this study, highly developed countries record a higher level of COO knowledge, while developing countries record the lowest levels. That is where the summary construct effect mainly binds to products from developed countries, default heuristic effect binds to those coming from newly-industrialized countries, and products from developing countries bind to the halo effect (Balabanis & Diamantopoulos, 2011).

It can be concluded that the COO effect affects consumer decisions differently depending on whether the observed product comes from developed countries or developing countries. Research shows that preferences are almost always on products coming from developed countries, and that the COO effect is reduced by the risk of product functionality and brand (Khachaturian & Morganosky, 1990).

2.1. Signaling theory and the phenomenon of the country of origin

Signaling theory is used to describe behavior when two parties (individuals or organizations) have access to different information. Usually one party, the sender, has to choose whether and how to communicate (or signal) some information, and the other party, the recipient, has to choose how to interpret the signal. Accordingly, signaling theory occupies a prominent place in the economic literature and especially in strategic management, entrepreneurship, and human resource management (Connelly *et al.*, 2010).

The purpose of the signal is communication, and the goal is to achieve the appropriate benefit for the sender by changing the beliefs and behavior of the recipient of the message. According to Michal Spence, signals are "... activities or characteristics of individuals in the market that change beliefs or transmit information to other market participants ..." (Nguyen, Barrett & Nguyen, 2014). Applied to marketing, signaling theory, under the condition of asymmetric information, can serve to distinguish high-quality producers from those of lower quality.

Spence's foundations of signal theory "... are widely used in marketing research related to the market value of a brand (Erdem & Swait, 1998), guarantees, product quality (Boulding & Kirmani, 1993; Rao, Qu & Ruckert, 1999), prices (Simester, 1995; Srivastava & Lurie, 2004), advertising (Caves & Greene, 1996; Kirmani & Wright, 1989)" (taken from Nguyen, Barrett & Nguyen, 2014). Earlier work in the literature that, for example, researched signaling theory applied to advertising assumes that only manufacturers who are confident in the high quality of their products and services spend a lot on promotion because they send appropriate signals to consumers.

2.2. Brand as a signal and concept of country of origin

The application of signal theory in the context of the COO phenomenon suggests that companies from emerging markets can neutralize the negative effects of the country of origin by obtaining well-known brand names from developed markets (Brouthers *et al.*, 2005). Research on the relationship between branding and country of origin shows that consumers are very often unaware of the origin of brands and very often associate them with the wrong COO, even the very well-known ones (Samiee, Shimp & Sharma, 2005; Hennebichler, 2007). It is important to mention the research done with the aim of determining the specific consequences of misperception of the origin of the brand, when it comes to assessing the brand image and consumer intention (Balabanis &

Diamantopoulos, 2011). The specific study included research for functional products, where it was found that misperception of consumers about the origin of the brand (COO), or the inability to associate the brand with any country of origin almost always has negative consequences on purchasing intentions and brand image assessment.

The results of marketing research show that “if consumers associate a brand with the wrong COO, their brand rating (and consequently the purchasing decision) may differ from that in which the COO was correctly identified” (Balabanis & Diamantopoulos, 2008). This is a very important fact for companies from transition countries that use foreign brands in branding to intentionally associate their brand with a country with a better image or to disguise the origin of the brand in a situation where the real country image is bad (Leclerc, Schmitt & Dubbe, 1994). Also, it is considered that origin information of most brands may not be available, either because global marketers have a desire to disguise the origin of their brands or because globalization of companies and cross-border brand acquisitions complicate the nature of brand origin (Zhou, Yang & Hui, 2010).

In addition, it is important to note that in Bosnia and Herzegovina, no comprehensive research has been conducted on the perception of managers of export-oriented companies on the possibilities of applying recommendations related to building an attractive brand of companies, as a way to avoid negative effects of COO for Bosnia and Herzegovina. Therefore, there is a need for research with the main goal to explore the perceptions of managers regarding the possibility of export branding of companies from Bosnia and Herzegovina, in the context of the phenomenon of the country of origin, on the example of Bosnia and Herzegovina's companies in the wood industry, more precisely, the furniture manufacturing industry, whose focus is the international market.

3. Research methodology

The research methodology is based on the method of qualitative research, with a focus on obtaining data through open communication, *i.e.*, through conducting interviews. The principle of semi-structured interviews was used, which is a very commonly used method in qualitative research (Saunders, Lewis & Thornhill, 2016). In order to enable conclusions related to the research, it was necessary to understand in detail the opinions of the respondents, as well as the way they make decisions, and therefore the qualitative research method was an appropriate choice. The aim of this paper is to determine the importance of the country of origin as a factor of competitiveness in export markets, and the brand of the company or product, with a special statement on the impact of these factors on the competitiveness of companies' exports in the selected industry. Accordingly, three research questions were defined:

1. How does Bosnia and Herzegovina as a country of origin affect the competitiveness of its companies in export markets?
2. How can small and medium enterprises from Bosnia and Herzegovina strengthen their position in the export markets of developed countries by strong branding of the company or product based on the postulates of signaling theory and thus neutralize the negative effects of the country of origin in the perception of foreign consumers?
3. How can products from Bosnia and Herzegovina with a brand name associated with the values of the target export market or market leader be more attractive to consumers in the target markets of developed countries than those with a brand name associated with the local market of Bosnia and Herzegovina?

As a first step in the preparation of the research, a set of questions, which were supposed to provide answers to the research questions, was defined and finalized. These questions were formulated in a

document called the “Research Protocol” which provided the basis for the interviews (Daymon & Holloway, 2011).

The participants in the research are Bosnia and Herzegovina's companies from the wood sector that produce furniture, and whose focus is the international market. The reason for choosing this industry is that these are products in which Bosnia and Herzegovina's company's record growing competitive advantages and in which branding will play a growing role as a source of competitive advantage. Companies were selected based on their size and performance in the foreign market. Prior to the interview, all companies were sent an e-mail describing the reason for the contact, and explaining what the essence of the structured interview would be. In addition, a research protocol was sent in advance at the request of a number of managers.

4. Research results

The primary research has exposed that BH companies do not have export strategies, thus export activities are undertaken only sporadic. Furthermore, export activities were undertaken only into culturally and historically close countries, such as Croatia and Serbia. This is a common way of small and medium sized companies to expand on international markets and move on to distant international markets (Domazet *et al.* 2001). Some companies enter international markets with partners, while others go a step further and establish their own subsidiaries.

Clients to BH companies are different types of specialized shops. Most of the cooperation with clients has so far been initiated on international fairs. The communication then is taken further by agents and distributors with which clients cooperate. Interaction with international designers and architects helps companies to follow designer trends, but also how to approach international markets. Well-known international designers and architects play a significant role in approaching clients, as such a cooperation validates unknown BH companies in international markets. BH companies rarely conduct market research. They explain this by suggesting that geographically close markets are well known to them, thus market research projects are not needed. As additional reason some companies suggest financial issues to be the obstacle for conducting wide-scale research. Market information is mostly collected through international partnerships.

International consumers are mainly interested in quality, design, functionality, prices, security and a balanced distribution of these parameters. As most important they perceive the price-quality ratio, even for producers of premium furniture. While mass-production markets are focused on the price as their main competitive advantage, premium markets are not focused on price (although premium products coming from Bosnia and Herzegovina have competitive prices). For doing business on premium markets respondents pointed out the relevance of emotional bonding with customers.

This research has revealed that companies which rely on the competitive strategy of differentiation, build their competitiveness with authenticity, customization and customer relationships. On the other side, those companies which implement the cost efficiency approach, implement rigorous mechanisms of cost control. Most companies rely on BH workforce with, in some cases, significant investment in education and professional development of workers. Those companies conduct business in premium markets and usually invest more in workforce. When it comes to designers, most respondents rely on designers from Bosnia and Herzegovina. They seek to design furniture with BH identity elements, thereby securing authenticity of their products.

When it comes to technology, BH furniture producers possess modern technologies which are also used by international competitors. They apply a combination of machine and hand-made labour, as specific design procedures require precision, while other require creativity and uniqueness. Managers in the furniture industry have high awareness of brand importance. Thus they

continuously work on the development of their own brands. Those companies which are focused on premium markets, show greater vision and knowledge about brand management. When it comes to brand values, respondents mainly rely on quality of product, quality of design, balanced price-quality ratio, aesthetics, and functionality. Brand communications has been recognized also as one of the main brand activities, not only in presenting the brand to the target audience, but also for the purpose of developing long-term customer relations.

Brand acceptance depends on the product, but also the market, company experience, country of origin and many other factors. Brand acceptance is better in neighbouring markets due to the cultural similarities between consumers and patterns of behaviour. Ethnocentricity is also one of the reasons for acceptance on neighbouring markets. When it comes to other markets, selection of brand name is of high importance; brand names which associate the brand with market leaders or international markets, have usually a better market placement, as recognized by Magnusson, Haas & Zhao (2008).

Negative country image of Bosnia and Herzegovina has a negative impact on placement of products stemming from Bosnia and Herzegovina. This poses a significant threat to market penetration and building customer relations. Despite the negative image, furniture producers from Bosnia and Herzegovina have managed to succeed in international markets mainly due to the high quality of wood used in the production process, tradition in wood processing and furniture production. Thereby they have managed to create respectable positions even in premium markets, which has led to improvement of country image in the market of furniture producers. There are several challenges that BH furniture producers face due to the negative country image. On one side there are perceptive challenges, such as insecurity for clients when getting into cooperation with countries from Bosnia and Herzegovina; but there are also more hands-on challenges, such as financial, administrative and distribution problems. Challenges based on negative country image are usually most significant at the beginning of the internationalization process. That is when companies face the stigma from the customer perception that products which come from a country with political and economic instability are with low quality and cheap, and the business cooperation with producers is probably insecure (Roth & Romeo, 1992; Peterson & Jolibert, 1995; Verlegh & Steenkamp, 1999).

Companies apply different ways of fighting these prejudices. They invest in quality, production processes, workforce, high-quality resources, design, certification processes, brand development, thereby seeking to neutralize the negative image of country of origin. At the same time, respondents have pointed out high relevance of brand name, believing that those brand which have international elements in the brand name, or which name associates with the market leader, result in a better market position (Magnusson, Haas & Zhao, 2008).

Administrative challenges and international distribution companies usually solve by establishing subsidiaries in one of the EU member states. The government of Bosnia and Herzegovina meanwhile undertakes scarce activities in enhancing the business environment, thus disabling companies from undertaking greater export activities. The country image has been improved in later years, but not due to government activities but companies which conduct international operations, thus enhancing the state image through professionalism and high quality products.

Export marketing activities is implemented based on the business orientation towards domestic or international market. Hence, in its early stages export marketing is mainly implement sporadic, through social media and online presentation of products. Fairs, sponsored articles, interaction with international agents and clients, is how export marketing activities expand further.

Distribution requirements need to be incorporated already in initial phases of product development, since cost rationalization supports the product to be distributed to international destinations with lower transportation costs. At the same time, before mentioned EU-based subsidiaries established by BH companies manage distribution and export administration.

Understanding of sales and post-sales services has been recognized as one of the most important tools for building customer loyalty and satisfaction. In case of companies from countries with a negative country image, sales and post-sales services are even more important. Empirical data from this research suggest that all companies which participated in the research have such services.

5. Conclusion

The need for branding of small and medium enterprises is of high relevance in cases of BH companies conducting business in international markets. Branding can be considered a good choice when it comes to responding to effects of a negative COO image. By branding companies are enabled to communicate their values and quality directly to their clients and customers, thereby expressing global orientation adjusted to local needs and values. Relying on experiences of countries which successfully enhance their economies' competitiveness, active participation of government and the private sector. Government of Bosnia and Herzegovina needs to improve its country image. Presented research findings suggest that the signalling theory does have its practical implications in terms of suggesting that brand is a valid signal for customers. Furthermore, findings imply that managers can decrease effects of the negative COO image by actively branding the exporting company and its products. Thereby strong signals about brand values are communicated to customers. This leads to the overall conclusion that decision makers need to support branding of export companies and their products, which is in line with presented overall finding in form of managers' perception that branding can decrease effects of a negative COO image.

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STRATEGIC APPROACH IN BRAND EQUITY CREATION THROUGH SOCIAL MEDIA IN BANKING SECTOR**STRATEŠKI PRISTUP KREIRANJU VRIJEDNOSTI BRENDA PUTEM DRUŠTVENIH MEDIJA U BANKARSKOM SEKTORU****Abstract**

Social media has caused a kind of revolution in marketing communication between customers and the brand by providing a completely new way of interaction, by which companies can significantly increase the market value of the brand. The market value of a brand is based on the knowledge that customers have about the brand, therefore on brand awareness and brand image. In order for marketing activities through social media to achieve positive effects on the market value of the brand, they must be planned and in accordance with the overall strategy of the company. The strategic approach to creating the market value of a brand through social media includes knowledge about the market value of the brand and its essence, as well as the implementation of planned and organized marketing activities through social media. As customer engagement in banks is increasingly realized digitally, understanding the importance and effects of marketing activities through social media is becoming indispensable in creating market brand value. The aim of this study is to examine whether the BiH banks have a strategic approach to marketing activities through web social media and whether marketing activities through web social media are related to the market value of the bank's brand. Empirical data were collected by designing two separate survey questionnaires, one of which was distributed to the total population of banks in BiH, and the other to a random sample of respondents who follow the content of banks on one of the selected social media networks (Facebook, YouTube, Instagram). Descriptive and correlation analysis were used in data processing. The results showed that BiH banks strategically approach marketing activities through web social media, and that there is a positive statistically significant correlation between marketing activities through web social media and the market value of the bank's brand.

Keywords: strategy, market value of brand, brand image, brand awareness, social media**JEL:** M10, M31**Sažetak**

Društveni mediji su izazvali svojevrsnu revoluciju u marketinškoj komunikaciji između kupaca i brenda pružajući potpuno novi način interakcije, kojom preduzeća mogu znatno povećati tržišnu vrijednost brenda. Tržišna vrijednost brenda se temelji na znanju koje kupci imaju o brendu, odnosno na svijesti o brendu i imidžu brenda za kupce. Da bi marketinške aktivnosti putem društvenih mreža ostvarile pozitivne efekte na tržišnu vrijednost brenda, iste moraju biti planske i u skladu sa cjelokupnom strategijom preduzeća. Strateški pristup kreiranju tržišne vrijednosti brenda putem društvenih mreža podrazumijeva znanje o tržišnoj

vrijednosti brenda i njegovoj suštini, kao i provođenje planskih i organizovanih marketinških aktivnosti putem web društvenih mreža. Dakle, budući da se angažman klijenata u bankama sve više ostvaruje digitalnim putem, razumijevanje važnosti i efekata marketinških aktivnosti putem društvenih mreža postaje neizostavno u stvaranju i oblikovanju tržišne vrijednosti brenda. Cilj predmetnog istraživanja jeste ispitati da li kod bosanskohercegovačkih banaka postoji strateški pristup marketinškim aktivnostima putem web društvenih mreža i da li su marketinške aktivnosti putem web društvenih mreža povezane sa tržišnom vrijednošću brenda banaka. Empirijski podaci prikupljeni su dizajniranjem dva odvojena anketna upitnika, od kojih je jedan distribuiran ukupnoj poluciji banaka u Bosni i Hercegovini, a drugi anketni upitnik slučajno odabranom uzorku ispitanika koji su činili klijenti koji sadržaj banaka prate na nekoj od izabranih društvenih mreža (Facebook, Youtube, Instagram). Pri obradi i analizi podataka koristila se deskriptivna analiza, te korelaciona analiza. Rezultati su pokazali da bosanskohercegovačke banke strateški pristupaju marketinškim aktivnostima putem web društvenih mreža, te da postoji pozitivna statistički značajna povezanost između marketinških aktivnosti putem web društvenih mreža i tržišne vrijednosti brenda banaka.

Ključne riječi: strategija, tržišna vrijednost brenda, imidž brenda, svjesnost o brendu, web društvene mreže

JEL: M10, M31

1. Introduction

The phenomenon of the Internet and the growing use of digital marketing has completely reshaped the business and communication between businesses and customers. Namely, the emergence and increasing use of the Internet in general, and the web of social media (WSM), have led to changes in the behaviour and expectations of customers. Despite the large number of challenges, digitalization also represents an opportunity for marketing professionals to create a differentiated offer for customers in the market of banking products and services. Interactive offer on web social networks can provide insight into customer needs and expectations, which could serve as a source of information for innovation of the offer, personalization of customer experience, resolving customer complaints *etc.*, so it is very important to stimulate satisfied customers to share positive experiences through web social media and word of mouth (Bigné *et al.*, 2015, p. 215-217). Establishing strong relationships with clients is particularly important in the banking sector due to the complexity of banking services, the potential knowledge gap that clients perceive, and the dynamic and uncertain nature of the business environment (Brun *et al.*, 2014, p. 573).

The development of a corporate brand through web social media with the implementation of intensive and strategically designed marketing activities in banks is important, because previous research has shown that banking clients often find it difficult to understand the promise of services (de Chernatony & Segal-Horn, 2001, p. 649-651). For this reason, a strong emphasis in building brand value of service companies focuses on developing strong relationships between companies and customers on an individual basis (Javalgi *et al.*, 2006; Yoganathan *et al.*, 2015). It is undeniable that web social media are a way of life today and their proper application can lead to stronger connections between customers and banks, which leads to higher market value of the brand, but it is important that access to them is carefully planned and part of the bank's strategic commitment.

Based on a review of available literature and previous research in other countries, it can be concluded that the banking sector has efficient and successful ways to engage and target its customers through web social media, and that banks are actively adopting digital business solutions, so there is theoretical and practical justification, therefore the need for the realization of the subject research on the territory of Bosnia and Herzegovina. From the above arises the central research question that this research seeks to answer: *Do banks in Bosnia and Herzegovina use a strategic approach to marketing activities through web social media to increase the market value of the bank's brand?* The subject of the research is a strategic and planned approach to marketing activities through web social media in banks in Bosnia and Herzegovina, and client's perceptions of

the connection between marketing activities through web social networks and the market value of the brand in banks in Bosnia and Herzegovina. Marketing activities through web social media, which will be the subject of analysis, are in theory set according to Kim & Ko (2012, p. 1483) and described through five dimensions. The dominant theory chosen to investigate the market value of a brand derives from a concept taken from Keller (1993), according to which the market value of a brand is based on the knowledge that customers have about the brand. So, the brand's relationship with customers has the meaning of promise. For this reason, it is important to view the brand as a strategic tool. Planning and managing marketing activities through web social media allows easier access to the individual customer, which allows the creation of emotional and social connections. It is clear that marketing activities through web social media, among other things, increase the market value of the brand in the minds of customers. Since the products and services of banks are quite homogeneous, the brand is still one of the basic ways for banks to differentiate between themselves. Also, it is known that banks are most susceptible to digital business transformation, so there is potential to explore the presence of bank's marketing activities on web social media.

In this regard, the main aim of the research is to examine whether there is a strategic approach to marketing activities in BH banks through web social media and whether marketing activities through web social media are related to the market value of the bank's brand. In addition to the general aim, the operational goals of the research are presented below:

- 1) Examine whether BH banks strategically and systematically approach marketing activities on web social media.
- 2) Examine the connection between marketing activities through web social media and brand recognition of BH banks.
- 3) Examine the connection between marketing activities through web social media and the brand image of BH banks.

In order to achieve presented research aims, the main research hypothesis was defined, which will try to examine the relationship between the strategic approach to marketing activities through web social networks and the market value of the brand in banks in Bosnia and Herzegovina. In connection with the set aims of the research, the main hypothesis of the research is that: *The strategic approach to marketing activities via web social networks is related to the market value of the brand of Bosnian banks.*

In addition to the main research hypothesis, and in connection with the set research, additional research hypotheses are defined:

H₁: Bosnian banks strategically approach marketing activities through web social media.

H₂: Marketing activities via web social media are related to the brand recognition of BH banks.

H₃: Marketing activities via web social media are related to the brand image of BH banks.

A review of previous research implies that activities on web social media have the potential to contribute to common brand goals in the same way as traditional marketing activities. For this reason, special attention is paid to the connection between these marketing activities through web social media and the market value of the brand.

2. Theoretical framework of the observed problem and review of previous research

Companies can gain a competitive advantage in the market in different ways, and according to Porter (1985, p. 14), one of the sources of competitive advantage is the application of a differentiation strategy that implies that in the eyes of consumers, product or service of companies differs from competitive products and they are willing to pay a premium price for it. The main aim of implementing this strategy is to compete by providing unique and different products (services) on the market. Sources of company differentiation can be found in all business activities that create

value, and as a basis for differentiation of their products (services) they can use the quality and characteristics of products, company reputation, marketing activities that create customer preferences, *etc.* Recently, as a way of differentiation in the market, companies are increasingly using branding strategy, which is why customers prefer a certain brand when buying.

There are numerous definitions of the market value of a brand in the literature, which is why there is no one definition that is generally accepted. For example, Aaker (1991, p. 27-31) views the market value of a brand as the totality of assets and liabilities that are directly related to the brand, as well as the name and symbol that may increase or decrease the value of the company's products or services. Srivastava and Schocker (1991) believe that the market value of a brand consists of brand image and value, where brand value is defined through the financial result of management's ability to create brand strength through tactical and strategic actions to ensure current and future returns in the long run. The market value of the brand, Yoo *et.al.* (2000, p. 196) define as the difference in making a decision to purchase a branded and non-branded product with the same level of physical characteristics.

The market value of a brand can be defined as the different response that customers have to marketing activities and efforts that companies undertake, so it can be concluded that customer response will depend on marketing activities, previous customer experiences and of course, word of mouth. Thanks to the knowledge that customers have about the brand of a product or service, it happens that customers perceive the same products differently depending on whether they are branded or not. The dominant brand market value model was proposed by Keller in 1993, and it was this concept that was chosen as the dominant theory for this research, according to which brand market value is based on the knowledge customers have about the brand. According to Keller, there are two elements of brand knowledge - awareness or brand recognition and brand image. Awareness consists of the ability to recognize a brand and remember about the brand. The ability of customers to confirm previous historical exposure to a particular brand implies recognition - awareness, while the ability of customers to recall a particular brand from memory and its basic features implies remembering the brand.

Numerous studies cite marketing activities through web social media as one of the ways in which brand development can be encouraged in the minds of customers. Authors Kim and Ko (2010, p. 170) state that social media has a dramatic impact on a brand's reputation. Because a significant number of people find and pass on information through web social media, those companies that do not engage in social media miss the opportunity to reach customers. Web social media provides businesses with the ability to target a large number of existing and potential customers on an individual basis, creating a close individual relationship (Kelly, Kerr, & Drennan, 2010, pp. 23-25). Kim and Ko (2012, p. 1483) believe that a company's marketing activities on web social media consist of five dimensions: entertainment, interaction, trends, customization, and word of mouth (WOM). Web social media are also associated with word of mouth, because research (Gruen, *et al.* 2006; Muntinga *et al.*, 2011) has a more verbal recommendation and relevance for customers than a source of information created by a company expert.

Social media has inevitably completely changed the way in which products and services of companies are created, distributed and consumed, and such changes are due to the way of doing business and the growing need to digitize it, especially banks. Web social media are an ideal tool for word of mouth, because bank clients generate and disseminate information to their friends and acquaintances in a very simple way. A positive relationship between brand value and marketing activities in online banking is evident in the study by Loureiro and Miranda (2011, p. 479-483), whose empirical research results are consistent with the evidence of a study by Faircloth, Capelle, and Alford (2001). The authors Nadernezhada and Vakilalroaiab (2013, p. 2292) state that brand awareness is one of the most powerful indicators of brand value in customer consciousness. Godey

et al. (2016) describes in detail how social media activities are positively related to the value of the brand, and that the value of the brand has a positive effect on the overall reactions of customers.

According to the authors (Bruhn, Schoenmueller & Schafer, 2012; Kim & Ko, 2012), social media marketing activities can have an impact on increasing customer-based brand value. In their study, Bruhn *et al.* (2012, p. 770) state that communication between a company and a customer through social media has a significant impact on brand value. The authors also imply that traditional media have a stronger impact on brand awareness, while interaction through social media has a stronger impact on the brand image. Also, web social platforms provide the possibility of honest and friendly communication with the brand and other users, so that planned and strategic actions of the brand on web social media has a positive impact on customer relationship management and brand value. Kim & Ko (2012) in their research results show the importance of different elements of marketing activities on web social media, while Godey *et al.* (2016) describe in detail the relative importance of different elements of marketing activities on web social media and shows that all elements, should be taken in mind when planning marketing activities through web social media. Therefore, the brand can be a significant source of competitive advantage of the company, which will differentiate the company and its products (services) in the market. With the development of the internet and especially social networks, building a brand using different web platforms has become very important for businesses. However, in order to invest in brand building in this way to achieve the desired effects, it is necessary for companies to approach this activity strategically

3. Research methodology

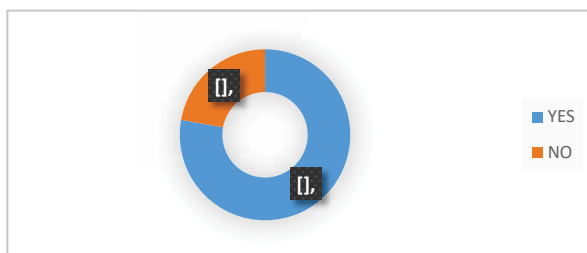
The literature used to measure marketing activities on web social media uses an instrument developed by the authors Kim and Hyun (2011) of 25 statements used to measure observed marketing activities on web social networks, which has been accepted and used in numerous studies (Chung & Lee, 2008; Han & Shu, 2010; Kim & Chung, 2009). The scale used to measure the independent variable contains indicators that capture the essence of marketing activities via web social media taken from the research of Kim and Ko (2012) and modified to correspond to the research. The final scale included marketing activities consisting of five dimensions: entertainment, interaction, trends, customization, and word of mouth (WOM); with a total of 11 claims. All these statements were expressed on a five-point Likert scale. To measure the dependent variable of the market value of the brand, a scale adapted to Kim and Hyun (2011) was used through two dimensions: brand awareness and brand image. The dimensions are expressed by 3 and 4 statements, respectively, measured by the Likert scale of five degrees. A survey questionnaire of 19 questions, created in accordance with the first operational aim of the research, was used to check the strategic approach to marketing activities on web social media in banks in Bosnia and Herzegovina.

Empirical data were collected by designing two separate survey questionnaires. The first survey questionnaire was designed to check the strategic approach of banks in Bosnia and Herzegovina to marketing activities on web social media. The total population of banks in Bosnia and Herzegovina is included, with banks that have a formally and legally separate single structure in the Federation of Bosnia and Herzegovina and the Serbian republic being treated as one bank, because they have a single business policy. The basic set of respondents consisted of board members in charge of market operations or directors in charge of marketing departments in the bank. The final survey questionnaire was distributed to the entire population of banks in Bosnia and Herzegovina, and the survey questionnaire was completed by a total of 9 out of 19 banks, which makes a return rate of 47.3%; the sample covers more than 30% of the population, so conclusions can be drawn on the basis of the sample. The second survey questionnaire is intended for bank clients. Respondents were clients of banks in Bosnia and Herzegovina, and the basic set of respondents consisted of clients who follow the content of banks on one of the selected social networks (Facebook, YouTube, Instagram). Respondents were selected on the principle of a simple random sample using random

number extraction software, in such a way that the final survey questionnaire was distributed to 30 clients per bank (with the exception of Unicredit Bank, which does not exist on web social networks in the territory of BiH. A total of 540 questionnaires were distributed and completed by 258 respondents, which means that the rate of return is approximately 48%.

4. Results of analysis and research discussion

By analysing the results of the survey sent to bank employees, on a sample of 9 banks, it can be concluded that banks in their operations in most cases in Bosnia and Herzegovina use the following web social networks: Facebook and Instagram (32.14%), then YouTube (25%), and Twitter, blogs and LinkedIn (3.57%). In 77.8% of cases, banks have an official document that contains a strategy for appearing on social media, and in 22.2% of cases they do not.



Graph 1. Structure of the existence an official document that contains a strategy for appearing on social media

Source: Author's research

Also in 77.8% of cases banks control their plans of performance on web social media on monthly basis. When asked about monitoring trends in promotion on web social media, all respondents answered in the affirmative, that *they follow trends in promotion on web social networks*. According to the results of empirical research, in 77.78% of cases *banks update their content on web social media every day in order to develop marketing activities*, and in 11.11% of cases *two to five times a week and two to five times a month*. Also, in 88.89% of cases in banks there is a special department and staff for conducting marketing activities on web social media, and in 11.11% of cases such a department in banks does not exist. In banks that have a special department and staff for conducting marketing activities on web social media, staff training is performed in 33.33% of cases *annually or quarterly*, then in 22.22% of cases *as needed*, and in 11.11% of cases *semi-annually*. In most cases, banks do not hire agencies to appear on web social media (77.78%), while in 22.22% of cases they do so.

According to the results of the research, all banks in the sample (100%) monitor the attendance of their activities on web social media. The frequency of interactions between visitors to web social activities has an average score of 4.22 (sd = 0.833), which implies a expresses to extremely expressed frequency. The usefulness of interacting with visitors to web social activities was rated with an average score of 4.66 (sd = 0.5), which implies that respondents perceive the usefulness to be great to extremely great. Respondents rated the importance of web social media for the brand development of BH banks with an average score of 4.77 (sd = 0.44), which leads to the conclusion that in most cases respondents on a scale of 1 to 5 rated the importance of web social media for brand as important or very important.

The claim that *"Web social networks can be a useful tool in developing a brand of banks"* has an average score of 4.22 (sd = 0.833), which leads to the conclusion that the majority of respondents partially to absolutely agree with the proposed statement, while the statement *"The brand is*

predominantly developing outside the web social networks" rated with an average score of 2.88 (sd = 1.05), meaning that most respondents partially to absolutely disagree with the proposed statement. 88.89% of banks access the application of web social media for marketing purposes in a planned and organized manner, while only 11.11% access it spontaneously. In 44.44% of cases, activities on web social media are planned within the sales plan, in 33.33% of cases within the advertising plan, and 22.22% within the brand development plan. Activities on web social media in banks are in 66.67% of cases a consequence of previously adopted marketing plans, and in 33.33% of cases a consequence of competition activities. According to respondents, banks in which web social media are used for the purposes of *customer communication, advertising, market research and brand development*. Also, all respondents consider web social media to be "A cost-effective and useful marketing tool for marketing activities"

Based on the results of the analysis of empirically collected data from respondents who work in banks, it can be concluded that banks in BiH approach marketing activities on web social media in an organized, planned and in most cases have an official document containing the strategy of bank's performance on social media. The results of the analysis enable the acceptance of the first working hypothesis that BH banks strategically approach marketing activities through web social media, because banks in most cases conduct marketing activities on web social networks formally, organized and planned. Empirical results of research on the strategic approach to marketing activities through web social media at banks in Bosnia and Herzegovina are in line with research Kim & Ko (2012) who state that such planned and strategic brand actions on web social media have a positive impact on CRM and brand value; but also with the research of Godey *et al.* (2016).

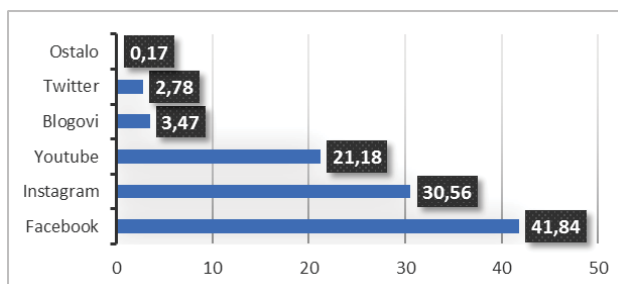
Table 1 below shows the structure of the basic socio-demographic variables of the respondents, which were collected through another questionnaire sent to bank clients, and it shows that men and women are approximately equally represented in the sample (47.29% & 52.71%, respectively). According to the age structure of respondents, the most respondents are aged 18-30 (50.39%), while according to the amount of monthly personal income there is 35.66% of respondents whose monthly personal income is from 501 to 1000 KM. According to the level of education, the largest number of respondents in the sample have completed undergraduate studies (44.19%).

Table 1. Structure of respondents (bank clients) according to socio demographic variables

| Basic characteristics of the sample | | |
|--|------------------------|---------|
| Socio demographic variables | Modalities | Percent |
| Gender | Men | 47.29% |
| | Female | 52.71% |
| Age of respondents | <18 years; | - |
| | 18-30 years; | 50.39% |
| | 31-40 years; | 31.01% |
| | 41-50 years; | 13.95% |
| | 51-60 years; | 4.65% |
| | > 60 years. | - |
| The amount of monthly personal income of respondents | Up to 500 BAM; | 8.53% |
| | From 501 to 1000 BAM; | 35.66% |
| | From 1001 to 1500 BAM; | 30.23% |
| | From 1501 to 2000 BAM; | 15.50% |
| | Over 2000 BAM. | 10.08% |
| Degree of education | Elementary School; | - |
| | High school; | 31.01% |
| | Undergraduate study; | 44.19% |
| | Master's study; | 20.93% |
| | PHD studies. | 3.88% |
| Number of respondents | n = 258 | 100% |

Source: Author's research

Graph 2 shows the structure of web social media that respondents most often use to follow the content of the bank whose products and services they primarily use. In most cases, as many as 41.84% of respondents use the social network Facebook, followed by Instagram (30.56%), YouTube (21.18%), while respondents in the least number use Blogs and Twitter (3.47% and 2.78% respectively). Based on the results of the analysis, it can be concluded that respondents in Bosnia and Herzegovina most often use the social networks Facebook and Instagram to monitor the content of banks' marketing activities.



Graph 2. Structure of the most frequently used web social networks by respondents

Source: Author's research

Respondents rated the degree of agreement/disagreement with the offered statements about the marketing activities of the banks whose services they primarily use, on a scale from 1 to 5. The claims included marketing activities expressed through five dimensions: entertainment, interaction, trends, customization, and word of mouth (word of mouth marketing); with a total of 11 claims. The statements *"The content of the bank's social media whose services I use is modern and trendy"* were rated with the highest average marks ($p = 4.03$; $sd = 1.108$), *"I would like to pass on information about the brand, product or services from the bank's social media to my friends"* ($p = 3.86$; $sd = 1.19$), *"It is easy to express your opinion through the social media of the bank whose services I use"* ($p = 3.73$; $sd = 1.24$), *"The social networks of the bank whose services I use offer customized information retrieval"* ($p = 3.72$; $sd = 1.095$). The statement *"I like to share content from the social networks of the bank whose services I use on my personal profile"* was rated with the lowest average grade ($p = 2.83$; $sd = 1.38$). To measure the dependent variable market value of the brand, respondents rated the degree of their agreement/disagreement with the offered statements on a scale from 1 to 5 (1 - absolutely disagree; 5 - absolutely agree) for two dimensions of the market value of the brand. For the brand recognition dimension, the statement *"I can quickly remember the symbol or logo or colour of the brand of the bank whose services I use"* has the highest average rating ($p = 4.52$; $sd = 0.91$), while for the brand image dimension, the statement with the highest average rating *"The bank whose services I use has extensive experience in the market"* ($p = 4.08$; $sd = 0.91$). It can be concluded that respondents can very easily recall the logo or colors of the bank whose services they primarily use. In order to check the connection between marketing activities on web social media with the market value of the brand of banks in Bosnia and Herzegovina, the Spearman's correlation coefficient was used. The results of Spearman's correlation coefficients are shown in table 2.

Table 2. Results of the analysis of Spearman's correlation coefficient

| MARKETING ACTIVITIES ON WSM (INDEPENDENT VARIABLE) VS. MARKET VALUE OF THE BRAND (DIMENSIONS OF THE DEPENDENT VARIABLE LISTED IN ROWS) | SIGNIFICANCE LEVEL PROB> T | SPEARMAN'S RHO | VALUATION (COMMENT) |
|--|----------------------------|----------------|---|
| BRAND AWARENESS | 0.0000 | 0.3844 | YES, there is a statistically significant weak to moderate positive correlation between the observed variables. |
| BRAND IMAGE | 0.0014 | 0.1983 | YES, there is a statistically significant weak to moderate positive correlation between the observed variables. |

Source: Author's research

By analysing *table 2*, it can be concluded that there is a statistically significant correlation between marketing activities via web social media and brand awareness ($r_s = 0.3844$; $p = 0.0000 < 0.05$), which means that there is enough evidence not to accept the null hypothesis. In favour of alternative - that is, marketing activities through web social media are associated with the brand awareness of Bosnian banks. Also, the calculated Spearman's correlation coefficient for marketing activities via web social media and brand image shows that there is a positive and statistically significant correlation ($r_s = 0.1983$; $p = 0.0014 < 0.05$), so in the case of the second hypothesis it can be concluded that there is enough evidence that the null hypothesis in favour of the alternative is not accepted, which implies that marketing activities via web social media are associated with the brand image of BH banks, in perception of respondents. The results of the calculated correlation coefficients provide sufficient evidence to lead to the conclusion that marketing activities via web social media are related to the market value of the brand. The results of the empirical research are in line with research by Loureiro and Miranda (2011) on the positive relationship between brand value and marketing activities in Internet banking, and with the results of empirical research by Faircloth, Capelle and Alford (2001). The stated results of the conducted empirical research are in accordance with the conclusions of the authors Bruhn, *et al.* 2012; Kim & Ko, 2012; Godey *et al.* 2016.

At the end of the elaborated results of the analysis and discussion, it is important to state the basic limitations of the conducted research. The main limitation of the work is the impossibility of obtaining data from the entire population of banks in Bosnia and Herzegovina, when it comes to data collected from members of the management in charge of market operations. It is important to mention that Unicredit Bank, which in Bosnia and Herzegovina, according to secondary data published in the reports of the Banking Agency, has the highest amounts of placements, assets, and the best business result, as well as the largest number of existing and new clients, was not part of the sampling, because it is not present on web social media.

5. Conclusion

Quite similar products, aggressive market presence, experience and foreign capital are just some of the factors that lead to the development of marketing in banking. In order to differentiate each other, banks are investing more and more in marketing activities, and marketing is becoming the main tool in the fight against competition. The emphasis in the analysis of empirical data is on determining the strategic approach to marketing activities through web social media in banks in Bosnia and Herzegovina, and then through primary research analysed the relationship of marketing activities

through web social media with the market value of banks, by perception of customers. The main aim of the research is achieved, which was to examine whether BiH have a strategic approach to marketing activities through web social media and whether marketing activities through web social media are related to the market value of the bank's brand.

Based on the results of the analysis of empirically collected data by members of the management in charge of market operations, it can be concluded that banks in Bosnia and Herzegovina approach marketing activities on web social media in a planned and organized manner and generally have an official document containing a strategy for social media. The results of the analysis provide sufficient evidence to accept the first working hypothesis that BH banks strategically approach marketing activities through web social media. By surveying users of banking products and services, it was found that the most commonly used web social media by respondents to follow the content of marketing activities are Facebook and Instagram. The importance of web social media for the development of the bank's brand was generally assessed by the respondents as important or very important, which leads to the conclusion that the respondents perceive a high degree of importance of web social media for the development of the bank's brand. Empirical research has led to insights into the connection between marketing activities through web social media with the market value of the brand of BH banks. The results of the correlation analysis (Spearman's rho) show that there is a statistically significant weak to moderate positive correlation between the observed variables (brand awareness and marketing activities on WSM; and brand image and marketing activities on WSM). This is additionally encouraging although the value of the Spearman's coefficient is significant but weak to moderate, which can be explained by the fact that banks do not communicate with the public only through social media in Bosnia and Herzegovina. The results provide sufficient evidence to lead to the conclusion that marketing activities through web social media are related to the market value of the brand.

The financial sector is extremely attractive for research, as well as web social media, so as a recommendation for future research it would be interesting to examine whether there are differences in respondent's perceptions of the connection between web social media and brand value in different consumer cultures. The same or similar research can be extended to the entire financial sector (funds, insurance companies, microcredit organizations, etc.). Also, socio demographic variables (such as gender, age, income, and education) can be a significant determinant in analysing the understanding of connectivity and/or the impact of web social media on brand value in banks.

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**DIGITAL ECONOMICS /
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THE IMPACT OF COVID-19 PANDEMIC ON DIGITAL TRANSFORMATION

UTICAJ PANDEMIJE COVID-19 NA DIGITALNU TRANSFORMACIJU

Abstract

This paper presents new research, which has shown that responses to the COVID-19 crisis have accelerated the adoption of digital technologies by several years - and that many of these changes could be long-term. According to a survey by McKinsey executives (a strategic management consulting firm), their companies have accelerated the process of digitizing the supply-side interaction chain, as well as their internal campaigns, by 3 to 4 years, and the percentage of digitally or digitally enabled products in their business plans increased by a shocking seven years. Research also shows that after the onset of coronavirus, respondents are three times more likely to state that a minimum of 80% of communication with clients is done digitally. In response to the Covid-19 pandemic, governments are making significant interventions to stabilize the economy, and companies are trying to adapt to the changing needs of their employees, customers and suppliers. The notion of a turning point in the adoption of digital technologies has not existed for a long time, but research data suggest that the COVID-19 pandemic is a turning point of historical proportions, and that further changes will be needed as the economy and humanity progress.

Keywords: Covid-19, digital transformation

JEL: O3

Sažetak

U ovom radu je prikazano novo istraživanje koje je pokazalo da su odgovori na krizu COVID-19 ubrzali usvajanje digitalnih tehnologija za nekoliko godina i da bi mnoge od tih promjena mogle biti dugoročne. Prema navedenom istraživanju McKinsey-evih rukovodilaca (firma za savjetovanje o strateškom upravljanju), njihove kompanije su ubrzale process digitalizacije lanca interakcije ponuda-potrošač, kao i svojih internih kompanija za 3 do 4 godine, a procenat digitalnih ili digitalno omogućenih proizvoda u njihovim biznis planovima se povećao za sedam godina. Istraživanja također, pokazuju da je nakon pojave korona virusa, tri puta veća vjerovatnoća da će ispitanici izjaviti kako minimalno 80% komunikacije sa klijentima obavljaju digitlanim putem. U odgovoru na pandemiju Covid-19, vlade zemalja poduzimaju značajne intervencije u stabiliziranju privrede, a preduzeća se pokušavaju prilagoditi promjenjivim potrebama svojih zaposlenika, kupaca i dobavljača. Pojam prekretnice u usvajanju digitalnih tehnologija ne postoji odavno, ali podaci istraživanja sugerišu da je pandemija COVID-19 prijelomna tačka historijskih razmjera, i da će biti potrebne dodatne promjene kako ekonomija i čovječanstvo budu napredovali.

Gljučne riječi: Covid-19, digitalna transformacija

JEL: O3

1. Introduction

Nowadays, digital transformation is not only changing the way we do business, but it is constantly creating new opportunities for prosperity and growth of all business segments of the public and private sectors. Of course, the digital transformation did not begin due to the Covid-19 pandemic.

Many companies recognized the importance of the digital transformation of business processes long before the pandemic, but the advent of the coronavirus has forced companies to adapt virtually overnight to the new circumstances. Much of the sales have moved online, social networks are now increasingly used for serious business ventures instead of pure entertainment as before, websites are coming to the fore because it is essentially now the majority if not the only showcase towards customers, and all that it actually transformed overnight.

This paper presents new research, which has shown that responses to the COVID-19 crisis have accelerated the adoption of digital technologies by several years - and that many of these changes could be long-term. According to a survey by McKinsey executives (a strategic management consulting firm), their companies have accelerated the process of digitizing the supply-side interaction chain, as well as their internal campaigns, by 3 to 4 years, and the percentage of digitally or digitally enabled products in their business plans increased by a shocking seven years. Research also shows that after the onset of coronavirus, respondents are three times more likely to state that a minimum of 80% of communication with clients is done digitally. Compared to 2018, the share of companies actively using digital technologies increased by 16%. That is, the percentage increased from 23% in 2018 to 39% in 2020. The number of companies with the lowest digitization rate fell by 6%. In the chart below, we can see a comparison of 2019 and 2020 according to 5 "profiles" of the digital readiness of companies (Sandalić, 2020). Applications like Slack, Discord, Google Meet and Zoom and Microsoft Teams have become commonplace in business communication. In response to the Covid-19 pandemic, governments are making significant interventions to stabilize the economy, and companies are trying to adapt to the changing needs of their employees, customers and suppliers. The notion of a turning point in the adoption of digital technologies has not existed for a long time, but research data suggest that the COVID-19 pandemic is a turning point of historical proportions, and that further changes will be needed as the economy and humanity progress.

2. Previous research

Simply put, digital transformation involves the application of digital technologies in all aspects of business, leading to a complete change in the way business is conducted. In the business world, the competition has never been so fierce. However, product and brand diversity is no longer the only problem. Nowadays, the biggest challenge is to build a strong online presence. Thanks to the rise of online shopping, physical stores have fallen into the background, and the survival of the strongest in business and commerce now means the survival of the digitally most capable. Why has the digital transformation of business taken off? Companies taking this step say they are doing so to gain a competitive advantage. Providing quality products and adequate customer support is no longer enough. Digital business transformation is today one of the most commonly used terms in business publications, portals, and conversations between business people (Burić, 2020, p. 198). There is probably no successful manager or promising entrepreneur who has not wondered what digital transformation means for his company's business. According to Jashari (2020, p. 6) Covid-19 had a great impact on company.

The impact of COVID-19 on small and medium-sized enterprises was investigated by Bartik *et al.* (2020). The research was conducted on a sample of 5,800 small businesses between March 28 and April 4, 2020. Although the research was conducted at the very beginning of the impact of COVID-19 on the business world, research results show that the pandemic has already caused large dislocations among small and medium-sized enterprises even before the availability of the state help. Over 43% of companies were temporarily closed, and almost all of these closures are the pandemic of the COVID-19 virus.

Of the many definitions of digital transformation in recent society and the economy in general, the following has been taken for the purposes of this paper: “Digital transformation is defined as a change in the way an enterprise uses digital technologies to develop a new digital business model that helps create and gain greater value for the enterprise” (Burilović, 2020, p. 198). In a report entitled "Annual Report on the Internet", CISCO Systems estimated that in 2023, almost two thirds of the global population will have access to the Internet. Furthermore, the same report states that in 2023, more than 29 billion devices will be connected to the Internet, which is an increase of more than 10 billion new devices connected to the Internet compared to 2018. Although some managers believe that transformation always leads to the cannibalization of existing products and services, this does not have to be the case. Digital transformation offers companies and employees a long-term perspective of sustainable business and is necessary to achieve and maintain the competitiveness of companies.

Therefore, as with all strategic changes, the personal involvement and responsibility of the most influential members of the company is necessary, as well as the commitment to digital transformation by top management. The crisis over COVID-19 in just a few months has caused changes in the way companies operate in all sectors and regions that would otherwise take years of work. Unfortunately, the epidemic has shown us how things can change quickly overnight, and not only companies but also "ordinary" people have been digit.

According to Warner & Wäger (2019), Fletcher & Griffiths (2020), digital transformation is a term that is significantly different from the term "digitalization", because it is not narrowly technical, but includes significant changes in business models, in the way of life, it affects our daily habits and expectations regarding the quality of life. This, of course, greatly increases our dependence on the Internet and ICT (Information and Communication Technology) solutions in the period to come, but we must be ready for that. The issue of cyber security and privacy, the degree of trust in technologies, ease of use for a wide population without technical knowledge, these are all some of the basic prerequisites to ensure mass acceptance. The situation in the world related to the Corona virus pandemic certainly gives us a significant argument for this, and it is essential to maintain the global economy and reduce the damage caused to the economy, the extent of which we will understand months and probably years after this has passed.

3. Research methodology

The presentation of the data in this article will be based on secondary data sources on the impact of the COVID-19 pandemic on digital transformation in companies. Available secondary data sources will be processed using the desk research method. Thus, articles, studies, statistical publications, journals, bulletins, and websites of relevant international financial and other organizations stand out. According to a survey by McKinsey executives (a strategic management consulting firm) from which secondary research data were used, their companies have accelerated the process of digitizing the supply-side interaction chain, as well as their internal campaigns, by 3 to 4 years. And the percentage of digital or digitally enabled products in their business plans has increased by a shocking seven years. Almost all respondents said they had met at least temporary solutions to meet the new requirements, and much faster than they thought possible before the crisis.

Moreover, they expect that most of these changes will be long-lasting and are already investing in investments that will guarantee their survival. Namely, when managers were asked about the impact of the crisis on a number of measures, they answered that the funding of digital initiatives has increased more than anything else - more than the increase in costs, number of employees and number of consumers- without major problems. This is certainly a moment before and after in the history of economics and digital transformation. Even when the COVID-19 pandemic stops, it is unlikely that things will return to normal.

4. Results and discussion

During the pandemic, consumers turned drastically to the digital track, and companies and industry retaliated with the same measure. The results of the above-mentioned survey confirm the rapid shift towards customer interaction through digital channels. They also show that digital adoption rates are years ahead of those in previous surveys, even higher in developed Asia than in other regions (Figure 1).

The COVID-19 crisis has accelerated the digitization of customer interactions by several years.

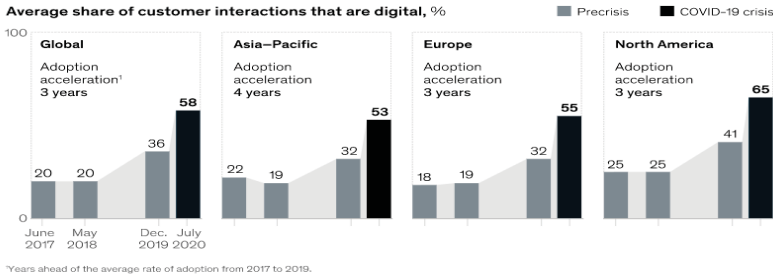


Figure 1. Average share of customer interactions

Source: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever>, [accessed: May 27, 2021]

Most respondents can now confirm that 80% of their interaction with consumers is done through digital (online) channels, three times more than before the crisis.

Probably a surprising fact is the acceleration of the creation of digital, *i.e.* digitally improved offers. The results in all regions indicate an average seven-year increase in the rate at which companies develop these products and services. Again, the increase is even higher (10 years) in developed Asia (Figure 2). Respondents also reported a similar combination of types of digital products in their business plan before and during the pandemic. This finding suggests that companies during the crisis probably redirected their offerings instead of making major changes in product development, within just a few months.

Across business areas, the largest leap in digitization is the share of offerings that are digital in nature.

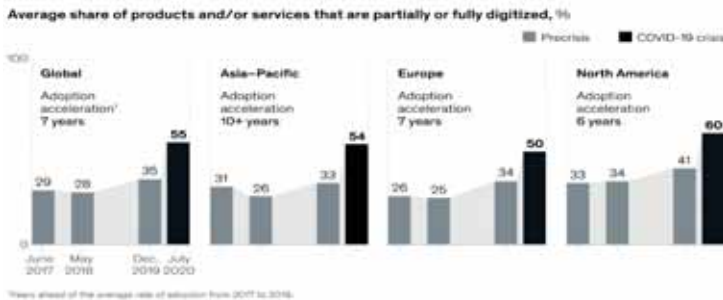


Figure 2. Average share of products and services that are partially or fully digitized

Source: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever> [accessed: May 27, 2021]

Results in different sectors suggest that digital product development rates during a pandemic vary. Respondents of consumer goods (CPG) and the automotive industry, for example, reported relatively low rates of change in their digital product portfolio. In contrast, the increases recorded are much more significant in health and pharmacy, financial services and professional services, where executives recorded an increase almost twice as large as those recorded in CPG companies. Consumer-oriented service organizations are not the only ones affected. The reports showed similar accelerations in the digitization of its core internal operations (such as back-office, manufacturing, and R&D process), as well as in supply chain interaction. Unlike changes aimed directly at consumers, the adoption rate is constant in all regions. Still, respondents say the speed with which their companies have responded to a range of changes associated with COVID-19 is even greater than digitalization throughout their business (Figure 3). Respondents were asked about 12 potential changes in the organization and industry, and those respondents who saw the changes were asked how long it took them to implement them and how long it would take before the crisis. They replied that most of the changes in their companies took place 20 to 25 times faster than expected, and in the case of teleworking even up to 40 times faster than they thought possible before the pandemic. They stated that it would take more than a year before that to apply the level of telework that was carried out during the crisis. In fact, it took an average of 11 days to implement a feasible solution, and almost all companies established feasible solutions within a few months.

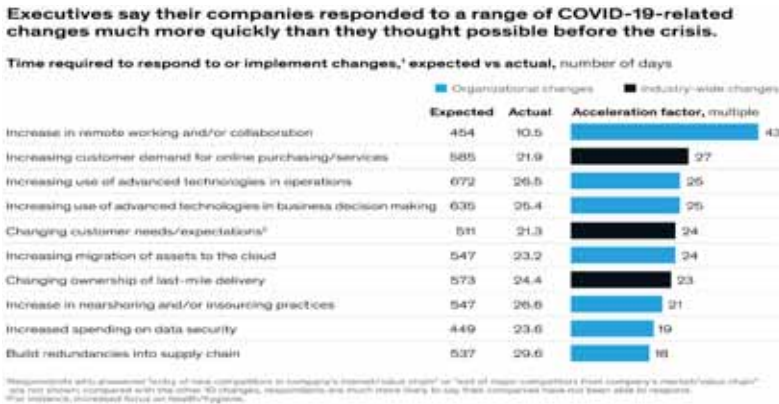


Figure 3. Time required to respond to implement changes

Source: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever> [accessed: May 27, 2021]

When respondents were asked why their organizations did not implement these changes before the crisis, more than half answered that they were not their main business priority. The crisis has removed this obstacle: only 14% of all respondents answered that the lack of better management hindered the implementation of these changes. Respondents in B2B and B2C companies most often cited failure to set priorities as an obstacle, but responses to other challenges did not differ. Nearly a third of B2B respondents responded that fear of customer resistance to change was an obstacle, and 24% of respondents in consumer-oriented industries stated the same. Following these challenges, B2B executives most often pointed to organizational and technological problems: the necessary changes were too much of a shock to establish ways of working, the IT infrastructure was insufficient, or organizational business sectors hindered commitment and implementation of necessary changes. Of the 12 changes surveyed, respondents from different sectors and areas most often reported a significant increase in teleworking, a change in consumer needs (switching to offers that meet new health and hygiene standards) and consumers' preference for remote interaction (Figure 4). Those who have reported significant changes in these areas are now twice as

convinced that these shifts will continue after the crisis, and that they will not return to previous norms.

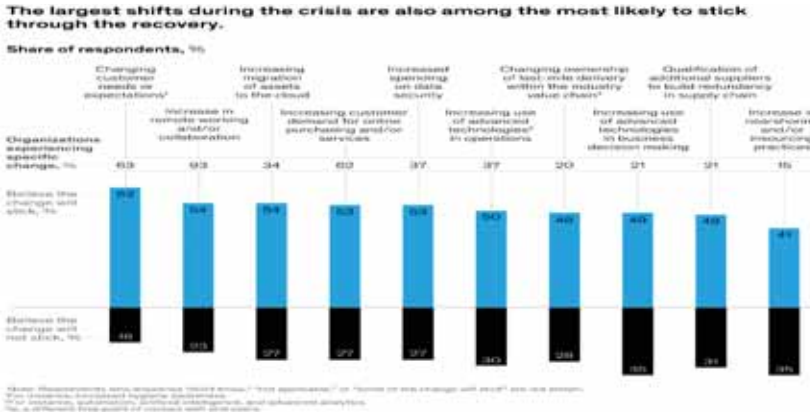


Figure 4. Share of respondent

Source: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever> [accessed: May 27, 2021]

Respondents found that the crisis accelerated changes in their supply chains as well. The nature of these changes varies significantly across sectors and occurred faster than other changes due to contracts that already existed before the pandemic. Respondents in industries aimed directly at consumers such as CPG and retail often cite supply disruptions (those that work directly with consumers). Other changes in the supply chain, such as unnecessary construction, were most often reported by the sectors involved in the delivery of physical products. The results also show that the changes companies are making are not short-term. For most, the need to work remotely and interact with consumers required investment in data security and accelerated integration into the cloud (cloud - refers to servers accessed via the Internet and software and databases running on those servers). When the investments were completed, these companies permanently removed the limiting factors that were current before the crisis, on the way to virtual interaction. Most respondents expect that technological change, along with teleworking and consumer interaction, will continue in the future. Nearly a quarter of respondents also report a reduction in their physical tracks. This marks a longer-term shift than might otherwise occur among the 21% of full-time companies that reported a drop in their numbers. Moreover, when asked about the impact of the crisis on a number of company measures (including the number of employees), respondents said that funding for digital initiatives has increased more than anything else - more than costs, the number of people in digital or other technological roles, and the number of consumers. But further the question arises as to whether these changes are cost-effective, whether they have the ability to satisfy consumers, and whether they represent an advantage in business. Also, the relationship between the longevity of the crisis and the permanence of change was examined, while the "new" becomes "normal" over time. Of the 12 changes, respondents stated that teleworking and cloud migration were the most cost-effective of the norms and practices they had before the crisis. Teleworking is unlikely to meet consumer expectations better than it did before the crisis, but the changes that have been best demonstrated are good responses to the growing demand for online interaction and tailoring to consumer needs. Investing in data security and artificial intelligence are the changes that respondents most often identified as helping a better organization better than it was before the crisis. 70% of respondents believe that teleworking will remain operational as long as the crisis lasts. Further, respondents argue that technological capabilities stand out as key success factors during a crisis. Among the biggest differences between successful companies and everyone else is talent, the use of the latest technologies and other skills (Figure 5), and it is necessary to have a habit and work

culture that encourages experimentation and quick action. Almost half of the respondents in successful companies claim that they were the first to enter the market with innovations during the crisis, and that they are the first companies in their industry to experiment with new digital technologies. Also, they are more likely to report key business information to managers before others, and to allocate resources to finance new initiatives faster than others. Both aspects are crucial when it comes to experimentation.

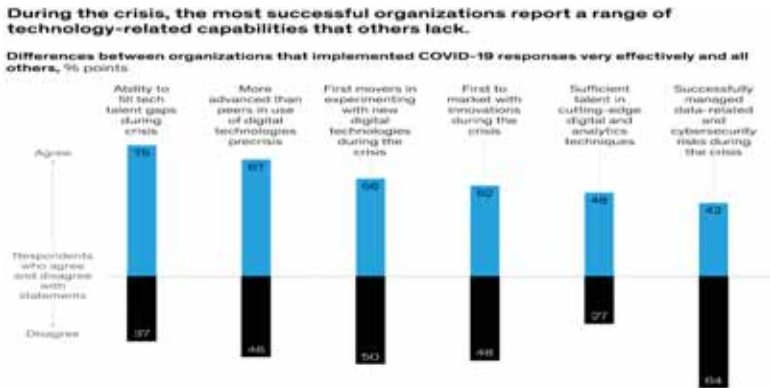


Figure 5. Differences between organizations that implemented COVID 19

Source: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever> [accessed: May 27, 2021]

The notion of a turning point in the adoption of digital technologies has not existed for a long time, but research data suggest that the COVID-19 pandemic is a turning point of historical proportions, and that further changes will be needed as the economy and humanity progress. The results also show that significant lessons can be learned from the steps already taken by some organizations. One is the importance of learning, both tactically (in the process of making certain changes in business - what technologies to apply and how), and organizationally (how to manage change at a rate that far exceeds the speed of previous experiences). Both lessons will be crucial in progressing, as this pace of change is unlikely to slow down.

5. Conclusions

Governments of countries, in response to the corona-virus, are making significant interventions to stabilize the economy, and companies are trying to adapt to the changing needs of their employees, customers and suppliers. Business activities are slowing down and the consequences of coronavirus are unpredictable. However, one positive thing caused by the COVID-19 crisis is that companies are forced to innovate and analyse new ways of doing business. It is clear that after the pandemic, the company's operations will be more flexible (remote workforce planning, flexible contracts with customers and suppliers, new employment policy), focused on planning procedures to limit risks and respond to crisis situations. Also, the IT infrastructure will be more secure, as well as the protection and security of people. After the COVID-19 crisis, the business world will look different. The COVID-19 pandemic continues to spread uncontrollably around the world and it is very difficult to predict when and how it will stop. Health systems, humanitarian and socio-economic policies are trying to determine the speed and strength of recovery, but so far without success. Adapting to the COVID-19 pandemic by transforming work in companies with greater support from digital technology is becoming an indicator of success. However, there are many challenges in this process as well, and some of the key ones are to ensure the health and safety of employees, customers and suppliers, to allocate financial resources for risk identification and management, and to improve the cyber security protocol. Building greater resilience of operational business, decision-

making processes, and ways of working, have become key indicators of success and coexistence with the COVID-19 virus. The corporate world after the corona-virus pandemic will look different. Trends that emerged during the pandemic, such as distance learning and work, telemedicine, delivery services, e-commerce, *etc.*, will become the standard. The experience and changes that have taken place during this crisis may shape the world for the next decade and serve to reconsider some beliefs, attitudes, and dilemmas. Therefore, some key questions remain for further research: should we focus on efficiency or resilience to unforeseen situations, is the future of capitalism (as we know it) questionable, should the role of governments, economies and academia change? History shows that markets and society become stronger, better and more successful after global crises. So it will be, hopefully this time too.

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INFLUENCE AND CONSEQUENCES OF CORONAVIRUS COVID-19 ON DIGITAL MARKETING

UTICAJ I POSLJEDICE KORONAVIRUSA COVID-19 NA DIGITALNI MARKETING

Abstract

A large number of businesses and trades shared the view that the world was "falling apart" due to the impact of the global coronavirus pandemic COVID-19, and that it was largely entering a time of recession. This paper presents the impact of the global coronavirus pandemic COVID-19 on the field of digital marketing at the global, regional and local levels. The impact of the COVID-19 pandemic on digital marketing was in most cases positive unlike other industries. The paper points out that the coronavirus pandemic due to lockdown of movement and work has positively affected and provided excellent and unplanned opportunities for the realization of honest, moral and ethical digital marketing that could counter the global society, economic and social challenges posed by the pandemic. While the virus has caused a lot of uncertainty among consumers and marketers, especially in the health, social life, economic stability, jobs, etc. sectors, the same pandemic has on the other hand led to behavioral changes such as working from home, spending more time indoors / home, adapting online teaching, increasing attention to health and hygiene, avoiding large gatherings, increased use of social media, more attention focused on online content. All these changes have caused more extensive use of digital platforms and digital content, which has led to better connectivity between companies and consumers through modern digital technologies. The increased use of social media and digital content provides marketers with unprecedented opportunities. The aim of this paper is to analyze, highlight and encourage understanding of the impact that the COVID-19 coronavirus pandemic has had and still has on digital marketing, and to highlight certain post-covid trends that will characterize the future environment of the business world.

Keywords: COVID-19, digital marketing, digital platforms, digital content

JEL: F63, M31, O33, P11

Sažetak

Veliki broj privrednih subjekata i obrta je dijelilo mišljenje da se svijet "raspada" usljed uticaja globalne pandemije koronavirusa COVID-19, te da se uveliko ulazi u vrijeme recesije. U ovom radu predstavljen je uticaj globalne pandemije koronavirusa COVID-19 na oblast digitalnog marketinga kako na globalnom, regionalnom, tako i na lokalnom nivou. Uticaj pandemije COVID-19 na digitalni marketing je bio u većini slučajeva pozitivan za razliku od drugih djelatnosti. U radu je istaknuto da je pandemija koronavirusa usljed blokada kretanja i rada pozitivno uticala i pružila odlične i neplanirane mogućnosti za realizaciju iskrenog, moralnog i etičnog digitalnog marketinga koji se mogao suprostaviti globalnim društvenim, ekonomskim i

socijalnim izazovima koje je donijela pandemija. Dok je virus izazvao dosta nesigurnosti kod potrošača i marketara, posebno u sektoru zdravstva, društvenog života, ekonomske stabilnosti, radnih mjesta itd., ista pandemija je sa druge strane dovela do promjena u ponašanju kao što su rad od kuće, provođenje više vremena unutar stana/kuće, prilagođavanje online izvođenje nastave, povećanje pažnje zdravlju i higijeni, izbjegavanje velikih skupova, povećana upotreba društvenih medija, veća pažnja usmjerena online sadržajima. Sve ove promjene su uzrokovale obimniju upotrebu digitalnih platformi i digitalnih sadržaja što je dovelo do kvalitetnije povezanosti kompanija i potrošača putem savremenih digitalnih tehnologija. Povećana upotreba društvenih medija i digitalnog sadržaja pruža marketarima do sada neviđena mogućnosti. Cilj rada je da analizira, istakne i podstakne na razumijevanje uticaj koji je imala i još uvijek ima pandemija koronavirusa COVID-19 na digitalni marketing, te da se ujedno istaknu i određeni post-covid trendovi koji će karakterisati budući ambijent poslovnog svijeta.

Gljučne riječi: COVID-19, digitalni marketing, digitalne platforme, digitalni sadržaj

JEL: F63, M31, O33, P11

1. Introduction

The coronavirus Disease (COVID-19) pandemic represents one of the most important environmental challenges in the modern marketing history, which could potentially have a strong effect on basic marketing philosophy. The short-run effect of Covid-19 was clear and immediately noticed, due to the widespread lockdown and the applied of social distancing regulations worldwide. During this time citizens used the benefits of open source platforms to conduct conversations, learn and adopt new knowledge during the COVID-19 coronavirus pandemic, and thus reduce movement outside apartments or houses and use there spare time more effectively. According to the United Nations World Tourism Organization (UNWTO), about 120 million jobs were at risk in the tourism sector in 2020, and a loss of about \$ 1.3 trillion is projected (UNWTO, 2021). In this paper, the researcher presents and discusses results of COVID-19 influence on marketing and digital marketing and presents some future trends recorded in literature regarding future marketing trends and marketing strategy. The researcher tries to answer the question: How are marketing activities affected by COVID-19 pandemic? Nad What are future marketing trends after COVID-19?.

2. Marketing and digital marketing

Some authors emphasize that digital marketing is misinterpreted, and is defined as sales, promotion and advertising. However, the facts are different, digital marketing is the same as traditional marketing, only on a different medium. The father of marketing, Kotler (2018, 2019), defined marketing as “a social and managerial process that, through the creation, offering and exchange of value products with others, individuals and groups get what they need or want” (Kotler & Armstrong, 2018; Kotler, *et al.*, 2019). Simply put, marketing is creating and finding needs, and meeting them. The attention of users is also in the digital world, and only the tools with which marketing is carried out have changed, but not the definition of marketing. Therefore, it can be said that marketing has always been marketing and will always be marketing, the only difference will be the medium of communication, which will depend on where the user's attention is. Thus, digital marketing is relevant today, while a different form may be relevant tomorrow, also it can be stated that digital marketing is a segment of marketing that uses the Internet and digital technologies such as computers, mobile phones, websites, social media platforms, various application software, e-mail and other platforms to promote products and services. Arbona (2020) quotes that the new coronavirus COVID-19 is seriously affecting all spheres of business, which has led to unforeseen delays and interruptions in work. On the other hand, the representation of online business is still present, in fact. More and more things are being done over the Internet. Data showed in the literature stand out how much the pandemic has affected business in a very short period, but also

how much space there is to support online business in the form of digital marketing. So the question is how can digital marketing help us with that? (Arbona, 2020). Ayush and Gowda (2020, p. 225) stated that during CORONA-19 “consumers” interest in traditional marketing activities has been declining, and consumers are increasingly considering access to products, services and brands through digital platforms, leading to the development of various digital marketing tools, such are: Search Engine Optimization, Social Media Marketing, Video Marketing and Micro Video Marketing, e-Mail Marketing, Affiliate Marketing, Mobile Marketing, Influencer Marketing.

2.1 The impact of the covid-19 pandemic on digital marketing

Covid-19 changes our life, so will the philosophies, ideologies, and fundamental principles that shaped marketing field. While much of these changes are difficult to predict, probably, these events will have a major effect on core marketing philosophies, mindsets, and ideas. (Bachman, 2020; Kamel, 2021). Kamel (2021, p. 37) states that the COVID 19 pandemic has changed and shaped the concept and philosophy of marketing to date. Anwar and El-Bassiouny (2020, p. 189) point out that traditionalists in marketing continue to encourage long-term marketing activities, while business owners, entrepreneurs and marketers face current problems caused by the COVID -19 pandemic. Therefore, short-term marketing activities and short-term goals are they see it as more meaningful than long-term marketing activities. Bachman (2020) states that is difficult to predict the answer at this time, but one thing is for sure, managers and companies have enough time to consider all environmental and business factors, and make adequate decisions based on consumer demands frustrated by limited supply options. Kamel (2021, p. 38) stated that advertising and media companies have needed to develop campaigns and responses in days when earlier efforts took months and years. The context of competition has also changed. During the pandemic customers, publics, and governments required and, in some cases, forced, collaboration for the benefit of all. during this regard, past competitors became collaborators (Kamel, 221, p. 39). Ayush and Gowda (2020, p. 227) point out that the global impact of the COVID-19 pandemic has had a markedly negative impact on the field of marketing activities, mainly due to the introduction of strict hygienic-epidemiological measures, such as partial or complete lockdown. On the other hand, the opportunity for digital marketing has opened up, given that consumers have reached out more for digital media in this period and faster than anticipated. The key indicators in this period are shown in the following table.

Table 1. Key digital headlines

| Key headlines, April 2020 | Key headlines, April 2021 |
|---|---|
| <ul style="list-style-type: none"> ▪ Big jumps in digital activity, especially in countries that have seen the strictest COVID-19 lockdowns | <ul style="list-style-type: none"> ▪ The world’s population stood at 7.85 billion at the start of April 2021, which is roughly 1 percent higher than the figure for the same time last year. |
| <ul style="list-style-type: none"> ▪ Significant increases in social media use, with video calling taking centre stage | <ul style="list-style-type: none"> ▪ There are 5.27 billion unique mobile users around the world, which means that more than two-thirds of all the people on Earth now have a mobile phone. |
| <ul style="list-style-type: none"> ▪ Accelerating adoption of ecommerce, particularly for grocery shopping | <ul style="list-style-type: none"> ▪ Internet users have grown by 7.6 percent over the past year to reach 4.72 billion, which equates to more than 60 percent of the world’s total population. |
| <ul style="list-style-type: none"> ▪ An increase in the amount of time spent playing video games and watching esports | <ul style="list-style-type: none"> ▪ More than half a billion new users joined social media platforms over the past 12 months, taking the global total to 4.33 billion by April 2021. |
| <ul style="list-style-type: none"> ▪ Some unexpected opportunities for digital advertisers | |

Source: Datareportal, 2021, 2020

Gu et al. (2021, p. 2265) states that shopper behavior is influenced by a range of factors, objective and subjective. Last year, the pandemic was one such factor. The growth of COVID-19 cases and its consequences (such as quarantine, isolation, social distancing and community containment) impacted not only the attitude of people toward health but also their buying behavior.

Datareportal (2021a) at its report lists the reasons for using social media in the population of global internet users aged 16-64 years states that staying in touch with friends and family members is the main motivation for using social media with almost 50% of responses in the survey. It is interesting to point out that news and entertainment content are also significant motivators for the use of social media with more than 33% of responses. Looking beyond people's primary motivations though, it's increasingly clear that social media is a top destination for entertainment. People in lockdown were ordering online more often than normal. They also reduced their discretionary costs, became more selective, and shifted to local brands. Demand for digital technologies (e.g., satellite broadband and video conferencing applications) has surged (Joia & Lorenzo, 2021, p. 2531). Also, McKinsey Digital (2020, p. 6.) emphasize that results of their survey makes clear that the surge in the adoption of online services is no temporary phenomena: over 70 percent of respondents said they expected to continue using digital services with the same frequency as they do now or even more often. But here, too, industry performance differs

As most consumers were forced to eat at home during the lockdown period, the food and beverage industry saw an increase in online sales. With many online shoppers reporting a decline in income, it is no surprise that affordable brands were more preferred at that point. If earlier a consumer basket included a wide range of goods and services, then during the pandemic the focus was on essential items, medication, antiseptics and disinfectants, delivery services, etc. Shopping patterns specific to the holiday season also underwent substantial changes. An average budget for holiday shopping was smaller during the pandemic as compared with previous years, and many shoppers (nearly all generations) turned to contactless shopping. The basic purchasing criteria remained the price, availability, and convenience, and a new criterion has emerged—hygiene. Along with the growth of food sales, the pandemic saw an increase in the sales of medical supplies, children's products, sporting items, and entertainment goods. The percentage of spontaneous purchases decreased, and the percentage of planned purchases increased. The rationalization of shopping behavior during the pandemic encouraged most companies to rethink their business strategies and consider a new situational driver of procurement to retain and attract new customers. Consumer behavior was influenced both by the COVID-19 pandemic itself and by government restrictions. Consumers of all generations during the COVID-19 crisis were more likely to buy goods and services digitally. Overall, there was a significant shift toward e-commerce spending. The frequency of shopping also increased. Factors that drive online consumer behavior during the COVID-19 pandemic include strong and sustained growth in the number of Internet users and increased awareness of online shopping, increasingly active online product releases, low prices due to bulk purchases, etc. The COVID-19 pandemic, social distancing, and staying at home are expected to push consumers to shop online. However, uncertain consumer demand and supply chain issues could affect the e-commerce industry. The COVID-19 pandemic issue may also affect large merchants, who are experiencing a decrease in casual shopping, supply chain disruption, and increased purchases of essential hygiene and disinfection products, groceries, and other products. In grocery, 51 percent of those surveyed used digital services, compared with 29 percent previously, a growth factor of 1.8. Low growth in travel during the pandemic comes as no surprise either, given travel bans. But insurance's performance is harder to explain. It had the lowest digital penetration of all industries surveyed before the lockdown and experienced the second-lowest growth of all industries during the pandemic, trailed only by travel (Gu et al., 2021, p. 2266, McKinsey Digital, 2020, p. 2). Low et al. (2020, pp. 21-25) confirm these results and advocate the increasing use of

digital marketing. They also state that during the COVID-19 coronavirus pandemic, there was an increase in online and digital activities.

Considering the changes in consumer behavior caused by COVID-19, marketing research in this area has also undergone changes. More and more marketing research on consumer behavior is taking place online (online questionnaires, call center surveys, and focus groups conducted via video conferencing or telephone conversations). Entrepreneurs had to adapt quickly and find innovative ways to interact with customers. Although the situation has been unpredictable, and decisions are not always easy to make, the current changes themselves cannot be called fundamentally new. Real-time analysis of changing consumer behavior, integration of online and offline channels, automation, flexibility, and attention to community values have all been discussed before. The pandemic simply resulted in the increased scientific interest in these activities. In the new world, the role of online analytics increases significantly: total quarantine is reflected in user behavior. Without understanding what exactly has changed, companies cannot plan their future actions. This applies to both marketing and sales in general. Whatever the world, the new kinds of research, methods and technologies learned during the pandemic are not temporary but are being confidently implemented and opening up a new space for managing online consumer behavior. Companies must focus on the digital capabilities of their consumers and clearly identify where they need to gain their trust. Each of the trends above has accelerated significantly with the onset of the pandemic. As research shows, the cumulative impact of the pandemic on consumer behavior has significant implications for business. Companies can no longer defend their pricing policies with factors that no longer have a benefit and are not crucial to a consumer in the new reality (Gu, *et al.*, 2021, p. 2266; Masaeli & Farhadi, 2021, p. 472).

GlobalWebIndex points out that the most searched content online was related to movies (about 50%), then there are funny videos (about 34%), the least sought after live broadcasts and updates (about 11%). Companies and brands should be careful when it comes to funny videos, regardless of the results of the GlobalWebIndex survey which mainly relates to entertainment formats such as TV shows, while the Edelman survey (2020) reveals that 57% of consumers have opinion that brands should suspend marketing activities that are considered ridiculous during the COVID-19. Almost 50% of Internet users surveyed by GlobalWebIndex stated that they have been spending more time shopping online since April 2020, but there are significant and interesting differences in the behavior of members of different genders and age groups. More than half of Internet users aged 15-54 in 17 countries in the survey said they spend more time shopping online lately, where men said they spend more time on online shopping activities, as shown in the following chart (Datareportal, 2020).

McKinsey Digital (2020, p. 2) states that Europe, like much of the world, has “gone digital” as a result of the lockdowns and social-distancing measures imposed to deal with the COVID-19 pandemic. But despite this broad trend, it’s becoming increasingly clear that there exist significant differences between consumers, countries, and sectors. Digital adoption in Europe jumped from 81 percent to 95 percent as a result of the COVID-19 crisis—a rise that would have taken two to three years in most industries at pre-pandemic growth rates. Germany, the country with the lowest adoption rate prior to COVID-19 among the countries analyzed, saw the largest uptick (28 percentage points). Nordic countries still show the highest adoption rates, but Finland has replaced Denmark at the top of the league, with a total of 99 percent having used a digital service in the previous six months. The difference between the countries with the highest and lowest digital adoption rates fell from 32 percentage points to just ten. McKinsey Digital also emphasize that banking has the most engaged users as measured by future intentions: 82 percent of those surveyed say they will continue using online banking services to the same degree or more. Insurance, the public sector, and grocery look more vulnerable, and not just among first-time users. More than 30

percent of previously regular users of these services said they would not use them to the same degree as they have recently, once the COVID-19 crisis is over (McKinsey Digital, 2020, p. 7).

Hoekstra and Leeftang (2020, p. 252) observed changes in customer consumption as a result of trends caused by the COVID-19 pandemic. Their research shows that in addition to fresh food, packaged food and chemicals to maintain hygiene in the home/apartment, the COVID-19 pandemic has had and will continue to have a negative impact on consumer markets. The same authors point out that data from other studies show the same or fairly similar results (for example, Netflix attracted about 16 million new subscribers in April-June 2020. Games, puzzles, *etc.* became popular again: the game "Trekking the World" achieved revenue of about \$ 100.00 in just one week), hygiene and health products, digital products, garden materials, DIY products (+ 25%), live channel services, furniture (+ 8%), and consumer electronics (16%). All these values confirm the perception that the house is the safest place to stay. A large number of these and other products due to the COVID-19 pandemic have been posted online. For example, in the Netherlands, sales in the online stores of the non-food sector increased by 60-70% in April 2020 compared to the previous growth of 16-18%, which are the values recorded by GfK. In May 2020, online sales experienced a new growth of 50% compared to May, 2019 (Hoekstra and Leeftang, 2020).

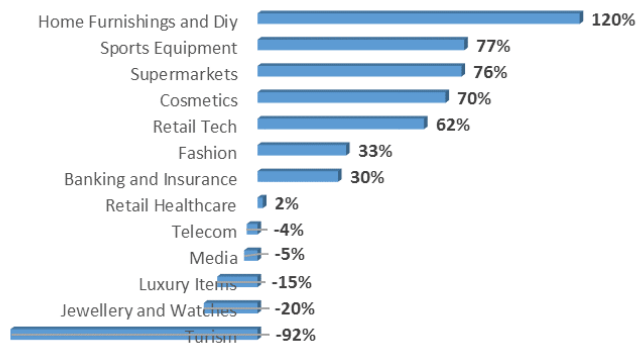


Chart 1. Impact of COVID-19 on E-Commerce transaction

Source: Datareportal, 2020

According to the previously presented indicators of the impact of COVID-19 coronavirus on marketing, it can be said that it is particularly visible in the following components (Ayush & Gowda, 2020, p. 227):

1. Increased use of social media during COVID-19 is the basis for increasing the volume of marketing through social media;
2. Switching from KPI expectations to lifelong values received by consumers;
3. Increased requirements for video and micro-video content;
4. Increased importance of artificial intelligence based on chatbots;
5. The growing importance of experiential marketing;
6. Increased searches for products by consumers.

Hoekstra and Leeftang (2020, p. 254) emphasize that many companies have developed great out-of-the box ideas that redefine their product portfolios. Examples include:

1. DSM, a manufacturer of plastics and nutritional products, now produces face masks, as does Auping, a manufacturer of mattresses.
2. A dry cleaner that uses disinfection cabinets to disinfect clothes has established a new company in partnership with other market players to manufacture disinfection cabinets. These are subsequently sold to hospitals.

3. Hooghoudt, a distiller of alcoholic beverages such as jenever and lemonade syrups, now also produces hand sanitizer.
4. In Italy, artificial snow cannons have been re-purposed as aerosol machines for disinfection.
5. Many restaurants have developed take-away services. An upscale Seattle-based restaurant has transformed into three pop-up restaurants: a drive-through burger restaurant, a bagel shop and a family meal delivery service.
6. The delivery service Deliveroo, which primarily handles restaurant orders, now also delivers products from Marks and Spencer.

Palgrave Macmillan (2021) stated that now is the time to ramp up social media efforts and emphasize three approaches that could help businesses respond or pivot in the current COVID-19 climate:

1. Launching a new service to respond to the changing environment e.g. online shopping, delivery.
2. Using social media to increase engagement and build a strong online brand community while your business is in hibernation.
3. Plan your relaunch ready for when the current COVID-19 restrictions ease.

3. Post Covid-19 digital marketing trends

Regarding COVID-19 influence on business sector Didner (2021) points out five trends that marketers should take into account when planning in the future:

1. Virtual communication remains, but everyone still strives for direct personal interaction.
2. Content is still crucial.
3. The digital consumer experience is your product.
4. Align sales and marketing.
5. Optimization of processes and work tasks is your competitive advantage.

Terry (2021) highlights trends related to content marketing in the post COVID-19 period, which relate to:

1. **Podcasting.** With an increasing number of citizens at home wanting to learn new things and new skills in their spare time, podcasts are becoming a common form of content that attracts citizens.
2. **Video.** Video content continues to be a trend for the reason that it continues to grow in terms of performance and visitors. Consumers like video content if it is good. To be good in this area you need to develop a content strategy and a specific video marketing strategy.
3. **Voice content search.** Voice search is now the second conventional way of searching for 45.3% of owners of smartphones and voice aids such as Google Home and Alexa. For now, most voice searches are focused on local search which is relevant to classic locations (*e.g.* traditional stores)
4. **Visual content search.** Currently, 32.9% of online searches use image recognition tools - visual searches. The next phase of browser optimization will be related to recognizing the positioning of images, and will be important in order to prepare content for visual search.
5. **TikTok.** TikTok allows brands to connect with consumers with the goal of building consumer communities and to get involved in their lives and daily activities. If Generation Z is your target audience, your consumers will expect you to plug in your Brent on TikTok.

Porter (2021) declare that the COVID-19 pandemic has placed social media marketing squarely in the center of a company's outreach strategy, as it's quickly become the one of most efficient ways to market during a crisis. Next tips should help businesses in future after COVID-19 period:

1. Listen to your customers to gauge their comfort level.
2. Refresh your brand to align with changing customer priorities.

3. Strive to be shareable.
4. Provide clarity and transparency.
5. Complete your adaptation to digital selling.
6. Become a data-driven social marketer.

These are some of the trends recorded in the literature that could be connected to the period after the COVID-19 pandemic, which the company's management should take into account in order to maintain business and competitiveness in the market.

4. Conclusion

No one can say for sure how long the COVID-19 coronavirus pandemic will affect our lives and business, so it is very difficult to offer any advice in such an environment. However, this research was started with the aim of proving the connection between the coronavirus pandemic COVID-19 and its impact on the field of marketing. It is obvious from the presented research results that the goal of the paper has been achieved and that in some way the gap in the literature that treats this area has been reduced. The research showed that the COVID-19 pandemic had a great impact on the field of marketing and its traditional approach to this field, which was supported by the research of the following authors Datareportal (2020, 2021, 2021a), UNWTO (2021), Arbona (2020), Mazzoleni et al. (2020), Bachman (2020), and others. Such changes in the world economy lead to a transformation from the hitherto known marketing concept based on strategic long-term planning to a marketing concept based on short-term customer satisfaction in order to maintain liquidity and competitiveness through the use of modern technological solutions especially in ICT sector, as evidenced by research Ayush and Gowda. (2020), Arbona (2020), Anwar and El-Bassiouny (2020) and others. Also, research shows that marketers should switch to digital forms of business and marketing activities as soon as possible in order to maintain liquidity and competitiveness of business, point out Datareportal (2021, 2021a), Datareportal (2020), Ayush and Gowda (2020), Low and others. (2020), and others. As citizens become increasingly aware of the negative effects of the COVID-19 pandemic on health and the economy, marketers should increasingly use contactless marketing strategies to create and communicate new values to consumers in a more efficient and cost-effective way. Effective application of social media should be a part of any business' marketing strategy. When it comes to post COVID-19 trends one thing is for sure, companies need to find their spent places where they already are. This can mean creating new profiles on social networks, organizing a virtual event or even better customizing existing online content to attract more visitors. Consumers want to visit you, and if your companies meet their expectations you will succeed.

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THE IMPACT OF COVID-19 ON THE IT SECTOR: WAS IT ALL THAT EASY AS IT SEEMED? THE CASE OF CROATIA

KAKO JE COVID-19 UTJECAO NA IT SEKTOR: JESU LI ZAISTA BILI POŠTEĐENI UTJECAJA KRIZE? SLUČAJ HRVATSKA

Abstract

The crisis caused by the Covid-19 affected almost all organizations, regardless of the industry in which they operate. The new working conditions created to protect the health of all employees required a new mind-set and a "switch" to more digitized performance. A large number of organizations had to adapt or even completely change their business model in order to survive and save jobs. Since digitized performance was already in place in an IT industry, it seemed that the organization with in had an easier adjustment process to the new pandemic conditions. Did IT companies survive the pandemic as unscathed as they appeared to? The purpose of paper is to examine how Croatian IT companies mitigated the effects of Covid-19 and how they managed their employees during this crisis. This paper examines the impact of the pandemic on employees in the IT sector, analyses how leaders managed to ensure the psychological safety of their employees under uncertain conditions. This paper answers the question of whether and to what extent the IT companies had to adapt their business models and what other challenges they had to respond to. Using questionnaires and semi-structured interviews, managers and employees of ten IT companies operating in Croatia were surveyed. The most IT companies experienced a short-term decline in revenue during the pandemic. The results showed that companies from the IT sector organized remote work, but employees from the IT sector were more likely to permanently switch to remote work, as they were more satisfied, motivated and productive when working remotely. Adapting to the new working conditions led IT companies to accelerate digitalization and reduce operating costs without reducing the quality of services. This research can serve as an example of good practice for all organizations looking to digitize their business and respond to new, unexpected crises.

Keywords: Covid-19, IT sector, remote work, managing employees, digitalization

JEL: D80

Sažetak

Pandemija uzrokovana virusom Covid-19 utjecala je na gotovo sve organizacije, neovisno o industriji u kojoj djeluju. Novi uvjeti rada stvoreni radi zaštite zdravlja svih djelatnika iziskivali su novi način razmišljanja i "okretanje" digitalnim rješenjima. Kako bi opstale i sačuvale radna mjesta, mnoge organizacije su morale prilagoditi ili čak potpuno promijeniti svoj poslovni model. Budući da je digitalizacija već zastupljena u IT industriji, čini se kako su se te organizacije lakše prilagodile novostvorenim uvjetima proizašlim iz pandemije. Međutim, jesu li IT poduzeća zaista bila pošteđena od utjecaja pandemije? Svrha ovog članka je ispitati kako su se hrvatska IT poduzeća nosila sa posljedicama Covid-19 i kako su upravljala svojim zaposlenicima tijekom ove krize. Ovaj rad istražuje kako je pandemija utjecala na zaposlenike unutar IT sektora te analizira na koji način su lideri u uvjetima neizvjesnosti uspjeli osigurati psihološku sigurnost svojim zaposlenicima. Također, ovo istraživanje odgovara na pitanje jesu li i

u kojoj mjeri IT poduzeća morala prilagođavati svoj poslovni model, te na koji način su se nosila i s nekim drugim izazovima (kibernetička sigurnost, nove platforme i sl.). Na temelju upitnika i polu-strukturiranih intervjua, ispitani su menadžeri i zaposlenici deset IT organizacija koje djeluju u Hrvatskoj. Zabilježeno je kako su IT poduzeća tijekom pandemije bile suočene sa kratkoročnim padom prihoda. Rezultati istraživanja pokazuju kako su i poduzeća iz IT sektora primjenjivala rad na daljinu, međutim, za razliku od ostalih sektora, zaposlenici u IT sektoru će vjerojatno nastaviti sa takvim radom jer ih je rad od kuće učinio sretnijima, motiviranijima i produktivnijima. Istraživanje je također pokazalo kako je prilagodba poduzeća u IT industriji na nove uvjete rada dovela do ubrzane digitalizacije i smanjenja operativnih troškova, bez smanjenja kvalitete usluge. Ovo istraživanje može poslužiti kao primjer dobre prakse za sve organizacije koje žele digitalizirati svoje poslovanje i spremno odgovoriti na nove neočekivane krize.

Ključne riječi: Covid-19, IT sektor, rad na daljinu, upravljanje ljudima, digitalizacija

JEL: D80

1. Introduction

At the beginning of 2020, the outbreak of the Covid-19 pandemic changed the daily lives of almost the entire world's population. The negative effects of a pandemic are visible in all areas of life and have social, economic, political and psychological consequences (Gregurec *et al.*, 2021, p. 1). The decline in consumption caused by months of quarantine and isolation has led to the closure of many businesses and a decline in GDP of most economies. Some sectors were more affected and vulnerable to the pandemic than others. Economic sectors such as tourism, travel agencies, catering, aviation, retail, public entertainment, sports and education were the most affected by the pandemic, while other sectors such as pharmaceuticals, healthcare and information technology (IT) were more resilient to the effects of the pandemic. The purpose of this paper is to examine how the Covid-19 pandemic affected businesses in the IT sector in the Republic of Croatia, from two perspectives. The first perspective focuses on the impact of the pandemic on IT employees and the challenges they faced. The IT sector is one of the few sectors that implemented remote work before the pandemic, so such a working model was nothing new to them. However, is it really possible that employees did not feel the impact of the pandemic in the slightest? One of the main objectives of this paper is to answer this question and find out whether IT managers were able to provide psychological safety and a sense of job security to their employees. The second view focuses on how the pandemic has affected the overall business, as well as business processes in the sector. The IT sector in Croatia has excelled in recent years in terms of revenue and employment growth and is considered the fastest growing part of GDP (Žitnik & Subotičanec, 2020, p. 7). This paper examines whether the business model of IT companies has changed and how they have dealt with other challenges, such as ensuring cybersecurity and using new platforms. The empirical research is conducted through semi-structured interviews with owners and/or managers of IT companies in the Republic of Croatia, as well as questionnaires completed by employees of these companies.

2. Impact of the pandemic on the IT sector

The global health crisis that began in 2020 has affected nearly all small and medium-sized companies across all industries, but on an unequal scale. The number of workers in some industries has been reduced due to Covid-19 disease and quarantine; supply chain irregularities occurred due to factory closures and problems with suppliers, resulting in a shortage of raw materials and parts of goods needed by SMEs for production (Hebert, 2021). On the other hand, there was a decrease in consumer demand, which resulted in a decrease in revenue and liquidity. In order to survive, some companies were forced to adopt new information technology systems, while others were forced to completely rethink their business models shifting to online services and products and engaging in new business channels to replace those that were eliminated by the pandemic (Carroll & Conboy, 2020, p. 1). Small and medium-sized companies, however, were disproportionately affected

(OECD, 2021, p. 19). SMEs in the accommodation and food, services and transport sectors were the most affected, experiencing higher closure rates and a higher proportion of lost sales. Due to national lockdowns and movement restrictions, consumer purchasing habits have changed, leading to a significant shift of business activity to an online environment in 2020. Digitalization and online sales have proved to be a panacea for a number of SMEs, but there are challenges here too, particularly for smaller businesses where internal capacity to adapt to change and adopt digital tools is more limited than for larger companies (OECD, 2021, p. 19). Almost all SMEs faced "new normal" operating conditions, i.e. most companies were forced to adopt new forms of remote work and use new platforms and communication systems, all for the purpose of social distancing and maintaining their business results (Herath & Herath, 2020, p. 277).

Like other sectors, the IT industry was disproportionately affected by the pandemic. The software sector was more spared from the impact of the crisis than other sub-sectors because there were no supply chain issues and the demand for software and communication tools such as Google Hangouts, WhatsApp Video call, Zoom and Microsoft Teams increased due to isolations caused by pandemic (Market Data Forecast, 2020). The sharp increase in demand for these services was the result of global lockdown and remote work, as the only way to stay in business and keep in touch with family and friends around the world was through video conferencing. The demand for security solutions such as data protection, secure backups, document retention and compliance has also increased due to the new working conditions (Schaefer, Nair & MacMurray, 2020, p. 1). The ability to protect confidential information is extremely important for companies that see remote work as a viable long-term solution. Remote work has also impacted demand for cloud technologies by enabling virtual collaboration between sales teams and customers. In addition, people were looking for new ways to have fun and interact socially during the pandemic, so streaming and gaming companies have not lost their growth potential. On the other hand, the pandemic has had a negative impact on some sub-sectors of this industry. Hardware companies have lost 9% or more of their market cap in the first three months of the Covid era, although they are still doing better than other sectors and industries, but worse than the software industry mentioned above (Edin *et al.*, 2020, p. 2). The pandemic also delayed the launch of new smartphones due to lower consumer demand, caused labor shortages due to closed factories in Asia, and created a shortage of necessary raw materials (Shin & Cheng 2020).

It is expected that this negative trend, which affects some activities in the IT industry will slow down with the improvement of the health situation related to the pandemic, the relaxation of government measures around the world, and the end of remote work.

2.1 Managing people during the time of crisis

One of the top priorities during the Covid-19 pandemic is for most employers to implement and maintain health and hygiene measures for all employees (Rudolph *et al.*, 2021, p. 21). Since the virus can be easily transmitted from person to person, physical distancing was critical to prevent further spread of infection among employees. In addition to concern for employees, a lower number of infected employees also meant better sustainability for the company. To stop the spread of the virus and protect the labor force, governments around the world ordered companies to close their offices and allow employees to work from home - in other words, to remote work. It is estimated that more than four-fifths (81%) of the world's 3.3 billion employees are affected by the full or partial closure of workplaces (Savić, 2020, p. 101).

Although it has a negative impact on people's health and brings many challenges, this crisis also brings several benefits and opportunities, such as potential for increased social and organizational support from leadership, digitization of work processes, introduction of more effective teamwork, and changes in health management strategies (Rudolph *et al.*, 2021, p. 3). During the Covid-19

pandemic, virtual teamwork has been shown to have many benefits and has proven to be a good solution to physical distance in the workplace. The advantages of virtual teamwork are reflected in the flexibility of the workplace and the saving of office space (Rudolph *et al.*, 2021, p. 14). By organizing various video conferences with the whole team, using virtual coffee breaks, constantly communicating with team members via online chat and keeping them informed about the progress of their work (e.g. via advanced groupware tools), employees are able to maintain a high level of team spirit despite the physical distance. Team cognitions and team emotions, which are already highly valued in face-to-face collaboration, are even more important in virtual teams (Bernardy *et al.*, 2021, p. 122). Research conducted by Flexjobs showed that employees working remotely were additionally motivated to complete all work tasks, i.e. they were much more productive in a large number of cases (CEKOM, 2020). This is because they are less likely to be interrupted by their colleagues, meetings are more productive, and a lot of time is saved by avoiding the trip to work. On the other hand, employees who work remotely are exposed to major changes in their work environment. Employees while working remotely no longer have the opportunity to socialize with their work colleagues, which was an important part of their daily lives before the pandemic (Xiao *et al.*, 2021, p. 181). They also exercise less as they no longer have to walk back and forth between different meeting places. Hours of exposure to screens due to full-time computer work can lead to fatigue, headaches and eye-related symptoms. Numerous emotional consequences such as sadness, irritability, insomnia, depression, confusion, anger, frustration, anxiety, and stigma associated with the quarantine were noted in people during the pandemic, some of which persisted even after the quarantine was finished (Pfefferbaum & North, 2020, p. 511). Given that remote employees are by definition far from their workplace, it is no surprise that social isolation has been identified as one of the biggest challenges of remote working (Allen, Golden & Shockley, 2015, p. 52). Application of such work not only brings a number of emotional and psychological challenges, but also challenges in performing work assignments (Azobu, Adewole & Esisi, 2020, p. 12). Poor and slow Internet connections, the risk of work-related burnout, disruptions to personal life (e.g., unscheduled work-related calls in the evening), and the possibility of producing incorrect results due to inadequate communication with colleagues are just some of the challenges faced by remote workers. Also, remote work has disadvantages such as higher social isolation, less trust between superiors and subordinates, more potential conflicts that may arise from the lack of trust, less control from team leaders, and slow feedback on employee performance (Rudolph *et al.*, 2021, p. 14).

Companies in the IT industry and beyond need to make great efforts to reduce these drawbacks. Some of the ways to reduce the disadvantages of virtual teamwork and enhance mutual trust can be fostered through organizing one-on-one meetings, hiring people in the HR department to deal with this issue, employee empowerment, managerial consistency, honesty, transparency, and encouraging professional development and autonomy (Wong, 2020).

2.2 Was there a need for IT companies to change their business model?

The Covid-19 pandemic affected almost all industries, and thus many organizations had to adapt to the newly created conditions. Digitalization of work has taken place, permeating the business of companies on two levels: internal (the way of working within the company, communication and collaboration between employees) and external (change of business model and digitalization of services) (Sandalić 2020). Businesses and consumers are becoming increasingly digital, offering and buying more goods and services online, increasing the share of e-commerce in global retail from 14% in 2019 to around 17% in 2020 (UNCTAD, 2021). Many industries that were negatively affected by the pandemic, such as the restaurant industry, have had to look for new solutions to maintain profitability and turn to alternative methods of selling. Pandemic has caused people to stop traveling and factories around the world have closed, leading to a decrease in car sales and mass layoffs (Hofstätter *et al.*, 2020). Also, there was a significant increase in remote working, changing

customer needs (shifting to services reflecting new health and hygiene needs), and customer preferences for remote interactions that positively impacted the entire IT industry, both globally and locally (Seiler *et al.*, 2020).

Therefore, companies in the IT industry did not necessarily need to change their business model due to the increased demand for their products and services during the pandemic. The research shows just the opposite and directly confirms that their business models are sustainable even during the global health crisis. Under the conditions of the pandemic, it has been shown that it is very important for the business model to be as flexible and agile as possible so that the organization can respond quickly to changes and continue to operate positively despite rapid changes and market uncertainties.

3. Methodology

For this paper, a survey was conducted among ten small and medium-sized companies in the IT industry operating in the Republic of Croatia. This research is based on the collection and analysis of primary sources and data, i.e. a mixed method including qualitative (semi-structured interviews) and quantitative research methods (questionnaires), and on the analysis of secondary sources and data.

Questions from two sources were used to create the questionnaire for the employees. The first source was the Quantum Workplace Platform. Two questionnaires, "Working from Home Survey" and "Flexible Workplace Survey" were used to find out what is good or bad about the use of remote work, whether employees believe their managers made the right decisions during the Covid-19 pandemic, and what the companies' plans are regarding remote work for their employees after the pandemic. The second source was "Coronavirus survey template for leadership and HR", created by SurveyMonkey, the world's leading online survey software, which was used to explore the main challenges employees face, their motivation and productivity when working remotely. A questionnaire with a total of 19 questions was created. The questions were structured in the form of measurement scales using the Likert scale, where respondents were asked to indicate their level of agreement (from "strongly disagree" to "strongly agree") and as multiple-choice questions. The questions were related to employee attitudes and the survey was completely anonymous. Data were collected and analysed through an online survey platform Survey Gismo. A total of 41 employees participated in the survey.

The second part of the research consisted of a mixture of semi-structured interviews and questionnaires with IT leaders/managers. This part of the research was based on the questionnaire "The Impact of the Corona Crisis on your Business Model" (Ritter and Lund Pedersen 2020) to investigate whether the company's business model has changed. To compare the perceptions of employees and their managers regarding the impact of the pandemic on employee motivation, productivity and challenges, similar questions based on the Coronavirus survey template for managers and HR were also given to managers. The purpose of the survey was to identify the challenges faced by managers when managing their employees during the Corona crisis. The semi-structured interviews were conducted both in person and online using the Zoom platform. The results of the survey are presented later in the paper.

4. IT sector in Croatia

The SME sector has significantly the largest share in the number of companies in Croatia, 99.7% (CEPOR, 2020, p. 7), so most Croatian IT companies belong to small and medium companies (Žitnik, 2015, p. 6). According to a 2020 survey by Croatian Chamber of Commerce, the Croatian IT industry was growing before the pandemic. In 2019 the Croatian IT industry generated a total

turnover of around HRK 27 billion, with an annual growth of 12.4% (Žitnik & Subotičanec, 2020). The number of IT companies in Croatia amounted to about 5,000, of which more than 50% are newly established software micro-companies, about 39% are IT service companies, 4% are IT equipment and component retailers and 0.8% are manufacturing IT companies. In 2019, there was an increase in exports, which reached HRK 8 billion, with an annual growth of 15%, which is twice the annual growth rate of the overall economy (7.4%), and most of them were exported by service companies. The highest turnover is generated by IT service companies, followed by IT retailers and manufacturers of IT equipment and components. The number of employees in the IT sector in Croatia is about 33,000 and has been increasing in recent years. Most employees were in the category of IT outsourcing companies.

4.1 Impact of the pandemic on the Croatian IT sector

The pandemic has affected the Croatian IT sector in many different ways. IT companies belonging to the most affected sectors (e.g. air transport, tourism, entertainment, sports), as expected, had the largest decrease in turnover in 2020, up to 85% (Barančić, 2020). One can note the expected decline in total revenues of those who have a significant share of "infrastructure" (equipment and licences) in their business, as this segment decreased sharply in 2020, but at the same time revenue growth was expected from the services segment, which is also more profitable. Vice President for International Affairs Ivan Barbarić states that investments in the IT sector, more specifically in computer programming, reached an extraordinary growth of about 600% in 2020 compared to 2019 (Poslovni dnevnik, 2021). The reason for this is that the number of online businesses has increased, as well as the digitalization of certain processes, which affects the increased demand for this type of services. More than 500 IT-related professions were established in 2020, so the demand for labor in this field has increased, especially for developers, engineers, designers, artists and many others (Barančić, 2020). Compared to 2019, the IT industry recorded a revenue growth of 8.7%, export growth of about 24% and an increase in the number of employees of about 10%.

In addition to the positive consequences, the pandemic has also brought a number of challenges to the IT industry. One of the main challenges has been to ensure cyber security and manage potential risks arising from remote work that most companies had to organize (MUP RH, 2020 p. 25). Some of the most common forms of Covid-19 cyberattacks took the form of fake messages or links in the name of Microsoft, Google Drive, etc., attempting to obtain a username and password and falsely offering "help"; or messages that threatened user account, such as donation appeals or messages in the name of healthcare organizations that exploit concerns and lead to malicious websites or software. To reduce the number of victims of cyberattacks, European Union has worked with telecommunications operators to provide a number of tips that enable uninterrupted remote work and protect many Internet users (European Parliament News 2020). These include providing a secure network, increasing password strength and installing anti-virus software. With the increase in remote work, many industries have realized the importance of investing in cybersecurity. Due to declining sales in the industries most affected by the pandemic, ensuring cybersecurity can be challenging, but nonetheless, cybersecurity has become a top priority during the pandemic.

5. Result and discussion

The aim of this study was to investigate the perceptions of employees and managers in the IT sector about the impact of the pandemic caused by the virus COVID-19 on business in their companies. The first part of the study was conducted through an online questionnaire in the form of measurement scales using Likert scale and multiple-choice questions. The purpose of the questionnaire was to explore employees' concerns about the pandemic-caused changes that have occurred in the company where they work. Interestingly, only 7% of respondents did not implement remote work during the pandemic. The results of the survey indicate that 82 % of respondents were

not concerned and only 3% of respondents were concerned about possible changes within the company. For managers, the results were the same - none of them were concerned about the changes that the pandemic might cause. The results also showed that about 83% of respondents had full confidence or trust in their management team to make the right decisions during the pandemic. About 87% of employees agreed that they received psychological support from their managers during the pandemic. This suggests that managers were successful in providing psychological safety to their employees.

When working remotely, employees face a number of challenges. According to the survey, the top three problems for employees were social isolation (44 %), space (36 %) and too many distractions at home (33 %). It is interesting to see that managers face similar challenges in their own remote work. The top three challenges for managers were too many distractions at home (75 %), social isolation (50 %) and childcare (50 %). However, they were wrong in their assessment of the biggest challenges for their employees. Managers felt that the top three challenges for their employees were more difficult communication with colleagues (62.5 %), childcare (62.5 %), and social isolation (50 %).

The results show that there has not been a significant change in the business model as according to the respondents "online services have become even more popular". However, there has been an internal change in the organization of work. Although almost all companies occasionally organized remote work before the pandemic (1-2 times per month), the use of remote work increased to 1-2 times per week during the pandemic or there was even a complete transition to remote work. When working remotely, companies used different technological solutions such as communication solutions (Google Meet, Zoom, Skype, Slack) and collaboration solutions (Active Collab, Jira, Monday Software, Google Docs, etc.). These types of tools were already used by the companies before, so there was no need for additional training of employees or familiarization with new tools. One of the interviewees said, "The big advantage is that employees knew how to use these tools, and employees were more willing to do the work, which made remote work much easier." In addition, managers indicated that there were no significant issues with ensuring cybersecurity, but that they were aware of the risks and exposure to various cyberattacks. However, no company faced such a problem.

Although managers were most concerned about the decline in employee productivity, research has shown that remote work reduces idle time in the office and employee productivity remains the same or even increases when working remotely. 41 % of respondents believe they are equally productive whether they work remotely or in the office, 28 % believe they are more productive when working remotely, while 21 % believe they are more productive when working in the office. On the other hand, most managers point out that the biggest disadvantage of this way of working is that it reduces team cohesion and the sense of belonging to the team, which makes it easier for employees to look for a new job. According to the managers, team management is certainly easier in the office because it ensures a good and productive organizational culture, which is very important to them. One respondent stated that they have found a solution to this problem in their company "by opening a permanent channel for all employees to communicate throughout the day via Google Meet." Although managers believe that the biggest disadvantage of remote work is the reduction of teamwork, the research shows that all surveyed employees who use remote work do not answer this question negatively, i.e. about 69 % of respondents agree that they feel connected to their team regardless of where they work.

In almost all companies, the number of employees increased during the pandemic. Respondents indicated that they made efforts to train new employees with the same professional quality, but it was a challenge to build the same relationship with them as with employees hired before the pandemic. However, according to the managers, all employees fit in equally well with the team.

According to the survey, most companies have implemented additional employee satisfaction interviews and/or evaluations to ensure the psychological safety of their employees during the pandemic. For most respondents, offering online services to their clients and sales have remained at similar levels or increased. There was also an increase in enquiries, new customers and conversions to digital services. However, companies that develop hardware solutions for customers in industries whose business has been negatively impacted by the pandemic saw their workloads and revenues decline in the first half of 2020. Their goal for the coming years is to win back customers who were hurt by the pandemic. Some companies that develop the necessary hardware solutions for customers in the automotive industry also faced a lack of necessary resources due to closure of factories in Asia.

Despite the finding that remote work has more advantages than disadvantages, all managers would like to return to working in the office, with the option of working remotely occasionally. Similarly, most employees (38.5 %) said they would like to continue working in the office but also have the option to work remotely (hybrid mode). About 20.5 % indicated that they would like to continue working primarily remotely but have the option to go to the office occasionally (hybrid mode), about 15 % would like to continue working exclusively from home, and 13 % would like to return exclusively to the office. According to the study, the main reason why employees would like to continue working remotely is that they would like to save on commute time from home to work (about 70 %), followed by childcare (about 13 %) and other things (about 18 %), i.e. they believe that they are more productive and can better organize their working time. According to the managers, most companies will continue to use the hybrid business model after the pandemic. The reason for this decision is the greater satisfaction of employees, which is studied in monthly surveys and individual interviews. As shown so far, the productivity of most employees has also remained the same, and in some companies, engagement and productivity have actually increased. In addition, the benefit of the hybrid business model can be seen in the reduction of operating costs, as some companies have decided to reduce office space. Savings have also been made in meetings. According to respondents, before the pandemic, all meetings with clients were held in person, which required additional travel costs and time, but since the beginning of the pandemic, almost all meetings are held online, with almost the same effect. The Covid-19 pandemic has led to changes in the organization of work in many companies in the IT sector, but most companies have successfully managed these changes and continue to operate without their business being affected.

6. Conclusion

The Covid-19 pandemic has had a disparate impact on companies in the IT industry, depending on the main sectors in which the companies themselves and their customers operate. Companies that develop hardware solutions and provide services to clients whose businesses were struggling with various issues due to the pandemic felt the decline in revenue and business volume in the first quarter of 2020. On the other hand, IT companies that develop software solutions and provide online digital services are seeing revenue and business growth. This is supported by accelerated digitalization of other companies that have adapted their business to the newly created conditions. The greatest changes are evident in the organization of work, that is, in the application of remote work. The IT industry is quite specific, as some IT companies have applied this work concept even before the pandemic, but on a much smaller scale. Research has shown that the use of remote work has several advantages, such as lower operating costs, less 'idle time' at the workplace and time saved on traveling. On the other hand, the disadvantages of such organization of work include a lower team spirit, social isolation and, for some employees, an inadequate working space. According to the study, most companies will continue with the current, hybrid model of work organization even after the pandemic, as employees are more satisfied when they have the option to choose and combine remote work and work from office.

The relatively small number of respondents is a limitation of the study. The study was conducted with 41 employees and 10 managers working in IT companies. Since respondents were anonymous, it is difficult to determine the age group, which may affect the generalization of conclusions for all age groups regarding the advantages and disadvantages of remote work. For further research, it is recommended to increase the number of respondents, and conduct separate studies for the hardware and the software industry. It would be interesting to see, using a larger sample, whether the impact of the crisis differs given the different core activities within the IT sector. Based on research findings, companies can gain insight into how IT employees cope with remote work and what are the advantages and disadvantages of doing so. This study can serve all those companies that are looking into which type of work arrangement is more suitable for their company. Based on this, companies can better prepare for another unpredictable change like the COVID-19 pandemic.

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THE IMPACT OF INFORMATION SYSTEMS ON HUMAN RESOURCE MANAGEMENT IN COMPANIES IN BOSNIA AND HERZEGOVINA

UTICAJ INFORMACIONIH SISTEMA NA MENADŽMENT LJUDSKIH RESURSA U PREDUZEĆIMA U BOSNI I HERCEGOVINI

Abstract

The purpose of this research is to identify the impact of information system functions on human resource management activities in enterprises in Bosnia and Herzegovina. By analyzing the results of the research, it can be confirmed and concluded that there is an impact of information system functions on human resource management functions, with statistically significant indicators of "data collection" and "data distribution". Also, research has shown that the same indicators are dominant in the impact of information system functions on the performance of human resource management. According to the results and based on relevant theoretical sources and conducted analyzes, procedures, and results of empirical research, information systems have a positive impact on human resource management in companies in Bosnia and Herzegovina. The results of the research on human resource management confirm that companies only using basic functions such as keeping records of employees with very little attention to career development and performance management with automated processes. Collectively, a small number of companies in Bosnia and Herzegovina have advanced and quality human resource management supported by information systems. The sample consisted of 245 (n = 245) randomly selected small, medium, and large size companies. When it comes to Bosnia and Herzegovina, there is no relevant research on the impact of information systems on human resource management in the business sector in Bosnia and Herzegovina, which is the main motive of the research.

Keywords: information system, human resource management

JEL: D8, O15

Sažetak

Svrha istraživanja je identifikovati uticaj funkcija informacionog sistema na aktivnosti menadžmenta ljudskim resursima u preduzećima u Bosni i Hercegovini. Analizirajući rezultate istraživanja, možemo potvrditi i zaključiti da postoji uticaj funkcija informacionog sistema na funkcije menadžmenta ljudskih resursa, pri čemu se statistički značajno ističu indikatori „prikupljanje podataka“ i „distribucija podataka“. Isto tako, istraživanje je pokazalo da navedeni indikatori dominiraju u uticaju funkcija informacionog sistema na uspješnost menadžmenta ljudskih resursa. Shodno navedenim rezultatima te na osnovu relevantnih teorijskih izvora i provedenih analiza, postupaka i rezultata empirijskog istraživanja, možemo konstatovati da informacioni sistemi pozitivno utiču na menadžment ljudskih resursa u preduzećima u u Bosni i Hercegovini. Rezultati istraživanja o menadžment ljudskim resursima potvrđuju da kompanije koriste samo osnovne funkcije poput vođenja evidencije zaposlenih pri čemu je vrlo malo pažnje posvećeno na razvoju karijere i upravljanju performansama pomoću automatizovanih procesa. Ukupno posmatrano, mali broj kompanija u Bosni i Hercegovini ima napredno i kvalitetno upravljanje ljudskim resursima uz podršku informacionih sistema. Uzorak se sastojao od 245 (n = 245) nasumično odabranih malih, srednjih i velikih preduzeća.

Kada je riječ o Bosni i Hercegovini, ne postoji relevantno istraživanje o uticaju informacionih sistema na menadžment ljudskim resursima u poslovnom sektoru u Bosni i Hercegovini, što predstavlja glavni motiv istraživanja.

Ključne riječi: informacioni sistemi, menadžment ljudskim resursima

JEL: D8, O1

1. Introduction

In the last ten years, Human Resources Management (HRM) has significantly transformed from a traditional administrative approach to human resource management to digitized processes based on strong information technology support. In a modern competitive environment, information systems are the basis of effective human resource management, where human resources professionals have a crucial role to continuously analyze the business environment and opportunities to redesign human resources management processes and practices. Modern information systems significantly contribute to the efficiency of human resource management, enabling the company to improve its internal processes, core competencies and organizational structure as a whole. Information systems have initiated a major transformation of human resource processes and practices in enterprises, in the way that enterprises collect, store, use and share information.

The information system in human resource management in modern enterprises is a flexibly designed integrated database consisting of a comprehensive set of standard and advanced reporting functions and analysis capabilities necessary for human resource management. The basic function of information systems in human resource management is to ensure efficient planning, control and management of human resources functions and to improve efficiency and quality in decision making. The advantages of using information systems in human resource management relate to the efficiency of data retrieval and processing, error reduction, analytical and comparability of different data and providing timely and quality data that will enable optimal operational and strategic decisions related to human capital.

Information systems have a greater impact on the human resource management of companies operating in a dynamic environment, where the efficient use of information systems means increasing business efficiency. The information system in modern enterprises also facilitates communication processes by providing an easily accessible, centralized location for all information in the field of human resource management. Employee activities, such as requests for vacations, days off, sick leave and others, can be automated, resulting in faster and more efficient processing of requests and thus indirectly employee satisfaction.

The subject of the research is the identification of the impact of information systems functions on human resource management activities in companies in Bosnia and Herzegovina. The aim of this paper is to identify and describe the impact of information systems on human resource management in enterprises in Bosnia and Herzegovina in the period from June 2019 to December 2019.

After the introduction, research paper follows with literature review, research methodology, results and discussion and finally with concluding remarks.

2. Literature review

The impact of information systems on human resource management is a topic that has been covered by a large number of authors. A significant number of authors use the use of information systems as mediators, such as the readiness and ability of information capital, ie information and communication technologies and software solutions to support the development of the most

valuable intangible property - human resources (Methuku & Ramadan, 2013, p.502). Some authors define information systems in human resource management as a technological system for collecting, storing, manipulating, analyzing, and delivering relevant data and information concerning an organization's human resources (Stone *et al.*, 2015, p. 219).

Some of the authors, offered a comprehensive overview of human resource information systems research through a study consisting of a systematic review of 155 reference articles (Maditheti & Gomez, 2017, p.1). There is a significant amount of work that studies the impact of information systems on human resource management in organizations, such as the use of human resources information systems in organizational performance as well as in other human resource functions (Buzkan, 2016, p. 134). The importance of the concept and approach of human resource management integrated into the information system is based on the fact that, thanks to the information system, the understanding of the contribution of employees to the performance of the organization gets a completely new context.

In the context of the usefulness of human resources information systems, information systems have the treatment of information capital. Some of the authors are focused mainly on the analysis of barriers and challenges in the implementation of information systems in human resource management (Alam, Masum, Beh & Hong, 2016, p.8). Some of the studies had a completely different approach through an attempt to answer the question of whether information technology in the digital age is more important than human resources (Chae *et al.*, 2014, p.306).

The common conclusion for all these studies is that the information system facilitates the functioning of human resources by enabling faster information processing, improved communication and reduced human resources costs. In this context, information systems have significantly improved the effectiveness and efficiency of human resource management through the adoption of modern methods of employment, organizational communication, employee involvement and improving the skills of human resources managers.

Human resources today have new elements in processes and practices such as: e-recruitment, e-performance, e-learning, and other processes that have replaced traditional human resource processes. Such an approach imposes an increased recognition of the need to incorporate a wider range of staff information to ensure effective decision-making in human resource management processes (Nawaz, 2014, p.90). Human resource management issues concern all levels of line managers because achieving the goals of the organization requires an efficient workforce that provides support for human resources processes through information technology. The implementation of information systems in the human resources department has shown numerous advantages: automation of tasks and routine operations, reducing the execution time of client requests, increasing the efficiency of operations, improving the quality of human resources services and developing productivity and knowledge of employees.

Modern human resource management contributes to increasing the quality of work of employees and business success in the organization, because it analyzes why employees work, think and feel just like that, as well as their abilities, motives, feelings and ambitions. People, human resources - human resources are a living factor of the company, which with its knowledge, skills, abilities and creativity contributes the most to competitiveness and successful achievement of company goals (Lajšić 2016, p.19). To meet these challenges, human resource management is forced to adopt new logics according to which human resource managers must forget outdated habits and ways of thinking and acting. On the other hand, human resource managers are expected to assist in defining strategy and creating human capital development programs within their organizations (Silva & Gomes, 2015, p.200).

Modern human resource management has emerged as a product of globalization and consolidation of companies, technological advances in which human resource management focuses on strategic initiatives such as mergers and acquisitions, talent management, succession planning, labor relations and inclusion. In the current global work environment, most companies focus on reducing employee turnover and retaining talent and knowledge within the company. Such an approach has led to the recognition of people and investment in human resources as a source of “human capital benefits” (Boxall & Purcell, 2016, p.115) rather than as a cost that is tried to be minimized to a minimum. Companies have realized that retaining a quality employee is proportional to retaining a loyal customer because it does not involve high costs.

Understanding the impact of information systems on human resource management by end users is an imperative that will be aimed at end users (human resources department) in order to provide quality and diverse information to middle and top management that will enable optimal strategic decisions related to human capital. Successful support of information systems in human resource management depends not only on the quality of services provided but also on the way information systems are used by end users. Therefore, it is very important that human resource management as well as all employees of the human resources department understand the key factors that affect the use of information systems.

3. Research methodology

As part of field research, data were collected using a survey method, using a questionnaire as a technical means of data collection. Respondents were companies, that is, human resource managers or persons in charge of human resources in the company. The survey was structured to examine the representation, level of support and impact of information systems in human resource management in companies in Bosnia and Herzegovina using the Likert scale from 1 to 5 (1 – I strongly disagree, 2 – I disagree, 3 – I have no opinion, 4 - I agree, 5 - I completely agree).

The basic set of respondents are 245 companies from the register of the Federal Bureau of Statistics of Bosnia and Herzegovina. Using the random causation method, 100 companies were selected and contacted, of which 67 companies (67%) answered the questions asked in the survey questionnaire. The questionnaire was submitted to 100 human resources managers in companies in Bosnia and Herzegovina, in the period from June 2019 to December 2019.

The methods that will be used in the presented scientific research work in order to research and present the results of scientific research are: inductive and deductive method, method of analysis and synthesis, comparative method and statistical methods. During the research, the analysis of relevant scientific research and studies in the form of books, textbooks, magazines, official publications, Internet sites, as well as other relevant literature will be performed. The inductive method will be applied in the opposite direction - that the general settings are derived from individual facts. The deductive method will be used to derive appropriate concrete assumptions and conclusions from general attitudes.

The method of analysis will enable the explanation of problems and research objects by breaking them down into their simpler parts, and researching each part separately in relation to other parts, which will enable the observation, discovery and study of the scientific truth about mutual relations. The method of synthesis will be used to combine the obtained research results into one whole in which these results are interrelated. The comparative method will be used to compare the same or related facts, the occurrence of processes and relationships, ie. it will help determine their similarities in behavior and intensity, as well as the differences between them. In accordance with the usual standards of research in the social sciences, the data obtained from the questionnaire will be processed using the SPSS (Statistical Package for the Social Sciences) modern software package

for statistical analysis as well as correlation and regression methods. The method of description will be used to describe the facts and their empirical confirmations, but without scientific interpretation and explanation.

3.1 Research variables

The variables observed in the context of the empirical research are:

The independent variable relates to information systems. Information system represents an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products.

The dependent variable is related to the human resource management. Human resource management is the organizational function that manages all of the issues related to the people in an organization which includes compensation, recruitment, and hiring, performance management, organization development, safety, wellness, benefits, employee motivation, communication, policy administration, and training.

Indicators for measuring independent variables are the functions of the information system, as follows:

- Data collection function
- Data processing function
- Data distribution function
- Data archiving function

Indicators for measuring the dependent variable are:

- Administration and employee records function
- Personnel management function (recruitment, selection, *etc.*)
- Employees training and education function
- Employee performance appraisal function
- Employee salary and benefit management function

The planned research will be based on the application of scientific methods of secondary and primary research.

4. Results and discussion

Inspecting the results of the research, it can be concluded that small companies are dominant (65.67%), while large companies are the least represented (13.43%). When it comes to the length of continuous operation of the organization, the dominant companies are those operating for up to 20 years (40.25%), while the least represented are companies operating for 5-10 years (8.95%).

According to the results of the research, all surveyed companies use some of the information system for business (100.00%), and have a human resources department (100.00%). Of the total number of surveyed companies, 59 or 88.06% use the information system to support human resource management, while there are a number of companies that do not use the information system to support human resource management, 8 or 11.94%.

The perception of managers is that information systems in companies mostly enable data archiving, considering the highest value of the arithmetic mean, which is 4.31 with a standard deviation of .528. On the other hand, managers believe that information systems allow the least data collection, because the value of the arithmetic mean for this function of the information system is 4.07, while

the value of the standard deviation, ie deviation from the average .559. Furthermore, managers most often used a score of 4.00 for all four functions of the information system since the mode value for all functions is the same and is 4.00. The median or central value for all information system functions is 4.00. The standard deviation or deviation from the average is the smallest for the function of the information system "data archiving" and is .528, while the largest deviation from the average for the function of "data distribution" is .599.

When it comes to assessing the representation of human resource management functions in companies, managers believe that the function of assessing employee performance is the most common function whose arithmetic mean of the assessment is 4.58 with a standard deviation of 0.607. This is followed by the training and education functions of employees with an arithmetic mean of 4.51 and a standard deviation of 0.683, while the lowest rated representation of the function of administration and records of employees with an arithmetic mean of 4.25 and a standard deviation of 0.532.

The association of two of the four independent variables, data collection and (r = 0.503, p <0.01) data distribution (r = 0.403, p <0.01) with the dependent variable, support for human resource functions, is positive and moderate in significance. of 1%. Data processing and archiving as a function of the information system, do not show a statistically significant correlation with the dependent variable support to human resource management functions, given that the level of significance is over 5%.

The coefficient of determination in our case is $R^2 = 0.317$, which means that the selected model of simultaneous multiple regression analysis interpreted 31.7% of all deviations. In fact, we can say that this coefficient shows how much of the variance of the dependent variable, in this case information system support to human resource management, explains the model that includes enabling data collection, processing, distribution and archiving.

As the coefficient of determination is 0.317, it can be stated that there is a moderate relationship in terms of the direction and intensity of correlation between the observed variables. The corrected coefficient of determination is calculated using the coefficient of determination taking into account the sample size, ie the number of degrees of freedom.

Analyzing the beta coefficients, we can determine that the variable "data collection" has the highest value of the beta coefficient of 0.441, which means that this variable contributes the most to the explanation of the dependent variable "information system support to human resource management". It is also evident that the variable "data distribution", with a beta value of 0.307, also contributes to the explanation of the dependent variable.

The remaining two variables "data processing" and "data archiving" as functions of the information system do not have a significant impact on the dependent variable "human resource management support", as the level of significance is higher than 5% (14% and 53.9%).

Based on all the above, it follows that the variables "data collection" and "data distribution" have a statistically significant impact, and the variables "data processing" and "data archiving" do not have a statistically significant impact on the dependent variable "human resource management support" in the observed sample. The research proved that there is an impact of the functions of the information system on the functions of human resource management, with statistically significant emphasis on "data collection" and "data distribution".

The research proved that there is a positive correlation between the dependent variable and the independent variable "data collection" as a function of the information system, which is positive

and of moderate intensity ($r = 0.489$, $p < 0.01$). Also, the independent variable "data distribution" is positively and moderately related to the dependent variable ($r = 0.421$, $p < 0.01$), while the independent variable "data processing" is also positive but has little association with the dependent variable ($r = 0.273$, $p < 0.05$). Only the independent variable "data archiving" has no statistically significant association with the dependent variable, given the significance level shown greater than 5%. The coefficient of simultaneous multiple linear correlation is 0.564, which indicates that there is a moderate and positive linear correlation between the observed variables. Furthermore, the coefficient of determination is $R^2 = 0.318$ and shows that this model of simultaneous multiple regression analysis interpreted 31.8% of all deviations and that there is a moderate relationship in terms of direction and intensity of correlation between the observed variables. Determining which of the independent variables contributed the most to the prediction of the dependent variable, using beta coefficients, it was concluded that the independent variables "data collection" (0.389) and "data distribution" (0.320) contribute the most to explaining the dependent variable, while "data processing" and "data archiving" as a function of the information system do not have a significant impact on the dependent variable "support to human resource management", as the level of significance is higher than 5% (64.80% and 43.3%).

Based on the above, as was the case with the first working hypothesis, it follows that the variables "data collection" and "data distribution" have a statistically significant impact, and the variables "data processing" and "data archiving" do not have a statistically significant impact on the dependent variable "human resource management performance" in the observed sample.

5. Concluding remarks

The importance of the impact of information systems in human resource management in the context of support related to quality decision making can be implemented only if the organization has three necessary factors: adequate software solution, knowledge of human resource management processes and employees responsible for successful integration of these factors. No less important are factors such as the availability of data, information and knowledge, which in addition to the above factors is the key to successful implementation of information systems in human resource management.

Analyzing the results of the research, we can confirm and conclude that there is an impact of information system functions on human resource management functions, with statistically significant indicators of "data collection" and "data distribution". Also, research has shown that there is an impact of information system functions on the performance of human resource management, with the indicators "data collection" and "data distribution" dominating. According to the above results and based on relevant theoretical sources and conducted analyzes, procedures and results of empirical research, we can state that information systems have a positive impact on human resource management in companies in Bosnia and Herzegovina.

When we look at the variables through the results of the research on human resource management, we get the impression that in human resources management companies manage basic functions such as keeping records of employees, and very little attention is paid to career development and performance management with automated processes. It can also be concluded that a small number of companies have advanced information system solutions. Collectively, a small number of companies in Bosnia and Herzegovina have advanced and quality human resource management with the support of information systems.

The presented research provides a quality basis for enriching the literature in the field of empirical research on the application of information systems to human resource management to companies in Bosnia and Herzegovina, and probably in the Western Balkans. As digitalization increasingly "blurs" the line between information technology departments and other business functions, we

recommend that the same or similar research be conducted every two years. Also, other users such as the non-governmental sector, faculties and other institutions need to be included in the research samples.

According to the available data, this is the first conducted research that aimed to examine the impact of human resources information systems on human resource management in companies in Bosnia and Herzegovina. Based on the presented research results, it can be concluded that companies in Bosnia and Herzegovina have a developed awareness of the importance and benefits of using information systems in human resources. Based on previous presentations, it can be concluded that modern information systems significantly affect the management of human resources in companies, and thus, it is indisputable that information systems have a great impact on business results in companies, which means that it is extremely important to continue impact research. information systems on human resource management in companies in Bosnia and Herzegovina.

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**ACCOUNTING AND AUDIT /
RAČUNOVODSTVO I REVIZIJA**

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**RELIABILITY OF BUDGETING AND REPORTING ON
MODIFIED ACCRUAL BASIS****POUZDANOST BUDŽETIRANJA I IZVJEŠTAVANJA ZASNOVANOG NA
MODIFICIRAJUĆOJ RAČUNOVODSTVENOJ OSNOVI****Abstract**

The financial reporting is widely accepted ground on the accrual basis, there is a global debate on what platform is considered appropriate for budgeting in the public sector accounting. Those countries that have adopted the accruals-based reporting and budgeting underline that the budgets need to inform on the entire resource consumption in the consistent manner. There are also governments that oppose this stand point and argue that the cash spending needs to be clearly presented in the budgets. Cash-based budgeting with accrual financial reporting represents less ambitious reform modality, but is believed to be more complex and time consuming than the accruals modality for both, budgeting and reporting. We argued that modified accrual basis, determined in the regulatory framework applicable in Federation BiH, allows for wide participation of discretionary rights in both, budgeting and reporting processes, significantly impairing reliability of the disclosed accounting information. We conducted the in-depth analysis as a case study of five-year budgeting and reporting and the review of relevant analytical data that impacts position and performance of Zenica-doboj canton government. The analysis resulted in produced comprehensive sets of trial balances applying accrual based model. This enabled measuring differences by applying two different modes of accounting. Our estimates show significant overstatement of government performance, latent budgetary deficits and threatening insolvency. We conclude that modified accrual basis is possibly used to intentionally omission contingent liabilities and suppress current liabilities and reserves that have meanwhile arisen from lost litigations.

Keywords: accrual-based accounting, budgeting, cash-based accounting, reliability**JEL:** M 48**Sažetak**

Opće je prihvaćeno da se finansijsko izvještavanje priprema na akrualnoj osnovi, dok se široko vode debate o platformi budžetiranja, a koja bi se smatrala adekvatnom u računovodstvu javnog sektora. One države koje su usvojile izvještavanje i budžetiranje na akrualnoj osnovi ukazuju na pretpostavku da budžeti trebaju pružati informacije o sveukupnoj konzumaciji resursa na konzistentan način. Postoje, međutim, i one države koje se protive ovom stajalištu s argumentom da budžeti trebaju dati jasan pregled utrošaka gotovine. Budžetiranje zasnovano na gotovinskoj osnovi sa finansijskim izvještavanjem po akrualnoj osnovi predstavlja manje ambiciozan modalitet reforme, ali se vjeruje da je kompleksnije i vremenski zahtjevnije od sačinjavanja budžeta i izvještavanja na akrualnoj osnovi. Mi vjerujemo da modificirajuća akrualna osnova,

kako je definisana regulatornim okvirom primjenjivim u Federaciji BiH, ostavlja široko učešće diskrecije kako u procesu budžetiranja tako i izvještavanja, time u značajnom umanjujući pouzdanost objavljenih računovodstvenih informacija. S tim u vezi, proveli smo dubinsku analizu zasnovanu na studiji slučaja petogodišnjeg budžetiranja i izvještavanja i pregledu relevantnih analitičkih podataka koji ukazuju na finansijsku poziciju i uspješnost vlade Zeničko-dobojskog kantona. Analiza je rezultirala pripremom sveobuhvatnog seta probnih izvještaja zasnovanih na akrualnom modelu. Navedeno je omogućilo da mjerimo odstupanja primjenjujući dva različita računovodstvena modela. Procjene analize ukazuju na značajno precjenjivanje uspješnosti vlade, latentne budžetske deficite i prijetecu nesolventnost. Ne isključujemo mogućnost da je modifikirana akrualna osnova korištena kako bi se svjesno previdjele potencijalne obaveze i potisnule tekuće obaveze i rezervi sanja po osnovu, u međuvremenu, izgubljenih sudskih procesa.

Ključne riječi: akrualno računovodstvo, budžetiranje, računovodstvo na gotovinskoj osnovi, pouzdanost

JEL: M 48

1. Introduction

The budgeting represents the system of reporting on the plans and financial implications of the plans prepared and executed by government financial affairs on time and in an efficient and reliable manner. It provides systematic insight into accounting documents, as evidence of past and current events and transactions, so that these events and transactions can be identified and traced. It also enables the compilation of periodic and final amounts that builds relevant information for intended users, citizens as tax payers and voters, legislative and oversight authorities as well as investors and creditors. The accounting basis essentially represents accounting principles, which determine how transactions and business events will be recognized. In general, there are four types of accounting basis: cash-base, accounting on a modified monetary basis, accounting on a modified accrual basis and accrual accounting. Historically, application of different principles across nations affected comparability of respective financial reports.

In order to serve the public interest by contributing to the development, adoption and implementation of high-quality international standards, International Federation of Accountants (IFAC) established the International Public Sector Accounting Standards Board (IPSASB) to function as an independent standard-setting body. The board develops accounting standards for use by public sector entities, those responsible of services to benefit the public, financing their activities by means of taxes and contributions and transfers from other levels of governments and do not have primary objective to make profits. As of today some 130 countries have fully or partially adopted IPSAS. The adoption of IPSAS in Bosnia and Herzegovina is managed on entities level of government. The Federation of BiH Strategy on public finance management 2021-2025 foresees gradual implementation of IPSAS standards in the period of four years. The public authorities currently apply modified accrual accounting basis, recognizing revenues and receipts in the period when measurable and available at the treasury account while expenditures and expenses are recognized in the accounting period in which the obligation to pay has arisen. The entity Republika Srpska, however, applies accrual basis of accounting. Poljasevic *et al.* (2019, p. 8) note that the adoption of the accrual and modified accrual basis for financial reporting did not arise from the information needs of the users, but as a recommendation of international institutions that financed the budgets by the loans and who are interested in accurate and complete information on government activities.

We argue that the modified accounting basis currently applicable in the Federation of BiH imposes series of discrepancies in the recognition of assets, revenues and expenditure, possibly considerably undermining financial reporting reliability and performance measurement. In more concrete applied modified accrual basis:

- (a) Depending on the type of revenue the difference arise with the timely recognition, such is the case with the short-term trade receivables not collected, does not allow for the revenue recognition and considers receivable as short-term accrual.
- (b) Requires entire expenditures relating to the procurement of materials and small inventory to be recognized in the purchase period, not addressing the level of consumption as is the case in the accrual basis accounting.
- (c) Recognizes entire amount of the acquisition of the non-financial assets as an expense in the accounting period in which they were incurred.

Besides, modified accrual basis foresees the disclosure of financial and capital receipts, other than those arising from revenues and expenditures, such is the case with borrowing, directly effecting presentation of budget surplus or deficit. The financial result is obtained from the current surplus or deficit, net acquisition of fixed assets and net borrowing less debt repayments.

Last but not least, modified accrual basis does not provide information on contingent liabilities that may considerably affect government's financial capacity and implicitly reduce effectiveness of public debt regulation.

Van Helden (2018, p. 4) provide compiled comprehensive overview of arguments for accrual and cash basis of accounting. Clear benefits of cash basis accounting are in its ability to provide simpler framework for financial and fiscal control and usability of budget. Accrual basis, however, establishes one accounting system for budgeting and financial reporting, it is believed to provide better coverage of financial information such is in reporting total cost of the government and contingent liabilities. In our analysis, we quantify these differences by applying accrual based accounting principles to the accounting set of data used for the preparation of financial reports in accordance with locally applicable set of rules aligned with the modified accrual basis of accounting. We interpret the differences captured and argue on how these affect financial reporting reliability.

2. Literature review

The debate on public sector accounting basis specifically boomed with the rise of new public financial management concept (Guthrie *et al.*, 1988, p. 3), finding accounting as fundamental to achieving accountability and performance measurement in public sector that focuses on the citizens as the recipient of the services or customers to the public sector (Kapucu, 2006, p. 11). Anessi-Pessina *et al.* (2016, p. 18) find that significant portion of public sector accounting articles reflect context of new public financial management since 1980's. The accounting scholars embraced the idea especially as it underlines financial control, value for money, increased efficiency, but also audit, assessment and evaluation as an external oversight instruments.

Nonetheless, the new public financial management era becomes an old concept. Digital era governance (Dunleavy *et al.*, 2005, p. 7) that is centred upon information and technology removing barriers and conflicts and improving service quality and social media (AM Omar, 2020, p. 12) in the governance process highly challenge outdated concepts across developed world.

Steccolini (2018, p. 4) believes that the emphasis on the new public financial management may have contributed to crowd out efforts of further theorization and consolidated the insulation of public sector accounting research from other disciplines. She believes that the future research need to look at how accounting and accountability can respond to the challenges posed by a shifting and increasingly intangible public ness, including on public value, performance management, austerity, crises and wicked problems, and co-production and hybridity.

However, accrual basis accounting for budgets and financial reporting is widely recommended modality. Cavanagh *et al.* (2016, p. 2) state that the cash accounting has a number of weaknesses from the point of view of government financial transparency, integrity, and accountability, where governments tend to not maintain comprehensive and up-to-date records of the value of their assets and liabilities. On the other hand, they believe that the accrual accounting offers a number of benefits over traditional cash accounting from the point of view of government transparency, accountability, and financial management. These entail capturing both cash transactions and non-cash flows in financial statements, enable view of the government's financial performance and the cost of government activities, provide information for decision making concerning the acquisition, disposal, and management of government assets, liabilities, and contingent liabilities as well as ensuring more complete picture of the financial position of the public sector as a whole. Nonetheless, some authors criticise expectations that shifting to budgeting and reporting on full accrual basis accounting will ensure that accountability, transparency and internal performance as ultimate goals of public finance reforms will be automatically addressed and achieved.

Stalebrink (2007, p. 443) refers to the conceptual framework of accrual accounting and argues that the full accrual accounting per se builds ground for the government discretion in utilizing measurement and for the purpose of managing reported financial results. The argument that the government's discretionary power over reporting potentially induces impaired quality of financial reporting can be observed through the lens of the agency theory. The principle-agent theory concept is not to be blindly transposed from the private profit-making sector as the citizens as principle do not have an instrument to exercise direct oversight power over financial affairs of government as the agent. This is well elaborated by Bergman and Lane (1990, p. 351) who conceptualize that the agency theory may rather represent the promising approach to the analysis of public policy commitments, rather than as the concept of public policy implementation oversight.

The adoption of accrual accounting is also seen as self-evident led by the pressure on governments to demonstrate effectiveness and efficiency and discharge their responsibilities (Lapsley *et al.*, 2009, p. 721). Saleh *et al.* (2004, p. 179) believes that local governments introduce accrual accounting and reporting in order to meet external requirements and promote efficiency but failing to improving internal performance. The study conducted by Brusca and Montesinos (2014, p. 8) provides evidence that accrual statements in local governments are prepared but that accrual is not always used, due to the discretionary nature of the standards, as well as many problems in its implementation.

3. Research methodology

The study assesses reliability and predicting power of the local government (canton) in the Federation of BiH financial reporting with pre-selected proxies, disclosed revenue, expenditure, liabilities and receivables. The in-depth case study uses data panel for the period 2014 to 2018 as well as reclassification of the balance sheet and income statement positions from modified accrual to full accrual basis reporting. The process of transferring between two accounting modalities requires set of internal documents needed for financial reports preparation. In this concrete case, we used the official adopted budgets for five consecutive years (2014-2018), reports on budget executions, balance sheets, annual regular inventories of assets, liabilities and receivables, reserves, borrowing and funds for servicing the principal of debt, interest and service costs.

We hypothesis that the aggregate difference in deficit or surplus, assets and liabilities represent anticipated level of reliability expressed through the government financial capacity and indebtedness as well as predictability measure through difference in budgeted and realized amounts. We follow the pattern provided by Cavanagh *et al.* (2016, p. 18) as an indicative phasing for the transition from cash to accrual accounting in the public sector through three parallel dimensions of

fiscal reporting, recording of stocks in the balance sheet (financial and nonfinancial assets and liabilities valued in accordance with international standards), recognition of flows in the operating statement recording all transactions at the time economic value transferred, as well as other economic flows that affect the government's net worth, such as changes in the value of government asset holdings.

4. Results and discussion

4.1. Contingent liabilities

In 2014 the cantonal government reported in total 130 million BAM on liabilities and accruals. These related to received transfers from other levels of governments (deferred income), liabilities to employees and loans. As at the end of fiscal year 2018 total liabilities increased to 305 million BAM as a consequence of the state audit recommendation.

Table 1. *Liabilities and accruals reported*

| Liabilities (amounts in TBAM) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------------|----------------|----------------|----------------|----------------|
| Short-term liabilities | 50,453 | 46,922 | 33,305 | 34,010 | 14,300 |
| Short-term loans | 20 | 2,328 | 4,844 | 1,629 | 816 |
| Liabilities to employees | 26,336 | 14,428 | 14,367 | 14,471 | 16,198 |
| Short-term accruals | 5,437 | 5,437 | 5,151 | 0 | 0 |
| Deferred income | 40,310 | 43,272 | 45,937 | 46,095 | 47,000 |
| Short-term liabilities and deferred income | 122,556 | 112,387 | 103,604 | 96,205 | 78,314 |
| Long-term borrowing | 26,735 | 41,472 | 51,859 | 72,063 | 72,778 |
| Other long-term liabilities | 0 | 0 | 124,154 | 135,641 | 153,857 |
| Long-term differed income | 68 | 68 | 20 | 20 | 20 |
| Long-term liabilities and deferred income | 26,803 | 41,540 | 176,033 | 207,724 | 226,656 |

Source: Authors' calculation, based on the official budgetary statements

Significant increase in long-term liabilities is a result of undisclosed contingent liabilities arising from litigations and court decisions concerning disrespect of collective agreement for employees in educational sector. The magnitude of this re-statement is best visible in the debt to total revenue ratio, increasing from 51.2% in 2014 to 99.3% in 2018. The government decided not to disclose any provisions for potential liabilities arising from court cases despite the fact that the first court decision in favour of employees that have initiated litigation is brought back in 2005. The justification grounds on relevant regulation on budget accounting that requires liabilities to be recognized in the period when outflow of funds is expected to occur.

4.2. Re-stated income sheet differences

We observed the difference in inventories immediately recorded as an expense in the income statement in full amount, receivables not collected disclosed in short-term accruals, due liabilities on executive court decisions, acquisition of fixed non-financial assets not capitalized.

Table 2. *Determined differences in income sheet positions*

| Income sheet positions for the fiscal 2018 year (amounts in TBAM) | Reported (modified accrual basis) | Restatement (accrual basis) | difference |
|---|-----------------------------------|-----------------------------|------------|
| Taxes | 259.043 | 262.055 | 3.012 |
| Purchased inventories | 37.841 | 34.674 | (3.167) |
| Current expenses and transfers | 66.936 | 220.601 | 153.664 |
| Depreciation | 0 | 6.946 | 6.946 |

| | | | |
|----------------------------|---------------|------------------|----------------|
| Sum of differences | | | 160.455 |
| Surplus / (Deficit) | 14.059 | (140.372) | |

Source: Authors' calculation, based on the official budgetary statements

4.3. Re-stated balance sheet differences

We found that the depreciation expense was not recorded (BAM 6.9 million) implying less expenditure reported (BAM 3.1 million). As a result of differences in income and balance sheet, the accumulated result is overestimated by more than BAM 140 million.

Table 3. *Determined differences in balance sheet positions*

| Balance sheet positions as at 31 Dec 2018 (amounts in TBAM) | Reported (modified accrual basis) | Restatement (accrual basis) | difference |
|--|--|------------------------------------|-------------------|
| Inventories | 205 | 3,372 | 3,167 |
| Long-term accruals | 159,448 | 5,784 | (153,664) |
| Short-term liabilities | 14,300 | 167,965 | 153,664 |
| Short-term accruals | 47,000 | 43,988 | (3,012) |
| Other-long term liabilities | 153,857 | 193 | (153,664) |
| Equity | 273,893 | 267,222 | (6,671) |
| Accumulated surplus | 63,239 | 63,681 | 442 |
| Accumulated deficit | 0 | 140,372 | 140,372 |

Source: Authors' calculation, based on the official budgetary statements

Comparative analysis of the financial statements prepared on two separate sets of accounting rules, legislative provisions and accounting standards, resulted in several findings concerning predictability and reliability of budgeting and financial reporting in the Federation of BiH. The budgets are prepared following cash basis principle in the revenue recognition. The government forecasts cash inflows based on historical data. Consequently, realized revenues rarely reach budgeted amounts. The government expresses significant aggressiveness in both processes, budgeting and reporting, depressing the expenditure and postponing recognition of liabilities and reserves. The undervaluation of liabilities is justified with the legislative provisions merely regulating that the liability is to be recognized in the period when it is expected that the payment will occur. This concept considerably omit government's commitments arising from enforcement of laws and contracts.

5. Conclusion

We conducted in-depth case-study analysis of budgeting and financial reporting of the cantonal government in Federation BiH. The study uses panel data for the period 2014 to 2018, official adopted budgets, reports on budget executions, balance sheets, annual regular inventories of assets, liabilities and receivables, reserves, borrowing and funds for servicing the principal of debt, interest and service costs. The analysis resulted in produced comprehensive sets of trial balances applying accrual based model. This enabled measuring differences by applying two different modes of accounting. We argued that the applicable regulatory framework enables significant government's discretionary in estimating revenues when preparing the budgets as well as in recognizing expenditures and liabilities in the budget execution and accompanying financial reports.

Payments, that by their nature do not meet the criteria for the recognition as income and expenses, affect reported accumulated surplus or deficit. The accumulated deficit is then absorbed through

borrowing. It is notably evident that government's absolute public financial management focus is on adopting budgets and reporting on budget executions, thereby neglecting true and realistic capacities to levy revenue from taxes and other non-tax revenue and align funds outflow side accordingly, but looking to depress expenditures, postponing to recognize liability and cover the deficit through borrowing.

The major empirical findings of the analysis show that the modified accrual basis determined to be applicable in Federation BiH and grounding on respective budgetary accounting regulatory framework and not on the set of high quality standards, does not ensure reliable financial reporting. As a consequence, there is significant overstatement of government performance and highly depressed responsibility possibly leading to latent budgetary deficits and threatening insolvency. As stated in the methodological framework, this research was done on the basis of a case study and thus resulting in indicative results, but there are also certain limitations to the general acceptability of conclusions related to the reliability of reporting and budgeting grounding on a modified accrual basis. Future research needs to base on a quantitative analysis of budgeting and reporting in all local government units (cantons), in order to answer whether and to what extent the application of the full accrual basis improve reliability of budgeting and reporting in the Federation of BiH respectively.

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EFFECTS OF APPLICATION OF THE FAIR VALUE ACCOUNTING OF LONG-TERM ASSETS ON THE EXPRESSED VALUE OF EQUITY

EFEKTI PRIMJENE RAČUNOVODSTVENOG KONCEPTA FER VRIJEDNOSTI DUGOROČNE IMOVINE NA ISKAZANU VRIJEDNOST KAPITALA

Abstract

One of the unavoidable problems of accounting theory and regulation is measuring the positions of assets, liabilities, capital, income and expenses. The using of different accounting concepts of measurement of economic activities and the results of these activities, monitoring through accounting and financial reporting is a main problem that reflects of the company and the presentation of financial results. All concepts of measuring asset positions inevitably have a value effect that is expressed through equity positions within the financial statements, but this effects is not always easy to measure. When we talk about the accounting concept of fair value, a special influence on the expressed value in equity positions has the level of application fair value accounting concept, which will be the subject of research in the work. On the basis of this work will be tested following research hypothesis: „The application of the fair value accounting concept, observed through the expressed value of long-term assets, affects the expressed value of equity in the financial reporting of companies in Bosnia and Herzegovina“. The research will be conducted in 98 joint stock companies quoted on capital market in B&H (68 companies quoted on SASE and 30 companies quoted on BLSE). The research results will provide what and how fair value accounting has value effects on expressed equity in financial reports.

Keywords: accounting concept of fair value, financial reporting, value effects

JEL: M41

Sažetak

Jedan od nezaobilaznih problema računovodstvene teorije i regulative, jeste mjerenje pozicija imovine, obaveza, kapitala, prihoda i rashoda. Upotreba različitih računovodstvenih koncepata mjerenja prilikom evidentiranja ekonomskih aktivnosti i rezultata tih aktivnosti, njihovog praćenja kroz računovodstvo i finansijsko izvještavanje, predstavlja ključni problem, koji se reflektuje, kako na imovinu preduzeća, tako i na iskazivanje finansijskog rezultata. Svi koncepti mjerenja imovinskih pozicija neizostavno imaju vrijednosni efekat, koji se iskazuje kroz pozicije kapitala u okviru finansijskih izveštaja, ali taj efekat nije uvijek jednostavno izmjeriti. Kada govorimo o računovodstvenom konceptu fer vrijednosti, poseban uticaj na iskazanu vrijednost u pozicijama kapitala ima nivo primjene samog koncepta, što će biti predmet istraživanja u radu. Rad ima za cilj potvrditi ili opovrgnuti sljedeću istraživačku hipotezu: „Primjena računovodstvenog koncepta fer vrijednosti, posmatranog kroz iskazanu vrijednost dugoročne imovine, utječe na iskazanu vrijednost kapitala u izvještaju o finansijskom položaju preduzeća u Bosni i Hercegovini“. Naš uzorak čini 98 preduzeća, čiji vrijednosti papiri kotiraju na tržištima kapitala u BiH (68 preduzeća SASE i 30 preduzeća

BLSE). Rezultati istraživanja će pokazati da li i kakve vrijednosne efekte, primjena računovodstvenog koncepta fer vrijednosti, ima na pozicije kapitala iskazane u finansijskim izveštajima preduzeća.

Gljučne riječi: računovodstveni koncept fer vrijednosti, finansijsko izvještavanje, vrijednosti efekti

JEL: M41

1. Introduction

The application of the fair value accounting concept is very difficult, almost impossible to consider, without the application of IAS / IFRS. A very broadly defined and widely applicable concept is easier to "tame", if viewed through the prism of its basic items, that define it, defined through a full set of IAS/IFRS, namely: provisions of the standard on the application of the accounting concept of fair value in terms of its measurement, index disclosure of fair value information in the financial statements and the approach and techniques for measuring fair value defined through hierarchical levels of the accounting concept in IFRS 13.

By analysing the standards and regulations related to the accounting concept of fair value, which is defined in IAS and IFRS, that regulate fixed assets, a model with visible effects on equity will be created. The application of the accounting concept of fair value within IAS 11 - Construction Contracts, was reflected in value through impairment on equity, through the statement of comprehensive income (income statement), which had a negative value effect on equity. As of January 2017. IFRS 15 – Revenue from Contracts with Customers has been in force, which regulates disclosure in the same way. IAS 16 - Property, Plant and Equipment and IAS 38 - Intangible Assets, have the same effects on equity when it comes to applying the fair value accounting concept. The initial recognition of these items, when performed according to the concept of fair value, has neither a positive nor a negative effect on the stated value of capital, because the complete accounting records are reflected through assets. Subsequent measurement has either a positive or negative value effect on equity, through revaluation reserves, depending on whether it is a decrease or increase in value. Within IAS 17 – Leasing (which was in use until 31 December 2018), the accounting concept of fair value had neither a positive nor a negative effect on the stated value of equity, when it comes to initial recognition. Subsequent measurement refers to impairment and was recorded through expense, so the effect was negative, when it comes to capital, through the net result, for example the report on the total result of the company. From 1.1.2019. IFRS 16 – Leasing is in use, which regulates that the initial recognition at the beginning of the lease is made at the present value of the payment on the basis of the lease, which is essentially equal to the total fair value of the leased property. When it comes to consolidation, investing in subsidiaries may have a positive or negative effect on the carrying amount of equity. This is regulated by the standards of IFRS 10 - Consolidated Financial Statements; IFRS 12 - Disclosure of Interests in Other Entities and IAS 27 - Separate Financial Statements, effective from January 2013. are regulated through IAS 28 - Investments in Associates and IFRS 12 - Disclosures of Interests in Other Entities, which have been in effect since January 2013, also have the same implications for equity as in the case of consolidation. Fair values for subsequent measurement, regulated through IAS 36 - Impairment, are reflected in two ways in equity. When incurred, an expense is recorded for revalued fixed assets, which - through the statement of comprehensive income, has a negative effect on equity.

Furthermore, in the case of the elimination of impairment losses, there is an increase that is reflected in the capital, also, through the statement of comprehensive income. The application of fair value through IAS 40 –Investments in Real Estate, has positive and negative effects on equity, through gains and losses from adjustment to fair value, which is reflected in equity indirectly, through the statement of comprehensive income. IAS 41 - Agriculture is reflected in equity through

positive and negative effects, through the statement of comprehensive income, while initial recognition, as with other forms of assets, has no effect on equity.

2. Previous research

The topic of applying the accounting concept of fair value in the world, after the global economic crisis and the introduction of the new International Accounting Standard IFRS 13 - Measurement of Fair Value, is becoming increasingly relevant for research, because it raises a number of issues that have arisen through historical development, in accordance with the economic and market conditions in which the business world resides. Choosing the correct method of valuing assets and liabilities is one of the most important tasks of accounting, because there is a belief that the financial position and results of economic activities, presented in the statement of financial position and statement of comprehensive income, depend not only on current reality but also on valuation methods of measuring and calculating the value of position (Tkachuk, 2019, p. 174.).

Matis, Damian, & Bonaci (2013, p. 44.) analyse the diversity of fair value disclosures and the factors of such disclosures. They use a sample of 20 companies listed on the London Stock Exchange and the Frankfurt Stock Exchange. Following IFRS 13, the disclosure index was created based on the disclosure requirements of this standard, and the calculation is presented in the form of the formula:

$$Di = \frac{\sum_{i=1}^m d_i}{\sum_{i=1}^n d_i},$$

Where is:

Di = Publishing index, di = 1 if data were published, 0 if not, m = number of published information, n = maximum amount of information that can be obtained.

According to their analysis, the number of maximum possible information, guided by the disclosure obligations under IFRS 13, is 9.

Atanasovski, (2013, p. 27.) in his paper, which analyses fair value, as a determinant of the quality of financial reporting for listed companies in Macedonia, uses the disclosure index as an indicator of fair value. He calculated the publication index according to all standards and obtained that the maximum number of publications for all standards is 51. The formula for calculating the total index is presented as follows:

$$T = \sum_{i=1}^m di, \text{ where is:}$$

T = total publication index, m = maximum number of posts, di = 1 if data were published, 0 if not.

The maximum score for each company is shown by this formula:

$$M = \sum_{i=1}^n di, \text{ where is:}$$

M = Maximum publishing index, n = number of publications adjusted to the company (n < 51)
di = 1 if the information is published, or 0 if not.

Taking into account the above, the publication index is presented in the form of the following formula:

$$\text{IndeksOb} = \frac{T}{M}$$

Unweight indices were the subject of other research, such as: Chalmers & Godfrey (2004, p. 95.), Cooke (1989, p. 171.), Meek, Roberts & Gray (1995, p. 555.), Raffournier (1997, p. 493.).

Busso (2014, p. 1.) focuses on the European real estate sector and finds that disclosures about fair value measurements, which are required in IFRS 13, have been reported by many companies, but that there are also those companies that are still not in line with the new requirements. An analysis of 1,343 Italian, French and German listed companies, found that the fair value accounting concept is used in 75% of cases for companies that had investment property. Shamimul and Normah, (2016, p. 9) also use the disclosure index, as an indicator of the disclosure of financial statements in the context of fair value. They concluded that a lower value of the disclosure index results in lower quality financial statements, analysing corporate financial reporting in Bangladesh. They calculate the publishing index using the formula:

$$PC_j = \frac{\sum_{i=1}^n X_i}{R_j}$$

Where is:

PC_j = Total disclosure index for each company 0 < PC_j < 1, X_i = Disclosure level for each item, R_j = Total number of published items for each company.

3. Creating a model for determining the effects of the application of the accounting concept of fair value of long-term assets on the stated value of capital

In Belak's first model (2006, p. 17.) of applying the accounting concept of fair value, gains from changes in fair value are presented in reserves, and subsequently transferred to retained earnings, after they are realized, for example after the assets are sold, disposed of, withdrawn from use, and the transfer of gains and losses from value adjustments, is not shown through the statement of comprehensive income. This model applies to property, plant and equipment, regulated by IAS 16 and to intangible assets, regulated by IAS 38, and partly to part of hedged items, regulated by IAS 39. As of May 2017, the new IFRS 9 - Financial Instruments is in force. Financial assets are recognized at fair value through other comprehensive income, if the condition of the agreed cash flows, related to the payment of principal and interest, is met, and if it is held in a business model, in which the financial assets are held for cash flow and operation sales. It can be concluded that investments in equity instruments are measured at fair value through profit or loss, but do not result in cash flows at specific dates, while investments in debt instruments can be measured at amortized cost or fair value, through other comprehensive income, or fair value, through profit or loss. Derivatives are measured at fair value, through profit or loss. Impairment of financial assets, unlike the provisions of IAS 39, which requires impairment only when a credit loss occurs, this IFRS requires impairment, before the impairment indicator occurs.

With the amendments to IAS 19 from 2004, the company can choose to immediately recognize actuarial gains and losses as part of other comprehensive income, and that in subsequent periods they are not reclassified to profit or loss, but immediately recognized in retained earnings (Šodan, 2014, p. 39.). The disclosure index can also be viewed as a qualitative measure of financial reporting, but in previous research it appears in a holistic sense, as a measure of overall financial reporting.

In the following, we will contribute through a comprehensive approach to observing the financial reporting index in terms of fair value. According to IAS 11 - Construction Contracts, the accounting concept of fair value has the application of this standard within the items of the statement of comprehensive income: Revenue from contracts and Impairment of property under construction. According to the new standard, with simple contractual arrangements, there will be no changes in the revenue recognition procedure, while with the introduction of this standard, there will be changes with complex contracts, such as customer reward program, sales of software with services, revenue recognition according to the degree of completion and the like. Revenue is already covered through other standards, so only a reduction in value applies to this standard. If this field is marked with X_1 , the following form will be created that can be used to calculate the effect of the construction contract on the total capital of companies in B&H:

$f(K_{FV}) = -X_1 * p(X_1)$, where is:

$f(K_{FV})$ = fair value of equity, X_1 =negative effect caused by a decrease in the value of real estate under construction, $p(X_1)$ =a weight showing the average level of application of the impairment of real estate construction.

IAS 16, property, plant and equipment, regulates the initial recognition of the cost of one or more property, plant or equipment, acquired through exchange or partial exchange for non-monetary assets at fair value. An enterprise should select either a cost model or a revaluation model, for subsequent measurement. The effect of applying the accounting concept of fair value, if an enterprise has revaluation reserves as an item, is visible through the corresponding income and expense accounts in the statement of comprehensive income. If these effects are denoted by X_2 and X_3 , the following pattern is created that can be used to calculate the effect of the fair value of property, plant and equipment on the total capital of enterprises in B&H:

$f(K_{FV}) = X_2 * p(X_2) - X_3 * p(X_3)$, where is:

$f(K_{FV})$ = fair value of equity, X_2 = positive effect created by increasing the value of real estate, plant and equipment, X_3 = negative effect caused by a decrease in the value of property, plant and equipment, $p(X_2)$ = weight showing the level of application of the increase in the value of property, plant and equipment of fair value in enterprises, $p(X_3)$ = a weight showing the level of application of the fair value reduction of property, plant and equipment in enterprises.

Under IFRS 16 - Leasing (formerly IAS 17 - Leasing), it is provided that initial recognition is made at the beginning of the period, in such a way that financial leasing should be recognized as assets and liabilities at amounts equal to the fair value of the leased property, or, if lower, at the present value of the minimum lease payments, and the recoverable amount is the present value of estimated future cash flows, discounted at the interest rate contained in the lease. Since the initial recognition of a lease, as such, in the statement of financial position does not lead to changes in equity positions, the focus will again be on expenses and income based on the increase or decrease in the value of short-term and long-term financial leases. If these effects are marked with X_4 and X_5 , the following form is created for calculating the effects of the fair value of leasing on the total capital of companies in B&H:

$f(K_{FV}) = X_4 * p(X_4) - X_5 * p(X_5)$ where is:

$f(K_{FV})$ = fair value of equity, X_4 = positive effect created by increasing the value of financial lease,

X_5 = negative effect caused by a decrease in the value of the finance lease, $p(X_4)$ = weight showing the level of application of the increase in value from the finance lease, $p(X_5)$ = weight showing the level of application of the reduction in value from the finance lease.

IAS 38 - Intangible Assets, regulates the initial recognition of intangible assets, at fair value. Given that when acquiring an asset item, there is no tangible liability in the statement of financial position, this effect on equity is neutral. In the statement of comprehensive income, the positive or negative effects of fair value on equity are seen indirectly in the income and expense accounts, and directly, within the revaluation reserve position. If these effects are marked with X_6 and X_7 , the following pattern is created that can be used to calculate the effect of fair value of property, plant and equipment on the total capital of enterprises in B&H:

$f(K_{FV}) = X_6 * p(X_6) - X_7 * p(X_7)$, where is

$f(K_{FV})$ = fair value of equity, X_6 = positive effect created by increasing the value of real estate investments, X_7 = negative effect caused by a decrease in the value of real estate investments, $p(X_6)$ = weight showing the level of application of the increase in the value of investment in real estate, $p(X_7)$ = weight showing the level of application of the reduction in the value of investment in real estate.

IAS 40 - Investments in Real Estate, regulates the recoverable amount of such property as fair value, which through the statement of comprehensive income is implied by equity, through gains (positive) and losses (negative) effects of adjustment to fair value. If these effects are denoted by X_8 and X_9 , the following pattern is created that can be used to calculate the effect of the fair value of property, plant and equipment on the total capital of enterprises in B&H:

$f(K_{FV}) = X_8 * p(X_8) - X_9 * p(X_9)$, where is:

$f(K_{FV})$ = fair value of equity, X_8 =positive effect created by increasing the value of real estate investments, X_9 = negative effect created by increasing the value of real estate investments, $p(X_8)$ = a weight that shows the level of application of the increase in the value of real estate investments, $p(X_9)$ = a weight that shows the level of application of the reduction in the value of real estate investments.

The previously covered provisions prescribed by standards, based on accounting regulations, and their comprehensive analysis, are the basis for the creation and application of models for determining the effects of fair value. Based on this, the model for calculating the effects of applying the accounting concept of fair value on the stated value of capital, for fixed assets and long-term placements, has the following form:

$$\text{MODEL: } f(K_{FV}) = -X_1 * p(X_1) + X_2 * p(X_2) - X_3 * p(X_3) + X_4 * p(X_4) - X_5 * p(X_5) + X_6 * p(X_6) - X_7 * p(X_7) + X_8 * p(X_8) - X_9 * p(X_9)$$

The weights assigned to each effect are the result of the level of application of a particular standard, in the analysed companies. Weights were calculated as the ratio of the number of companies, in which this effect is evident, in relation to the number of analysed companies.

4. Research methodology

When choosing the basic set of empirical research, which refers to the analysis of the impact of the accounting concept of fair value, expressed through long-term asset positions on the financial position of the company, the legal regulations were observed - that only companies whose securities are listed on the capital markets financial statements, apply the full set of International Accounting Standards and International Financial Reporting Standards. Although it is to be expected from BiH companies that only large companies submit a full set of financial statements, and medium and

small ones have the option of abbreviated reporting in the form of financial statements and reports on the overall result, the full reporting set applies to most medium-sized companies.

This research is conducted for the reporting periods from 2014 to 2018 and for those companies whose financial statements were available for all five reporting periods. The original population numbered 843 (325 SASE and 518 BLSE) companies. After the companies, which are in the process of bankruptcy and/or liquidation, were excluded (49 of them on SASE and 114 on BLSE), 680 monitoring companies remained. Given that it was originally defined that only companies will be observed, and taking into account the availability of financial statements for all five years of the period 2014-2018, 98 companies that meet these requirements remain for analysis (68 companies SASE and 30 companies BLSE). Given the scope and complexity of the research, the sample includes all 98 companies from the population, so that the possibility of sampling error is reduced or completely eliminated, when it comes to proving the research hypothesis which reads:

H: The application of the fair value accounting concept, viewed through the carrying amount of long-term assets, affects the carrying amount of equity in the statement of financial position of the enterprise.

The dependent and independent variables are expressed through the following indicators:

- Fixed assets and long-term placements (values stated in the financial statements at the end of the accounting periods 2014, 2015, 2016, 2017 and 2018): fixed intangible assets, goodwill, property, planted and equipment, financial placements, investment property, biological assets;
- Capital (values stated in the financial statements at the end of the accounting periods 2014, 2015, 2016, 2017 and 2018).

Methods of correlation and regression analysis were used to prove the research hypothesis. A correlation analysis of different asset positions from the statement of financial position, individually and collectively by categories, and capital positions was performed. In most cases, the nonparametric statistical method Spearman's correlation of ranks was used, due to the fact that most indicators do not meet the statistical assumptions of parametric methods (distribution normality, small samples, etc.). Pearson's linear correlation is used as a parametric method, but only after the transformation of variables with logarithm is performed. Logarithmic transformation of variables is justified and desirable, in order to reduce the data to a scale in which the error variance is constant. The transformation of the variables was performed respecting the rule that the relative ratios of the original data, as well as their average values, remain unchanged. The required level is alpha 5%, *i.e.* $p < 0.05$. Significant correlations are marked with an asterisk in all tables. It should be borne in mind that the achievement of statistical significance is also influenced by the sample size. In some regression analyses, 1 to 3 companies are excluded from the analysis, due to extreme values, but a large part of them remained so as not to jeopardize the sample size.

5. Results

This part of the paper presents and analyses the results of research on the impact of the reported values of long-term assets at fair value on the reported value of capital in the statement of financial position of the company. Due to the unquestionable connection, which has already been explained, the positions of the statement of financial position and the statement of comprehensive income will be analysed from the aspect of the impact on the company's capital, in order to include static and dynamic characteristics of applying the fair value accounting concept application of the fair value accounting concept. The following table shows the relationship between property positions of fixed assets and capital positions from 2014 to 2018.

Table 1. Relationship between fixed assets and long-term placements with total capital positions (2014-2018)

| Fixed assets and long-term placements (2014) | | Total capital | | |
|--|--|---------------|-------|--------|
| | | n | rho | p |
| Fixed intangible assets | | 56 | 0.599 | 0.000* |
| Real estate, plant and equipment | | 95 | 0.816 | 0.000* |
| Financial placements | | 64 | 0.475 | 0.000* |
| Capital of related legal entities | | 19 | 0.393 | 0.096 |
| Investment real estate | | 24 | 0.551 | 0.005* |
| Biological assets | | 5 | 0.800 | 0.104 |
| Fixed assets and long-term placements (2015) | | Total capital | | |
| | | n | rho | p |
| Fixed intangible assets | | 59 | 0.639 | 0.000* |
| Real estate, plant and equipment | | 98 | 0.834 | 0.000* |
| Financial placements | | 62 | 0.527 | 0.000* |
| Capital of related legal entities | | 21 | 0.370 | 0.099 |
| Investment real estate | | 26 | 0.493 | 0.011* |
| Biological assets | | 6 | 0.200 | 0.704 |
| Fixed assets and long-term placements (2016) | | Total capital | | |
| | | n | rho | p |
| Fixed intangible assets | | 60 | 0.644 | 0.000* |
| Real estate, plant and equipment | | 98 | 0.809 | 0.000* |
| Financial placements | | 62 | 0.610 | 0.000* |
| Capital of related legal entities | | 18 | 0.370 | 0.130 |
| Investment real estate | | 31 | 0.612 | 0.000* |
| Biological assets | | 7 | 0.500 | 0.253 |
| Fixed assets and long-term placements (2017) | | Total capital | | |
| | | n | rho | p |
| Fixed intangible assets | | 56 | 0.650 | 0.000* |
| Real estate, plant and equipment | | 97 | 0.850 | 0.000* |
| Financial placements | | 61 | 0.585 | 0.000* |
| Capital of related legal entities | | 17 | 0.223 | 0.390 |
| Investment real estate | | 33 | 0.635 | 0.000* |
| Biological assets | | 6 | 0.486 | 0.329 |
| Fixed assets and long-term placements (2018) | | Total capital | | |
| | | n | rho | p |
| Fixed intangible assets | | 59 | 0.647 | 0.000* |
| Real estate, plant and equipment | | 98 | 0.800 | 0.000* |
| Financial placements | | 61 | 0.584 | 0.000* |
| Capital of related legal entities | | 20 | 0.432 | 0.057 |
| Investment real estate | | 32 | 0.627 | 0.000* |
| Biological assets | | 6 | 0.600 | 0.208 |

rho-Spearman's rank correlation coefficient

n –the number of entities applying fair value accounting, p*-probability of rejecting the hypothesis 5% (0,05)

Source: Author's research

For all years in which the analysis of the connection between fixed assets and long-term placements with capital was made, it can be concluded that there is a strong or medium-strong correlation between fixed intangible assets, real estate, plant and equipment, financial placements and investment property, with capital positions. In the positions of capital of related legal entities and biological assets, no significance has been proven, which is a result of the non-existence of these positions in the structure of the statement of financial position of the company. The results of the research are presented below, observed for each year.

Table 2. Summary of the relationship between fixed assets and long-term placements with total capital (2014-2018)

| Year | | Log fixed assets and long-term placements | | |
|-------------|------|---|-------|--------|
| | | n | r | p |
| Log Capital | 2014 | 98 | 0.932 | 0.000* |
| | 2015 | 98 | 0.902 | 0.000* |
| | 2016 | 98 | 0.947 | 0.000* |
| | 2017 | 98 | 0.916 | 0.000* |
| | 2018 | 98 | 0.915 | 0.000* |

r - Pearson's linear correlation coefficient, n - number of companies in the analysis, p* - probability of rejecting the null hypothesis with a risk of 5% (0.05), logCapital - Aggregate capital transformed by logarithm, log Fixed assets and long-term placements - Aggregate fixed assets and long-term placements transformed by logarithm.

Source: Author's research

By analysing the data in the financial statements and standards concerning the fair value of long-term assets, the accounting concept of fair value is most often applied when measuring individual items of property, plant and equipment, and least often when deducting disposal costs. The differences are more pronounced than in the case of intangible assets, which is supported by the Partial ETA coefficient, which is 0.334. The results are given in Table 3. The use of the fair value accounting concept is fairly uniform for cumulative changes in fair value, recognized in profit or loss, when selling investment property and net gains or losses on value adjustments, as well as applying the fair value accounting concept, in subsequent measurement of investment property.

Table 3. Frequency of application of fair value in the accounting for tangible assets-Partial ETA-coefficient

| Wilks' Lambda Value | F | Hypothesis df | Error df | p | Partial Eta Squared |
|---------------------|-------|---------------|----------|-------|---------------------|
| 0.666 | 2.002 | 7 | 28 | 0.091 | 0.334 |

Wilks' Lambda - multivariate test value, F - F test value, p* - probability of rejecting the null hypothesis with a risk of 5%, Hypothesis df - hypothetical degrees of freedom, Error df - degree of freedom error, Partial Eta Squared - partial eta squares

Source: Author's research

Based on the previously presented research results, it can be clearly concluded that there is a strong correlation between fixed asset positions and long-term placements and capital, looking at all categories collectively. Pearson's correlation coefficient for all years is 0.9, which is a high correlation coefficient.

6. Conclusions

The theoretical model created on the basis of previously set models and on the basis of accounting regulations defined in IAS and IFRS, is a schematic representation of the reflection of the application of certain provisions of the standard, in terms of fair value, to the stated value of capital. The effects obtained on the basis of this model can be summed up in positive, negative and zero effects, the sum of which ultimately represents the net effect of fair value on the company's capital. Zero effect on equity, usually have certain initial recognition at fair value for the acquisition of certain assets, where the transaction is reflected in assets (one position increases and the other decreases). This is characteristic of real estate, plant and equipment, leasing, intangible assets, biological assets, investment property. Positive effects on equity arise from initial recognition or subsequent measurement, such as: initial recognition of income, foreign exchange gains, government grants, reversal of impairment losses, fair value adjustments and the like. Negative effects on the value of equity arise from the subsequent measurement of impairment. Also, the effect on equity can be direct (through revaluation reserves or through the asset positions themselves) or indirect (through positions from comprehensive income from the statement of comprehensive income of the enterprise). This model opens the possibility for future research and deepening the analysis, because the relationship can be viewed from various perspectives (from the

perspective of IAS / IFRS, from the perspective of asset positions, initial or subsequent measurement, direct or indirect impact on capital, etc.). The biggest contribution of this model is the ability to calculate the effects and estimate future net gains, *i.e.* the value of capital for future periods, which can greatly facilitate potential investors to make a decision. Considering that each individual standard, which in any way represents and prescribes the accounting concept of fair value, in the text or in the Disclosures section, requires disclosure of information at fair value, individual and group disclosure indices characteristic of the market of Bosnia and Herzegovina are calculated. Full application of the fair value accounting concept would imply that fair value applies to all items of assets, liabilities, equity, income and expenses.

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CHALLENGES IN PUBLIC SECTOR ACCOUNTING CONTEXTS: A COMPARATIVE STUDY OF POLAND AND BOSNIA AND HERZEGOVINA**IZAZOVI U RAČUNOVODSTVU JAVNOG SEKTORA: KOMPARATIVNO ISTRAŽIVANJE POLJSKE I BOSNE I HERCEGOVINE****Abstract**

This paper presents the comparative analysis outcomes concerning the characteristics of public sector accounting established in Poland and Bosnia and Herzegovina. The analysis aims in informing on the current state on the application of the accounting standards for public sector and determining path ways for reforms, respective expectations and challenges, in the process of harmonizing public accounting frameworks across Europe. The methodology used embrace extensive literature review, documentary research and comparative method. In more concrete, the paper provide contextual analysis, explores recent public accounting regulation reforms and trends across two emerging economies, Poland as the EU-member state and Bosnia and Herzegovina in its pre-accession. Since, Bosnia and Herzegovina is a potential candidate for EU membership it is interesting to compare experiences of Poland as EU member that applied International Public Sector Accounting Standards. Motivated by ongoing process of European public accounting framework development, this study will serve as review of a consequences and challenges in public sector accounting.

Keywords: public sector accounting, International Public Sector Accounting Standards, European Public Sector Accounting Standards

JEL: M 480

Sažetak

Ovaj rad predstavlja rezultate uporedne analize koji se tiču karakteristika računovodstva javnog sektora uspostavljenog u Poljskoj i Bosni i Hercegovini. Cilj analize je informiranje o trenutnom stanju primjene računovodstvenih standarda za javni sektor i utvrđivanje putova za reforme, odgovarajućih očekivanja i izazova, u procesu usklađivanja okvira računovodstva javnog sektora širom Evrope. Korištena metodologija obuhvaća opsežni pregled literature, dokumentarno istraživanje i uporednu metodu. Konkretnije, članak pruža kontekstualnu analizu, istražuje nedavne reforme i regulative računovodstva javnog sektora dvije ekonomije u usponu, Poljskoj kao državi članici EU i Bosni i Hercegovini u njenom pretprijetnom procesu. Budući da je Bosna i Hercegovina potencijalni kandidat za članstvo u EU, zanimljivo je usporediti iskustva Poljske kao članice EU koja je primjenjivala Međunarodne računovodstvene standarde javnog sektora. Motivisana tekućim procesom razvoja europskog okvira javnog računovodstva, ova će studija poslužiti kao pregled posljedica i izazova u računovodstvu javnog sektora.

Ključne riječi: računovodstvo javnog sektora, Međunarodni računovodstveni standardi za javni sektor, Europski računovodstveni standardi za javni sektor

JEL: M 480

1. Introduction

Public sector accounting has some specific differences to the private sector accounting due to characteristics of public sector units such as government or budgetary units like tax offices or regional self-governments. Usually some of the most important aspects that distinguish private sector accounting from the public sector are the definitions and characteristics of several components of accounting and financial reporting, such as inventories, fixed assets, intangible assets, receivables. Accounting and accountability are particularly important topics in public sector drawing attention in previous decades (Humphrey *et al.*, 1993, p. 10). International Public Sector Accounting Standards (IPSAS) are dedicated to public sector entities, including government institutions of various levels (central, local government and other local) and other public sector entities (*e.g.* agencies, committees, enterprises and others), as well as to international organizations. This study is supposed to fill research gap of examination the adoption of IPSAS cross-nationally, as highlighted promising area of further research by Humphrey and Miller (2012, p. 324). So, this study aims to offer comparative analysis of public sector accounting context Poland and Bosnia and Herzegovina (Schmidhuber, *et al.* 2020, p. 137) Poland and Bosnia and Herzegovina are significant for comparative analysis because these countries have similar governance system with respect to public sector and political path in EU accession. Evident standardization trends of public sector accounting similar to private sector accounting make interesting to observe process development in Poland as EU member. The progress in the process of adopting International Public Sector Accounting Standards worldwide has been subject of interest previous decades.

2. Literature review

It is evident how standardization progressing. Standardization as a process is usually described with aim to provide the same rules, in every unit that deals with given subject – in this case public accounting rules. With that being introduced, it would be easier for different entities to work with the accounting data from the other partners. Nowadays, the private sector enterprises accounting, according to widely accepted standards, is on an accrual basis. It means that transactions are recorded in the moment of their occurring. Simply put, it is more modern approach to accounting and it allows for better, more transparent financial reporting. By and large, generally accepted features of accounting are such as openness and transparency, apply to public sector units. Also some of the basic accounting principles are prominent such as principles of continuity, periodization or individual valuation. Application in line with these rules assures fair and credible reflection of the property and financial situation of the entity. As an example aspect that distinguish private sector accounting from the public sector one, the fixed assets definition holds its basis unchanged, but it has been extended to include fixed assets owned by the State Treasury or local government units, received for management or use and intended for the needs of the entity.

Furthermore, Winiarska and Kaczurak-Kozak (2013, p. 229) point that one of the obligations of public sector units is the application of some specific rules regarding following aspects of the financial reporting:

- Records of budget implementation,
- Records of budget implementation in a task-based system,
- Records of fixed assets owned by the State Treasury or local government units,
- Valuation of individual assets and liabilities,
- Preparation of financial statements for recipients of these reports.

Application of accrual basis in the public sector accounting is yet widely discussed. As pointed in Wakuła (2016, p. 80), in the majority EU countries, Poland included, in budget accounting and especially in the accounting of territorial self-government units cash basis is still partly in use. It means that transactions are not recorded as they happen, like in the accrual basis, but in the moment of inflow or outflow of cash. As a result of such approach, budget revenues and expenses may be evidenced in a different financial year than the one to which they refer. Consequence of such treatment creates some discrepancies and is not conducive to analysing the effectiveness of the performance of tasks performed by public sector entities. Another drawback to this method is that it is not mandatory to create provisions for receivables and liabilities, which may have an impact on the credibility of information about a budget surplus or deficit due to accelerated or delayed payments. These caveats about cash basis accounting are effectively preventing budget accounting from being valid for making economic decisions based on the information generated by budgetary units. As a matter of fact, they serve as an indicator of their compliance with the assumed limits.

However, things are looking to be going in the good direction. In Poland due to decentralization of public authority, new public management has emerged. It initiated some important changes in the way of public accounting, such as better, economic-efficient use of resources and putting greater emphasis on the implementation of the task in such a way that it would be possible to measure the results of activities and compare them with specific standards. What is crucial to that, it also gave a spark to implementation of models with greater information capabilities, including model of accounting based on the accrual principle (Zysnarska, 2010, p. 186)

Many countries with respect to public sector accounting struggle with the similar problems concerning cash basis accounting and valuation of assets in the public sector. European Commission determinate to face this problem, suggested to change and unify the whole information system for public finances. Presented changes were to cover public sector accounting and reporting and be based on uniform and obligatory European standards for all European Union's states. Consequently, European Public Sector Accounting Standards (EPSAS) were introduced. It was clearly declared that these standards are the derivatives of the original International Public Sector Accounting Standards (IPSAS). As explained in Szewieczek (2015, p. 252), they constitute set of rules and standards that should be used in order to present data of adequate quality and transparency. These rules' goal is to enable comparability of individual public sector units. Currently, these standards is constantly evolving. EPSAS are about to be partly based on IPSAS. Eurostat, that supervises the whole process of the introduction of these standards assumes, that 14 of IPSAS' standards can be adopted without any or with small changes. Another 14 are subject of adaptation and selection of contents and 4 of them are in need of further supplementation (Nowak, 2014, p. 3). There has to be admitted, so far the efforts towards implementing EPSASs are going very well. The plan of the EU authorities was to conduct a full conversion of member states' standards to EPSAS requirements. As reported by European Commission in their report on the progress of the EPSAS adoption from 2019, the majority of the European Union's countries, conducted reforms to either improve their existing accrual based accounting systems, in line with EPSAS requirements, or actually implement accrual based accounting within their country. Fortunately, Poland is a proud member of that group of member states. Some countries that did not yet made a significant move towards the accrual accounting implementation are, among others, Italy, Greece, Netherlands and Germany.

The mentioned EC report (2019) on the progress as regards the European Public Sector Accounting Standards also include more broad outlook on adoption of IPSAS globally and it is said that the growing trend of adopting accrual based accounting systems within public finance sector entities is about to be continued in the following years. International Federation of Accountants (IFAC) and the Chartered Institution of Public Finance and Accountancy (CIPFA) forecast, that until the end of 2023, worldwide percentage of governments reporting on accrual basis is about to be 65%.

According to Mattei *et al.* (2020, p.19) EPSASs are considered to provide higher level of standardization than IPSASs, because EPSASs covered specific important matters of public sector accounting and therefore enhance comparability. It is important to mention dominant outcomes IPSAS adoption detected from accounting literature by Schmidhuber *et al.* (2020, p. 135) are positive and negative. Positive outcomes are tied to enhancing quality of information, internal decision-making, regionalism, strategic use of data and more benefits for developing countries. Negative outcomes are higher costs of financial audits, higher deficits, business-style financial information disclosure, and inadequate consideration of specific subsectors and lack of relevance public service providers in the reporting entities.

3. Research methodology

We are aware that historical traditions had greatly shaped existing the national accounting system in the two countries. Our interest in seeking to understand the future challenges in public sector accounting context of Poland and Bosnia and Herzegovina through contextual analysis. Thereby, we observed the course of longitudinal research project in accounting conducted by the Organization for Economic OECD. Valuable longitudinal OECD International Budget Practices and Procedures Database was result of mentioned research project. The project were concerned primarily with the national budgeting and financial management practices including the entire budget cycle: preparation, approval, execution, accounting and audit, performance information, and aid management. The dataset generated in the mentioned research project has been valuable in guiding our interest. Also the knowledge has helped us to interpret the archival data in the historical studies. Thus this research has been used primarily to report analysis of data rather than to seek data.

4. Results and discussion

Many countries and international organizations are concerned with public sector accounting, so development and implementation of public sector accounting standards is one of concerns worldwide. So, in order to achieve adequate disclosure of financial information and overcome obstacles in national implementation process it is advised to exchange experiences and challenges through comparative analysis (Schmidhuber, *et al.*, 2020, p. 135). Partly based on a theory of European accounting development brought by Krzywda, *et al.* (1995, p. 627) in following table are presented adjusted multiple criteria that can be applied to this comparative analysis.

Table 1. *Multi criteria of comparative analysis*

| Criteria of comparative analysis | |
|----------------------------------|--|
| Primary cause | Presence or absence of political and economic transition processes |
| Fundamental effects | State policy on economic development before and after transition period |
| | Nature of financing of public sector entities and conception of the role of public sector accounting |
| Illustrative effects | Public sector accounting standards |
| | Accounting basis for annual financial reports of public sectors entities |
| | Function of financial statements |

Source: authors' interpretation

Elaboration regarding these individual criteria for comparison of public sector accounting context of these two countries, Poland and Bosnia and Herzegovina, will be descriptively represented in the next subsection.

4.1 Public sector accounting in Poland and Bosnia and Herzegovina and review its challenges

Poland and Bosnia and Herzegovina both experienced political and economic transition processes. Historically observed, both countries experienced transition to democracy with transition from command economy to market economy. Consequently, state policy on economic development before and after transition period have implications on accounting tradition exercised. Poland's industrial development during post-war 1944-89 can be characterised as command economy, so a separate accounting tradition was exercised with state as primary user with state determination and direction of accounting policies (Krzywda, *et al.* 1995, p. 633) Also, Bosnia and Herzegovina is a country that gained its independence after the disintegration of the Federal Republic of Yugoslavia in the 1990s.

According to Bergevärm, *et al.* (1995, p. 38) "the institutionalization of accounting in public sector may take the form of ideological or hierarchic learning processes". So, it is important to consider short overview of nature of financing of public sector entities and conception of the role of public sector accounting. Polish system of public finance sector consists of the vast number of entities that operate under the governance of ministerial authority. Legal basis of their operation is included in the Act on public finances and the accounting rules of these units can be found in the greater part in the main Act on accounting with some additional policies that are published by the Minister of Finance. Largely, accounting for both private companies and public finance sector units follow partly same accounting principles and qualitative characteristics. However there are some additional rules and exceptions for the latter ones, such as different way of defining and dealing with fixed assets or receivables.

The operation of the public finance sector is regulated by the Act of August 27th 2009 on public finances. In accordance with the Act, public finance sector consists of many entities. Among most crucial and worth mentioning here are the following units:

- Public authorities, including government administration bodies, state control and law protection bodies as well as courts and tribunals;
- Local government units and their associations;
- Metropolitan unions;
- Budget units;
- The Social Insurance Institution and the Agricultural Social Insurance Fund;
- National Health Fund;
- Independent public health care institutions;
- Public universities;
- Polish Academy of Science;
- State and local government cultural institutions.

Public sector accounting, auditing and control in Poland was influenced by the New Public Management philosophy, IPSAS implementation in other countries and consequently EPSAS development. But, there are some obstacles in process of implementing harmonised accounting standards such as problem of transplantation (Kowalczyk, 2019, p.31). PwC during 2020 conducted international study using the accounting maturity score. The accounting maturity score is determined as estimated degree of compliance of the public sector accounting rules with an IPSAS-based benchmark that is a proxy for EPSAS. Poland's public sector accounting maturity is evaluated on 72% for central and local government, but 59% for social security funds. Also, it is obvious that public sector accounting in Bosnia and Herzegovina is currently influenced by same philosophy and standards development. For instance, regulation development is argument for these influences.

Recently adopted legislative framework on accounting and auditing in Bosnia and Herzegovina introduces obligatory application of the International Public Sector Accounting Standards (IPSAS) is obligatory. In order to achieve adequate IPSAS and EPSAS implementation Bosnia and Herzegovina as Poland have few challenges, such as adequate and timely translation of mentioned accounting standards; adequate and timely organization of education regarding these standards; strengthening cooperation with domestic and international audit institutions and associations (Jurić & Letica, 2019, p. 176). As we can see from previously mentioned public sector units, similar with Bosnia and Herzegovina, it is a long list of institutions that are the beneficiaries of the public funding from various fields of public life and all of them are subject to the accounting rules specified in acts and ordinances regarding public sector units. If accounting basis is compared between Poland and Bosnia and Herzegovina it is important to highlight that currently there exists different accounting basis employed for annual financial reports. In line to classification of Schmidhuber, Hilgers and Hofmann (2020, p. 130), Poland is one of the countries that use "accrual" accounting basis for annual financial reports, based on OECD (2017, p. 13).

On contrary, Greece, Portugal and Slovenia are countries that use "cash to accrual" accounting basis, so Bosnia and Herzegovina would be included in that group. The accounting basis is a modified accrual accounting basis, so in public sector accounting of Bosnia and Herzegovina revenues are recognized in the period when they are available and measurable, and expenses are recognised in the period when the liability is incurred, according to the regulatory framework. Regarding, function of financial statements it is important to mention that Poland as Bosnia and Herzegovina have the lack of appropriate regulations related with the consolidated reporting in public sector. According to Adamek-Hyska, *et al.* (2017, p.91), it is necessary to take into account and directly relate to the financial position of entities and subordinated self-government entity.

5. Conclusions

Process of standardization and unification of accounting practices in Polish budgetary units is ongoing process. Until not that long time ago most of the public finance sector units were conducting their accounting based on the cash principle, which is usually assessed within accounting literature, as not suitable for the modern age use. It has several limitations that impede proper economic decision-making process based on the financial information from such way of accounting. Evidently, worldwide as the years go by, there is a shift in approach from cash to accrual basis. Furthermore, Poland is one of the EU states that conducted reforms that allowed introduction of accrual basis accounting systems in public finance sector to be compliant with European Public Sector Accounting Standards. Thanks to that, accounting of Polish public finance sector entities is in favourable position to be clear, transparent and on par with international standards.

Still, it is obvious that in future Bosnia and Herzegovina as Poland in order to avoid negative consequences of standards' misapplication will have to tackle few problems. First of all is lack of familiarity with accounting standards by financial reports preparers, due to need of adequate translation in a timely manner. Also, there is lack of training in those standard application, because detailed knowledge is needed for adequate IPSAS and EPSAS implementation. Suggestion for future research avenue would be international study aimed to determine current level of adequate IPSAS and EPSAS implementation. More in-depth studies of successful practices of IPSAS implementation which take the exploratory nature to a more in-depth level are to be welcomed.

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**MANAGEMENT AND ENTREPRENEURSHIP /
MENADŽMENT I UPRAVLJANJE**

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COMPARISON OF SOCIALLY RESPONSIBLE BUSINESS IN ISLAMIC AND CONVENTIONAL ECONOMIES

USPOREDBA DRUŠTVENO ODGOVORNOG POSLOVANJA U ISLAMSKIM I KONVENCIONALNIM EKONOMIJAMA

Abstract

The general aim of this paper is to compare the approach to social responsibility in conventional and Islamic economics. The paper will determine and present in detail the relationship between these variables, and establish similarities or differences in the approach to social responsibility in these two different business concepts. Accordingly, the central research hypothesis was set, ie; that there is a high level of alignment between the approach to social responsibility in the conventional and Islamic economies. Empirical research was conducted on the basis of primary data collection via e-mail using a survey method (written examination technique), using a highly structured survey questionnaire as a form for data collection. Respondents were company managers in BiH, the Kingdom of Saudi Arabia, the United Arab Emirates and Malaysia. The empirical research was conducted on a sample of economic entities of different economic activities, ie it included three strata: manufacturing companies, trading companies and banks. On the other hand, in Islamic economics, ethical responsibility is mandatory. Adequate methods will be used in writing the paper, such as: methods of analysis and synthesis, generalization and abstraction, methods of systematized approach (holistic approach), classification and comparison, and methods of induction.

Keywords: corporate social responsibility, Islamic economics, conventional economics

JEL: M14

Sažetak

Opšti cilj ovog rada jeste izvršiti usporedbu pristupa društvenoj odgovornosti u konvencionalnoj i islamskoj ekonomiji. Shodno tome, postavljena je i centralna istraživačka hipoteza, tj; da između pristupa društvenoj odgovornosti u konvencionalnoj i islamskoj ekonomiji postoji visok nivo usklađenosti. Empirijsko istraživanje realizovano je na temelju prikupljanja primarnih podataka putem e-maila korištenjem metode ispitivanja (tehnika pismenog ispitivanja), pri čemu je korišten visoko strukturirani anketni upitnik kao obrazac za prikupljanje podataka. Ispitanici su bili menadžeri preduzeća u BiH, Kraljevini Saudijska Arabija, Ujedinjeni Arapski Emirati i Malezija. Empirijsko istraživanje je provedeno na uzorku privrednih subjekata različitih privrednih djelatnosti, odnosno obuhvatilo je tri stratuma i to: proizvodna preduzeća, trading preduzeća i banke. U konačnici, rezultati provedenog empirijskog istraživanja, su pokazali da društvena odgovornost u konvencionalnoj ekonomiji ne uključuje obavezno etičku dimenziju. S druge strane, u islamskoj ekonomiji je etička odgovornost obligatorna. Pri pisanju rada koristiti će se adekvatne metode, kao što su: metode analize i sinteze, generalizacije i apstrakcije, metode sistematiziranog pristupa (holistički pristup), klasifikacije i komparacije te metoda indukcije.

Cljučne riječi: društveno odgovorno poslovanje, islamska ekonomija, konvencionalna ekonomija

JEL: M14

1. Introduction

The purpose of every company's business is to make a profit. The exclusive focus on the profits of most companies in the world, and especially large multinational companies, has begun to produce effects that run counter to the goals of the community. The lack of concern about the consequences of their decisions, especially related to the uncontrolled use of resources, from human to natural, has led to catastrophic consequences, the scale of which is almost impossible to see. They are connected with all spheres of human life in the future. Negative impact on the social development of society, insecurity of existence, increasing economic and financial crises, insufficient education of the population, increasing gap between rich and poor, *etc.*, have led to global social disorders. Insecurity towards these factors has been caused, in the last 15 years, by the exposure of large companies to attacks by the public, informal and formal groups of citizens, as well as the executive and legislative authorities. All this brought their socially responsible business to the fore. For example, the global financial crisis of 2008 imposed the need to find an alternative that would humanize the current social business system and make it more ethical, moral and socially responsible. This stands out because today's economists have come to the common conclusion that the key cause of economic and financial crises is, in fact, human greed. In the context of the above,

Islamic economics has set itself as an example of good practice - how a natural combination of business and moral principles can and should be made in business. This means that the socially responsible business of today's multinational companies should be based on accepting responsibility for their actions, then on encouraging a positive impact through their activities on the community, business participants and all other members of the public sphere. Corporate social responsibility is increasingly becoming an integral part of the business strategies of the world's largest companies. This is confirmed by the fact that 93% of the 250 largest multinational companies publish annual reports on their corporate responsibility. Hence the central problem question of work: is the approach to social responsibility in the conventional economy aligned with the approach to social responsibility in the Islamic economy?

2. Previous research

The European Commission, in its Guidelines for Corporate Social Responsibility Policy (EC White Paper on Corporate Social Responsibility - CSR, 2003), defines corporate social responsibility as a concept in which companies integrate the care of society into their businesses. In other words, corporate social responsibility is defined as the way in which a company achieves a balance between economic, environmental and social goals, while at the same time addressing the expectations of shareholders and stakeholders.

The literature on social responsibility is very diverse. However, to its own knowledge, (only) several studies have been published to investigate the level of harmonization of approaches to social responsibility in conventional and Islamic economics (Nienhaus, 2010, Tafti *et al.*, 2012, Abubakar, 2016).

Recently, there has been a noticeable tendency for the focus of research on the effects of social responsibility to shift more and more from external to internal stakeholders of companies, primarily to employees. Namely, as it is generally accepted that people and their knowledge today become the basis for building the company's competitive advantage, the role of employees in organizational success is considered increasingly important. When it comes to the company's social responsibility towards employees, it is mostly related to their ethical treatment. The positive effects of corporate social responsibility and ethical treatment of employees are manifested in increasing their morale and commitment to the company, building a positive social atmosphere, building trust in the company, opportunities to attract and retain quality staff (Letica, 2010, pp. 87-88). Caring for

employees, as an aspect of corporate social responsibility, increases job satisfaction, reduces absenteeism and dismissal rates, thereby reducing the cost of hiring and training new staff (Vitaliano, 2010, p. 564). In addition to the above, the ethical treatment of employees has the most significant impact on their work performance (Delić, Husaković & Čavalić, 2018, p.). The extent to which the company treats its employees ethically, *i.e.* treats them socially responsibly, is evident in the field of recruitment and selection, in the field of diversity management, in the field of job design and quality work environment (prevention of stress and mobbing at work), in the field of application. a fair system of tangible and intangible rewards, in the field of proportions / disparities between managerial salaries and salaries of operating employees, the area of employee turnover management (especially when it comes to dismissal of employees) and other aspects of ethical human resources management. Comparing the mentioned tendencies in the field of ethical treatment of employees in the conventional economy, with the approach of business according to Islamic principles, it can be stated that there is a great agreement between these two different business conceptions (the latter include additional ethical principles).

The most accepted approach to social responsibility in a conventional economy was given by Carroll (1979) in his four-dimensional model of social responsibility (Buble, 2000, p. 102): 1) Discretionary responsibility (contribution to the community and quality of life); 2) Legal responsibility (compliance with laws and regulations, *i.e.* legal business as a prerequisite for long-term growth and development of the business entity); 3) Economic responsibility (business activities must be profitable, efficient and sustainable); 4) Ethical responsibility (fulfilment of ethical norms, but not obligatory defined by law)

Social responsibility in Islamic economics is defined through the basic principles of Islamic economics, as follows (Efendić, Hadžić, 2017, p. 108): 1) Insurance of society through prosperity and social entity (discretionary responsibility); 2) Securing human life through religion and human rights (legal responsibility); 3) Providing a physical environment, *i.e.* Wealth / property and environment or ecology (economic responsibility); 4) Securing your humanity through yourself and your intellect (ethical responsibility).

Velid Efendić (2014, pp. 15-19) points out that socially responsible business - or "caring for another" - "consultation as a way of joint decision-making" is contained in the basic economic principles of Islam. Thus, the mentioned principles derive from the social responsibility of human action. A person should make decisions about certain activities independently, but only if they have no negative consequences for society and are exclusively related to him. However, when it comes to activities of social interest, a person is obliged to consult with other members or representatives of the wider community when making these decisions. In this way, socially optimal action is achieved and negative externalities to the community are avoided.

Usman Riaz Mir, Syeda Mahnaz Hassan and Syed Salman Hassan (2013, p. 79) they claim that, in essence, socially responsible business is deeply woven into one of the fundamental principles of Islam - zakat (obligatory kindness). Fathiyah Abu Bakar and Mohd 'Atef Md Yusof (2016, p. 67) emphasize that the concept of Islamic social responsibility contains a more ethical and moral dimension compared to the traditional concept, and for examples of social responsibility they cite *zakat* and *ribā*, *i.e.* mandatory allocation to the poor and the absence of interest in business transactions, respectively.

3. Research methodology

In cooperation with active managers of companies operating in the conventional and Islamic economies, a survey was conducted to determine whether there is a high degree of alignment between the approach to social responsibility in the conventional and Islamic economies. In

addition to the above, the subject empirical research sought to determine whether discretionary, legal and economic responsibility are treated in the same way in conventional and Islamic economics, and whether ethical responsibility in Islamic economics is mandatory, while in conventional economics it is discretionary. The survey was conducted in the period from January to April 2020. The research covered only active managers of the company. Respondents were surveyed online (electronic version of the questionnaire was created in the Google Forms survey program) and directly (printed version of the questionnaire). In our case, the method of intentional (appropriate) sampling was used, which contributes to the reliability of the selection of sample units, and at the same time optimizes the time and costs of data collection. During the research, 132 complete (usable) questionnaires were collected, according to which the sample units can be divided into two subsamples: active managers of companies operating in the conventional economy (N = 101) and active managers of companies operating in the Islamic economy (N = 31). A structured questionnaire, consisting of a total of 11 questions, was used as the main research instrument. The questionnaire is designed in two parts. The first part of the questionnaire (7 questions) was used to identify the characteristics of active managers (representatives) and their companies: gender of respondents, age of respondents, level of education of respondents, length of business, core business, number of employees (size), and primarily enterprise market. The second part of the questionnaire (4 questions) referred to the phenomenon of social activity, specifically: factors (determinants) and barriers to company involvement in social actions (16 items), the representation of different categories of social responsibility (4 items), social activity strategies (4 items), and the degree of responsibility towards different entities (18 items).

4. Results and discussion

In order to accept or reject the defined hypothesis, possible differences in 1) factors, 2) barriers, 3) strategies of social activity and 4) the degree of responsibility towards different entities between companies operating in the conventional economy and companies operating in the Islamic economy were tested. The results obtained are presented in tabular form below.

Table 1. Coherence of factors (determinants) of inclusion in social actions

| Factors | Companies operating in a conventional economy (N = 101) | | Companies operating in a Islamic economy (N = 31) | | Independent t test | | |
|---|---|-------|---|-------|--------------------|---------|-------|
| | M | SD | M | SD | Levenov's test | t | p |
| The needs of the public have changed, which has led to changed expectations - it is the company that approves the establishment and operation of the company, so they must respond to the needs of society. | 2,99 | 1,091 | 3,16 | 1,344 | 5.645 (0.019) | - 0.647 | 0.521 |
| Creating a better social environment benefits both society and businesses. Society gets better local communities (environment) and increased employment opportunities; businesses benefit from better communities because they are the source of their workforce and the consumer of their products and services. | 3,05 | 1,014 | 3,29 | 1,442 | 13.933 (0.000) | - 0.866 | 0.391 |
| Corporate social engagement reduces incentives for additional government regulation and intervention. The result is greater freedom of enterprise and greater flexibility in decision-making. | 2,77 | 1,104 | 2,90 | 1,165 | 0.110 (0.915) | - 0.570 | 0.569 |

| | | | | | | | |
|--|------|-------|------|-------|-------------------|------------|-------|
| The company has great power, which, it is believed, should be accompanied by equal responsibility. | 3,36 | 1,128 | 3,29 | 1,575 | 12.899 (0.000) | 0.217 | 0.829 |
| Modern society is a system of interdependence, and the internal activities of the company, affect the external environment. | 3,52 | 1,110 | 3,58 | 1,259 | 1.560 (0.214) | - 0.280 | 0.780 |
| Social engagement creates a favourable public image. The company can thus attract customers, staff and investors. | 3,19 | 1,325 | 3,48 | 1,262 | 0.202 (0.654) | - 1.099 | 0.274 |
| The company should try to solve problems that other institutions have not been able to solve - the history of the company is also the history of finding new ideas. | 2,71 | 1,268 | 3,23 | 1,334 | 0.051 (0.822) | - 1.947 | 0.054 |
| Businesses have resources. It should use its talented managers and experts, as well as its capital resources, to solve some of society's problems. | 2,99 | 1,170 | 3,68 | 1,166 | 0.008 (0.930) | - 2.863 | 0.005 |
| It is better to prevent social problems by hiring companies than to treat them. It may be easier to help those who have been unemployed for a long time than to deal with social unrest. | 2,49 | 1,119 | 2,94 | 1,153 | 0.201 (0.655) | - 1.946 | 0.054 |

Source: Author's research

Based on the obtained results, we can conclude that there is no statistically significant difference in the compliance of factors (determinants) of involvement in social actions between companies operating in the conventional economy and companies operating in the Islamic economy, in the following cases:

- needs of the public (society) - ($t = -0.647, p = 0.521 > 0.05$),
- creating a better social environment - ($t = -0.866, p = 0.391 > 0.05$),
- reduction of incentives for additional state regulation and intervention (flexibility in decision-making) - ($t = -0.570, p = 0.569 > 0.05$),
- equalization of power and responsibility - ($t = 0.217, p = 0.829 > 0.05$),
- the impact of the company's internal activities on the external environment - ($t = -0.280, p = 0.780 > 0.05$),
- creating a favourable image (attracting new customers, staff and investors) - ($t = -1.099, p = 0.274 > 0.05$), solving problems that other institutions are not able to solve - ($t = -1.947, p = 0.054 > 0.05$), and
- Prevention of social problems - ($t = -1.946, p = 0.054 > 0.05$).

The only statistically significant difference in the compliance of factors of inclusion in social actions between companies operating in a conventional economy and companies operating in Islamic economy was recorded in the case of the disposal of resources needed to solve social problems.

Table 2. Consistency of barriers to inclusion in social actions

| Barriers | Companies operating in a conventional economy (N = 101) | | Companies operating in a Islamic economy (N = 31) | | Independent t test | | |
|----------|---|----|---|----|--------------------|---|---|
| | M | SD | M | SD | Levenov's test | t | P |

| | | | | | | | |
|---|------|-------|------|-------|-------------------|------------|-------|
| The basic task of a company is to maximize profits, which focuses it exclusively on economic activities. Social engagement could reduce economic efficiency. | 2,73 | 1,184 | 2,94 | 1,063 | 1.628 (0.204) | - 0.895 | 0.372 |
| Ultimately, society must, through higher prices, pay for the social engagement of the enterprise. Social engagement would exaggerate the costs to businesses - they cannot use their resources for social action. | 2,69 | 1,164 | 2,90 | 0,790 | 12.899 (0.000) | - 1.148 | 0.255 |
| Companies have enough power and additional social engagement would further increase their power and influence. | 2,84 | 1,189 | 3,29 | 1,244 | 1.051 (0.307) | - 1.818 | 0.130 |
| Social engagement can hit the balance of payments. The cost of social programs is thought to increase the price of a product. Thus, companies selling in international markets would be at a disadvantage in competition with companies from countries that do not need to bear these social costs. | 2,39 | 1,208 | 3,74 | 1,182 | 0.191 (0.663) | - 5.493 | 0.000 |
| Business people lack the skills to solve social problems. Their education and experience relate to the economy, so their skills may not be appropriate for solving social problems. | 2,57 | 1,071 | 2,68 | 0,909 | 1.330 (0.251) | - 0.485 | 0.628 |
| Companies are not obliged to account to society (unlike elected authorities). If this responsibility is not established, companies should not be socially engaged. | 2,49 | 1,119 | 2,16 | 1,214 | 0.011 (0.916) | 1.382 | 0.169 |
| There is no full support for involving companies in social actions. Therefore, disagreement between groups of different points of view can lead to friction. | 2,53 | 1,118 | 2,39 | 1,174 | 0.002 (0.960) | 0.592 | 0.555 |

Source: Author's research

Based on the obtained results, we can conclude that there is no statistically significant difference in The compliance of barriers to inclusion in social actions between companies operating in the Conventional economy and companies operating in the Islamic economy, in the following cases:

- Profit maximization - ($t = -0.895$, $p = 0.372 > 0.05$), increase in costs through social engagement - ($t = -1.148$, $p = 0.255 > 0.05$),
- sufficient amount of power and influence - ($t = -1.818$, $p = 0.130 > 0.05$),
- lack of skills for solving social problems - ($t = -0.485$, $p = 0.628 > 0.05$),
- lack of formal obligation (responsibility) towards the company - ($t = 1.382$, $p = 0.169 > 0.05$), and
- lack of full support within the company - ($t = 0.592$, $p = 0.555 > 0.05$)

The only statistically significant difference in the compliance of social action barriers between enterprises operating in the conventional economy and enterprises operating in the Islamic economy was recorded in case of balance of payments disturbances.

Table 3. *Coherence of social activity strategies*

| Social activity strategies | Companies operating in a conventional economy (N =101) | | Companies operating in a Islamic economy (N = 31) | | Independent t test | | |
|---|--|-------|---|-------|--------------------|---------|-------|
| | M | SD | M | SD | Levenov's test | t | p |
| Your company applies a reactive strategy in the field of social responsibility (the company does less than society expects). | 3,35 | 1,195 | 3,58 | 1,285 | 0.035 (0.852) | - 0.937 | 0.350 |
| Your company applies a defensive strategy in the field of social responsibility (the company does only the least that is expected of it to meet the expectations of society). | 3,27 | 1,104 | 3,48 | 1,435 | 7.972 (0.005) | - 0.773 | 0.444 |
| Your company applies a kindness strategy in the field of social responsibility (the company does everything, makes exceptional efforts to meet the expectations of society). | 3,20 | 1,030 | 3,68 | 1,137 | 1.747 (0.189) | - 2.212 | 0.029 |
| Your company applies a proactive strategy in the field of social responsibility (the company anticipates responsibility for the problem even before it occurs and does more than society expects to solve the problem). | 2,63 | 1,412 | 2,48 | 1,029 | 7.420 (0.007) | 0.645 | 0.521 |

Source: Author's research

Based on the obtained results, we can conclude that there is no statistically significant difference in the coherence of social activity strategies between companies operating in the conventional economy

and companies operating in the Islamic economy, in the following cases:

- reactive strategy - ($t = -0.937, p = 0.350 > 0.05$),
- defensive strategy - ($t = -0.773, p = 0.444 > 0.05$), and
- proactive strategy - ($t = 0.645, p = 0.521 > 0.05$)

The only statistically significant difference in the coherence of social activity strategies between enterprises operating in the conventional economy and enterprises operating in the Islamic economy was observed in the case of the anticipatory strategy.

Table 4. *Coherence of the degree of responsibility towards different subjects*

| responsibility towards different subjects | Companies operating in a conventional economy (N =101) | | Companies operating in a Islamic economy (N = 31) | | Independent t test | | |
|---|--|-------|---|-------|--------------------|---------|-------|
| | M | SD | M | SD | Levenov's test | t | p |
| Your company is characterized by attaching great importance and a high degree of responsibility to the owner / owners / shareholders. | 3,67 | 1,069 | 3,19 | 0,981 | 0.008 (0.927) | 2.227 | 0.028 |
| Your company is characterized by attaching great importance and a high degree of responsibility to employees. | 3,55 | 1,082 | 3,13 | 1,057 | 0.006 (0.938) | 1.881 | 0.062 |
| Your company is characterized by attaching great importance and a high degree of responsibility to customers / clients. | 3,13 | 1,398 | 3,61 | 1,145 | 2.782 (0.098) | - 1.755 | 0.082 |

| | | | | | | | |
|---|------|-------|------|--------|------------------|------------|-------|
| Your company is characterized by attaching great importance and a high degree of responsibility to suppliers. | 3,58 | 0,962 | 2,87 | 1,147 | 1.434 (0.233) | 3.447 | 0.001 |
| It is characteristic of your company to attach great importance and a high degree of responsibility to state administration bodies. | 3,69 | 0,977 | 3,32 | 1,045 | 0.651 (0.421) | 1.817 | 0.072 |
| It is characteristic of your company to attach great importance and a high degree of responsibility to the wider community. | 2,83 | 1,132 | 3,48 | 1,363 | 3.412 (0.067) | - 2.671 | 0.009 |
| It is characteristic of your company to attach great importance and a high degree of responsibility to the local community. | 3,00 | 1,131 | 3,39 | 1,358 | 3.749 (0.055) | - 1.587 | 0.115 |
| Your company is characterized by attaching great importance and a high degree of responsibility towards the environment. | 2,27 | 1,095 | 2,90 | 1,300 | 2.874 (0.092) | - 2.704 | 0.008 |
| Your company is characterized by attaching great importance and a high degree of responsibility to banks. | 2,55 | 1,063 | 2,29 | 1,006 | 0.004 (0.948) | 1.225 | 0.223 |
| Your company is characterized by attaching great importance and a high degree of responsibility to the media. | 3,04 | 1,208 | 3,29 | 1,101 | 2.016 (0.158) | - 1.031 | 0.304 |
| Your company is characterized by attaching great importance and a high degree of responsibility to professional / branch associations. | 2,45 | 1,118 | 2,48 | 1,122 | 0.464 (0.497) | - 0.167 | 0.868 |
| Your company is characterized by attaching great importance and a high degree of responsibility towards the unemployed in the community. | 3,11 | 1,182 | 3,48 | 1,208 | 0.011 (0.915) | - 1.537 | 0.127 |
| Your company is characterized by attaching great importance and a high degree of responsibility to socially disadvantaged members of society. | 2,96 | 1,166 | 3,29 | 1,101 | 0.190 (0.664) | - 1.396 | 0.165 |
| It is characteristic of your company to attach great importance and a high degree of responsibility to scientific research institutions. | 2,83 | 1,175 | 2,58 | 1,026 | 0.615 (0.434) | 1.070 | 0.287 |
| It is characteristic of your company to attach great importance to energy efficiency. | 3,01 | 1,196 | 2,71 | 0,783 | 5.802 (0.017) | 1.630 | 0.107 |
| It is characteristic of your company to attach great importance to the use of renewable energy sources. | 2,80 | 1,087 | 2,68 | 0,9089 | 0.451 (0.503) | 0.579 | 0.564 |
| It is characteristic of your company to attach great importance to the recycling of waste material. | 2,25 | 1,212 | 2,39 | 0,919 | 3.630 (0.059) | - 0.591 | 0.556 |
| It is characteristic of your company to attach great importance to sustainable construction. | 2,46 | 1,338 | 2,55 | 1,060 | 2.841 (0.094) | - 0.354 | 0.724 |

Source: Author's research

Based on the obtained results, we can conclude that there is no statistically significant difference in the harmonization of the degree of responsibility towards different entities, between companies operating in the conventional economy and companies operating in the Islamic economy, in the following cases:

- responsibility towards employees - ($t = 1,881, p = 0.062 > 0.05$),
- responsibility towards customers / clients - ($t = -1.755, p = 0.082 > 0.05$),
- responsibility towards state administration bodies - ($t = 1,817, p = 0.072 > 0.05$),
- responsibility towards the local community - ($t = -1.587, p = 0.115 > 0.05$),
- liability to banks - ($t = 1.225, p = 0.223 > 0.05$),
- responsibility towards the media - ($t = -1.031, p = 0.304 > 0.05$),
- responsibility towards professional / branch associations - ($t = -0.167, p = 0.868 > 0.05$),
- responsibility towards the unemployed in the social community - ($t = -1.537, p = 0.127 > 0.05$)

- responsibility towards socially endangered members of the social community - ($t = -1.396$, $p = 0.165 > 0.05$),
- Responsibility towards scientific research institutions - ($t = 1.070$, $p = 0.287 > 0.05$),
- responsibility for energy efficiency - ($t = 1.630$, $p = 0.107 > 0.05$),
- responsibility for the use of renewable energy sources - ($t = 0.579$, $p = 0.564 > 0.05$), •
- responsibility for waste recycling - ($t = -0.591$, $p = 0.556 > 0.05$), • and
- responsibility for sustainable construction) - ($t = -0.354$, $p = 0.724 > 0.05$).

On the other hand, there is a statistically significant difference in the harmonization of the degree of responsibility towards different entities, between companies operating in the conventional economy and companies operating in the Islamic economy, in the following cases:

- responsibility towards the owner / owners / shareholders - ($t = 2.227$, $p = 0.028 < 0.05$),
- responsibility towards suppliers - ($t = 3.447$, $p = 0.001 < 0.05$),
- responsibility towards the wider community - ($t = -2.671$, $p = 0.009 < 0.05$), and
- responsibility towards the environment - ($t = -2.704$, $p = 0.008 < 0.05$).

Taking into account the previously presented results, which indicate that the extremely high degree of harmonization of factors / determinants and barriers to involvement in social actions, social activity strategies, and the degree of responsibility towards different entities, between companies operating in conventional economy and companies operating in Islamic economy, the central hypothesis of the research is accepted: There is a high level of harmonization between the approach to social responsibility in the conventional and Islamic economy.

5. Conclusion and recommendation

It was found that there is a very high degree of harmonization of factors / determinants and barriers to involvement in social actions, strategies of social activity, and the degree of responsibility towards different entities, between companies operating in conventional economy and companies operating in Islamic economy, It has been determined that companies operating in a conventional economy have the greatest tendency towards discretionary responsibility, legal responsibility, economic responsibility, and ethical responsibility. In three cases it was a moderate inclination, while in the case of ethical responsibility a low value was recorded. It has been determined that companies operating in the Islamic economy have the greatest tendency towards ethical responsibility, legal responsibility, discretionary responsibility, and economic responsibility. In three cases it was a moderate tendency, while in the case of discretionary responsibility a high value was recorded. Starting from the set methodological framework, goals and hypotheses of the research, and the results of empirical research, the concluding considerations systematized the key insights gained during the preparation of the paper, where a very high degree of harmonization of discretionary, legal and economic responsibility between conventional and Islamic economics, and the mismatch of the tendency towards ethical responsibility in favour of companies operating in the Islamic economy.

Based on the conducted theoretical and empirical research, it is possible to list certain recommendations:

- It is necessary to acquaint the wider Bosnian social community with the concept of both conventional and Islamic social responsibilities in order to recognize the advantages and compatibility of the same.
- It is necessary that business entities in BiH should pay more attention to socially responsible business by increasing the satisfaction of their customers, employees and other stakeholders, which would result in profit maximization.

- It is necessary for companies to be as involved as possible in social activities in a way that responds to the needs of society, creating a better environment for themselves and society.
- It is necessary that through the employment of a larger number of staff companies contribute to the development of the social community.
- Data on corporate social responsibility be publicly available in order to increase transparency for its clients, employees and business partners.
- Companies strengthen the public image through the active role of social responsibility which could attract new customers, employees, new investments, *etc.*
- Considering that in BiH there is a relatively small number of conducted research related to the application of Islamic principles in business, and therefore on the topic of Islamic social responsibility, further research in this area is recommended.

The limitations of the research relate to the availability of literature and other sources for adequate theoretical consideration within the paper, and the limited number of samples. Due to limited resources, the research was conducted in accordance with the available literature, and the appropriate representative sample.

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LEADERSHIP STYLE AND ORGANIZATIONAL CHANGE IN BOSNIAN AND HERZEGOVINIAN COMPANIES

STIL LIDERSTVA I ORGANIZACIJSKE PROMJENE U BOSANSKOHERCEGOVAČKIM PREDUZEĆIMA

Abstract

Leadership implies the ability of a person to use his knowledge, skills, abilities and charisma to influence his followers, i.e. within an organization to employees, to perform certain tasks in order to achieve certain planned goals. Over time, different approaches and theories of studying leadership have developed, and through this paper the presence of leadership has been observed through transformational and transactional leadership. These two leadership styles are desirable to look at in the context of organizational change because they are mutually opposite and we can identify at what level employees are motivated by leaders. Organizational changes represent the process of accepting a new situation, and the transition from one working condition to a new one, through the process of learning and adapting to new conditions. The only thing that is certain in the business of a company are the changes that occur due to the action of various internal and external factors. Globalization and technological changes have brought new business conditions and continuously pose new challenges for companies, managers and employees. This paper contains the results of a survey of the attitudes of managers of BiH companies about the preferences of these leadership styles. In this paper, organizational change will be viewed through a connection to leadership style. The main goal of this paper is to examine the relationship between leadership style and organizational change in large BiH companies, and to determine which leadership style managers consider better in terms of implementing organizational change.

Keywords: transformational leadership style, transactional leadership style, organizational change

JEL: M29

Sažetak

Liderstvo podrazumijeva sposobnost osobe da pomoću svog znanja, vještina, sposobnosti i harizme utiče na svoje sljedbenike, odnosno u okviru neke organizacije na zaposlenike, da izvrše određene zadatke radi ostvarivanja određenih planiranih ciljeva. Vremenom su se razvili različiti pristupi i teorije izučavanja liderstva, a kroz ovaj rad prisustvo liderstva je posmatrano kroz transformacijsko i transakcijsko liderstvo. Ova dva stila liderstva je poželjno posmatrati u kontekstu organizacijskih promjena jer su međusobno suprotni i možemo identifikovati na kojem nivou su zaposlenici motivisani od strane lidera. Organizacijske promjene predstavljaju proces prihvatanja novog stanja, te prelaska iz jednih uslova rada u nove, kroz proces učenja i prilagođavanja novim uslovima. Jedino što je sigurno kod poslovanja preduzeća jesu promjene koje nastaju usljed djelovanja različitih internih i eksternih faktora. Globalizacija i tehnološke

promjene donijele su nove uslove poslovanja i kontinuirano postavljaju nove izazove za preduzeća, menadžere i zaposlenike. Ovaj rad sadrži rezultate istraživanja stavova menadžera bosanskohercegovačkih preduzeća o preferencijama navedenih stilova liderstva. U ovom radu organizacijske promjene će se posmatrati kroz povezanost za stilom liderstva. Osnovni cilj rada je ispitati povezanost stila liderstva i organizacijskih promjena u velikim bosanskohercegovačkim preduzećima, te utvrditi koji stil liderstva menadžeri smatraju boljim u uslovima implemetacije organizacijskih promjena.

Ključne riječi: transformacijski stil liderstva, transakcijski stil liderstva, organizacijske promjene

JEL: M29

1. Introduction

The information revolution has brought with it a great wave of various changes. All social creations, including organizations, feel the impact of external changes, which necessarily force them to internal movements. If organizations are not ready to learn to cope with change, and to change and adapt very quickly, they will not be able to survive in the market. In addition to the changes brought about by globalization and the development of technology, the Balkan countries have also faced the challenges posed by the transition process. Transition is a multidimensional process that in economic terms represents the establishment of a free market. Companies have primarily faced all the changes brought about by the free market and privatization. Today, the biggest challenge is to respond to the changes brought to us by global competition and the use of new technology. Every fight, and in this case a market fight, needs a leader who will lead the group towards the realization of goals. Appropriate leadership style can more or less influence the realization of goals. In this paper, the connection between leadership style and the implementation of organizational change is brought. The key resources of any company are people, and their mutual relationship is a reflection of the success of a business.

Given that there are different theories and approaches to leadership, this paper focuses on transactional and transformational leadership. Transformational and transactional leadership are complementary constructions, because full leadership, or as Avolio and Bass (1991) call it "full-scale leadership," includes both transformational and transactional behaviours of leaders. A leader's satisfaction with his followers and his own effectiveness determine the relationship or exchange between transformational and transactional leadership behaviours. Therefore, the indicators for measuring leadership style in this paper, according to the model "Full-scale leadership" are: leadership based on the use of dependent (contingent) rewards, management through exceptions - active and passive and the absence of leaders or laissez-faire. Although the model of "full-scale leadership" singles out laissez-faire as a separate style, it is, in fact, the absence of leadership, which is, in a broader sense, and in this research work one of the characteristics of transactional leadership. Therefore, the absence of leadership is one of the indicators of transactional leadership (Bass & Avolio, 1998, p. 8). In transactional leadership, the leader in turn provides resources and rewards to followers, and in return expects them to be motivated at work, to be productive, and to perform tasks effectively. The behaviour of transformational leaders is characterized by encouraging and encouraging others to look at what they do from a new perspective, understanding the mission or vision of the organization, motivating others to put the interests of the organization before their own interests.

Change management is observed through solving the problem of people's resistance to change, control problems and the issue of power (Sikavica & Novak, 1999, p. 576). Therefore, the indicators used to measure the dependent variable are: intensity of resistance to change, dynamics of change implementation and achievement of organizational change implementation goals. Change management in the company is the management of the process through the planning, organization and direction of human and capital resources. The process of organizational change has been

accompanied by resistance to these changes. Resistance to change is mostly tied to individuals or work groups, so motivating people to change is the most important task of managers in the overall job of managing organizational change. It is important for leaders to determine which leadership style suits a particular group of employees. Through his work experience, the leader has enough information about what exactly motivates employees to adopt new work rules as easily and quickly as possible and so quickly implement changes in the organization.

Starting from the above, the following question arises, which is also research question: Is there a connection between chosen leadership styles and the success of the implementation of organizational change in BiH companies? Research subject is relations and business practices in companies in the process of implementing organizational change between employee and leader. The central hypothesis of this research is: "There is a connection between leadership style and the success of the implementation of organizational change in BiH companies."

2. Literature Review

According to Nahavandi (2015, p. 88), the historical roots of the modern study of leadership go back to the beginnings of the industrial revolution of the West, which took place in the late 19th century. During the Industrial Revolution, the study of leadership adopted much stricter research criteria, which involved the use of scientific methods, rather than relying on intuition and describing common practices, as was the case in the earlier period. Over time, various theoretical approaches to leadership have developed, such as the approach to studying leader behaviour, the situational approach, the integrative approach to learning leadership, and others. "New Leadership", which includes both charismatic and transformational leadership, has its roots in the work of James McGregor Burns (1978), more precisely in his research of political leaders. In this paper, he defines three types of leadership (Šehić & Penava, 2007, p. 185): bureaucratic leadership, which is based on legitimate authority and respect for rules and traditions; transactional leadership, which motivates followers by invoking their own interests and mutual benefit exchange; transformational leadership, which appeals to the moral values of followers, thus trying to raise their conscience on ethical issues and mobilize their energy and resources for the purpose of institutional reform. In this research, the variable leadership style was observed through transformational, transactional leadership style and the absence of leadership style. The essence of transactional leadership is in the concept of exchange between leaders and followers. The leader, for his part, provides the followers with resources and rewards, and in return expects them to be motivated at work, to be productive, and to perform tasks effectively. In some cases, this form of leadership can also occur through the absence of rewarding certain behaviours, but with the application of certain penalties in case of certain mistakes during work.

Transformational leadership theory suggests that leaders use behaviours that are much more complex than the behaviours considered in other theories, such as, for example, encouraging structure and caring for subordinates. As Nahavandi points out (2015, p. 127), these two dimensions simply cannot encompass all the diversity of behaviours that leaders exhibit in real life. According to Bass's interpretation of transformational leadership, a leader transforms and motivates followers by (1) making them more aware of the importance of the results of the task they perform, (2) encouraging them to go beyond their own interests for the good of the team or organization, and (3) activating their motives higher order needs (Šehić & Penava, 2007, p. 188). The most widely accepted and used typology of transformational leadership behaviour is the one according to which the behaviour of transformational leaders is characterized by the so-called "Four I's" (Buchanan & Huczynski, 2004, p. 741): intellectual stimulation, encouraging and encouraging others to look at what they are doing from a new perspective; idealized influence, articulation of the mission or vision of the organization; individualized attention, development of others to higher levels of ability; inspirational motivation, motivating others to put the interests of the organization before their own interests.

This division was identified, primarily, through factor analysis of responses from a behaviour questionnaire, called the Multifactor Leadership Questionnaire (MLQ), created by Bass and Avolio [(1990), according to Šehić & Penava, 2007, p. 189)]. A transformational approach to leadership describes how leaders can encourage, develop, and implement significant change in an organization. They seek to empower followers and guide them towards change. The transformational approach also implies that leaders become creators of the social environment. They deal with the culture of the organization and shape the purpose of its existence. People need to know their roles and understand how they should contribute to the higher goals of the organization. Transformational leaders are pushed forward and need to interpret and shape common attitudes for their organizations. During this process, transformational leaders are effective in working with people. They build trust, encourage cooperation with others, that is, encourage others and celebrate their successes. Ultimately, the result of transformational leadership is that people feel better personally and in relation to their own contribution to the common good (Northouse, 2007, p. 120). Implementing any changes, including in organizations, can be a stressful situation. When faced with different challenges and changes, different people react differently. Questions arise: Are managers who have a certain leadership style more effective, do they more successfully motivate others to accept and implement change in the organization?

A study conducted by Derya Kara (2012, p. 16) investigates the impact of managerial transformational leadership styles on the organizational commitment of employees in the hotel industry. The study was conducted on 443 employees in five-star hotels in Turkey. The results showed that there is a positive, moderate level of correlation between employee organizational commitment and transformational leadership styles (idealized attributes, idealized behaviours, inspirational motivation, intellectual stimulation, change). They found that this role in this process was extremely important. As modern organizations operate in a changing external and internal environment, it is very important to create a culture of change and build quality interpersonal relationships, with the leader playing a key role. This research has shown that a transformational leadership style is effective in this context. The results of research conducted by Dedaj (2017, p. 191) also indicate that the application of transformational leadership, in relation to transactional leadership, plays a key role in the process of implementing organizational change. According to this author, many successful organizations achieve their primary goals through the application of transformational leadership. In some cases, the right combination of transformational and transactional leadership can be quite functional for an organization.

The modern business environment is marked by hyper-changes and uncertainty. With rapid social, technological, and informational changes, organizations are becoming increasingly complex, and achieving competitiveness increasingly challenging, resulting in the need for continuous implementation of organizational change. The dynamics of modern business conditions produce many discontinuities, which forces the management of the organization to abandon the traditional business approaches. The choice of strategic commitment today is largely conditioned by changes in the external environment, which consequently often leads to the need to implement strategic organizational changes. In all these processes, the role of leadership is very important (Kolarić, 2018, p. 99).

Enterprise change management means managing the process through planning, organizing and directing human and capital resources towards the successful creation of new knowledge, generating ideas aimed at new or improved products, production processes and services, developing, distributing new ideas and transferring ideas to production, distribution and use. The process of organizational change is characterized by resisting these changes. These resistances are understandable, if we keep in mind that organizational change for resistance bearers, for individuals and working groups, can mean loss of previous position, power of authority and authority, *etc.* Since resistance to change is exclusively related to individuals or working groups, then motivating

people to change is the most important task of managers in the entire job of managing organizational change. The applied leadership style greatly influences the ability of managers to create employee attitudes that will contribute to creating a positive attitude towards certain changes (Župljanin & Arsenović, 2016, p. 103). Organizational change can be defined as the process of changing or modifying an existing organization (Kreitner *et al.*, 1989, p. 203). Changes in the organization, regardless of which segment and level of the organization are implemented, affect every part of the organization, and most often include changes in technology and production procedures, organizational structure and the structure of employees in the company. Since changes, either of one kind or another, ultimately reflect on people, changes in the organization usually include: changes in the line of authority in the organization, changes in the level of responsibility of individual members of the organization, and changes in lines of communication in the organization (Certo, 1989, p. 250).

A key element of any transformation process is the crisis. It occurs when external and internal pressures are not adequately addressed, with the organization instead of embarking on radical change, trying to adapt to developmental ones, thus deepening the crisis. Petković *et al.* (2003, p. 363) emphasizes that organizational transformation requires a large amount of change-oriented energy, which is created by a strong sense of crisis in the enterprise, so that a transformation that was not preceded by crises is very rare. The concept of organizational transformation is a radical change of all organizational aspects (re-orientation and recreation) at the same time and at the macro-organizational level, which changes the character of part or the whole organization, or the whole system.

Top leaders who use a transformational leadership style through organizational innovation both directly, by creating a compelling vision, and indirectly, by creating an environment that supports research, experimentation, risk-taking, and exchange of ideas, significantly impact the success of organizational change. In the process of change management, the manager must find answers to three basic problems of implementing organizational change: in order to solve the problem of people's resistance to change, it is necessary to motivate them to change; in order to solve the problem of control, it is necessary to ensure the management of the transition from the current to the future state of the organization (supervision, control must be constantly present before and during changes, as well as after the implementation of organizational change); the issue of power, power, is solved by the need to shape an appropriate policy of change dynamics, so that the centres of power in the company support change, and not prevent the implementation of change (Sikavica & Novak, 1999, p. 576). If the manager also has leadership knowledge and skills, the process of managing organizational change will be more successful.

3. Research methodology

The focus of this research is two variables: leadership style (independent variable) and organizational change (dependent variable). The aim of the research was to determine the connection between leadership style and organizational changes in large BiH companies. Leadership style is viewed through three forms: transformational leadership, transactional leadership, and laissez-faire. Organizational changes were observed through the degree of implementation of organizational changes, and the measurement was performed through three elements: the intensity of resistance to change, the dynamics of implementation of changes and the achievement of goals for the implementation of organizational change. Empirical research was conducted on the basis of primary data collection through online research, using a structured survey questionnaire as a form for data collection. Respondents were employees of large BiH companies in BiH. Data collection was performed on the basis of a random sample.

Based on the report of the Agency for Statistics of BiH "Bosnia and Herzegovina in numbers" and based on the list of large companies of the magazine Poslovne novine "100 largest in Bosnia and

Herzegovina", it was determined that the sample in this survey will be large companies, which according to the reports in BiH There are a total of 107 income classes. In order to provide answers to the research questions, different procedures and data processing methods were used, all in accordance with the research problems, such as analysis methods, synthesis, and descriptive research statistics were presented. The main research hypothesis was: There is a connection between leadership style and the success of the implementation of organizational change in BiH companies. The analysis was performed using the Spearman correlation coefficient.

4. Research results

Analysing a sample of 213 surveyed managers, an attempt was made to establish a connection between leadership style and the success of the implementation of organizational change in large BiH companies. Large companies throughout Bosnia and Herzegovina were selected for data collection, managers employed in large companies throughout BiH. About 35 out of a total of 107 large companies operating in the territory of Bosnia and Herzegovina are included in the research area. In order to maintain anonymity in the file, the name of the company was not requested, but only the headquarters, and based on that, it was estimated that managers from about 35 companies filled out the survey. Managers of different managerial levels were examined. A total of 400 questionnaires were distributed, of which 213 were successfully completed. Most respondents are middle-level managers. A total of 58% of respondents were men. Most respondents belonged to the age group of 31 to 45 years, or 53%. Most respondents, as many as 70%, have a university degree. The largest number of respondents work in private companies, 90%. Respondents, 53% of them, agreed with the statement that changes in their company happen from time to time.

Table 1. Preferences of managers of BiH companies according to leadership style

| Leadership style | Transformational leadership style | Transactional leadership style | Laissez-faire |
|------------------|-----------------------------------|--------------------------------|---------------|
| Arithmetic mean | 4.40 | 3.75 | 1.15 |

Source: Authors' research

Managers of large BiH companies, based on their own experience, evaluated the claims offered through a five-point Likert scale related to the transformational, transactional style of leadership and the absence of leadership. The highest grades were given to the transformational leadership style, while the absence of leadership was rated very low, which can be seen in Table 1. For the most desirable leadership style, the transformational style was chosen.

Table 2. Relationship between leadership styles and phases of implementation of organizational change

| | Intensity of resistance to change | Dynamics of implementing change | Achieving the goals of implementing organizational change |
|-----------------------------------|-----------------------------------|---------------------------------|---|
| Transformational leadership style | .226** | .289** | .305** |
| Transactional leadership style | .222** | .518** | .366** |
| Laissez-faire | -.179 | -0.112 | -.136 |

** . The correlation is significant at the significance level of 0.01

Source: Authors' research

In table 2 we can see that transformational and transactional leadership style are significantly correlated with the intensity of resistance to change, the dynamics of change and achieving organizational change goals, while on the other hand there is no connection between the absence of leadership style and the intensity of resistance to change, change dynamics and organizational change. These results tell us that the presence of these leadership styles in companies is associated with the implementation of organizational change. The questions answered by the managers were formulated in an affirmative form, where managers should proactively influence the overcoming of obstacles that are in the way of implementing organizational changes. Although the results showed that managers prefer a transformational leadership style, here we can observe that there is a slightly higher level of correlation between the transactional leadership style and indicators of implementation of organizational changes compared to the transformational style.

Table 3. *Relationship between leadership style and successful implementation of organizational changes in BiH companies*

| | | Leadership style | Success of implementing organizational change |
|---|---|------------------|---|
| Leadership style | Spearman's rank correlation coefficient | 1 | 0,392** |
| Success of implementing organizational change | Spearman's rank correlation coefficient | | 1 |

** The correlation is significant at the significance level of 0.01
 Source: Authors' research

Based on the previously presented data, we can form the following information and conclusions. The table shows that Spearman's correlation coefficient is 0.392 for leadership style and organizational change implementation success, and we can see that the correlation is significant at the significance level of 0.01. Based on this, we can conclude that the main research hypothesis has been confirmed, that the leadership style is related to the success of the implementation of organizational change in BiH companies.

5. Conclusions

Companies in Bosnia and Herzegovina face various business challenges on a daily basis. It is very important who will not only manage business processes and in what way, but who will motivate and direct employees towards the final long-term goals, but it is also important how they will act on them. The results of the research showed that there is a connection between the transformational style of leadership and organizational change, but also between the transitional style of leadership and organizational change. In this research, the leaders of BiH companies gave priority to the transformational style of leadership when it comes to the implementation of organizational changes. They believe that employees will implement change faster if they are motivated by leaders by their charisma, inspirational speech and behavior of leaders, intellectual encouragement and individual respect.

Focus of this research is on examination of the relationship between leadership style and the implementation of organizational change in companies in Bosnia and Herzegovina. Based on the consultation of relevant theoretical sources and analysis of procedures and results of empirical research, the central research hypothesis is accepted, the leadership style is associated with organizational change in companies in Bosnia and Herzegovina. Transformational and transactional

leadership style are significantly correlated with the intensity of resistance to change, the dynamics of change and achieving organizational change goals, while on the other hand there is no connection between the absence of leadership style and the intensity of resistance to change, change dynamics and organizational change. Managers rated the transformational leadership style with the highest marks. The recommendation to managers is to really pay more attention to the appropriate leadership style because the results show that the absence of leadership is not related to the implementation of organizational changes, thus there is a possibility of losing a strategic tool to achieve business goals. Globalization and all technological advances have put companies in a more precarious position in the market, where they must be ready for new changes on a daily basis.

The limitation is certainly the lack of previous research on the relationship between leadership style and the success of the implementation of changes in BiH companies, which in fact made it impossible to compare the results with the results of similar research. Limitations can also be identified in the questionnaire itself, since only positively formulated questions were used, in order to facilitate their understanding. In order to shorten the time to complete the survey, the number of questions may be too low. Notwithstanding these limitations, the data collected are more than valid and useful for drawing conclusions about the relationship between leadership style and the success of the implementation of changes in BiH companies. Given the comprehensiveness of this concept, a number of directions for further research are possible. One of the proposals is to examine the impact of leadership style on individual performance of the implementation of organizational changes in BiH companies, given the phase of the life cycle, or the length of existence of the company. In further research, it is necessary to examine the followers, employees, in order to be able to make a comparison between their perceptions and the perceptions of company managers. Also, a comparison of the impact of leadership style on the success of the implementation of organizational changes of BiH and companies in the region would be very interesting for some future analysis.

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WHEN PANDEMIC STOPS YOUR ROUTINE: QUALITATIVE STUDY ACROSS INDUSTRIES

KADA PANDEMIJA ZAUSTAVI VAŠU RUTINU: KVALITATIVNA STUDIJA U RAZLIČITIM INDUSTRIJAMA

Abstract

We currently live in a world where digital transformation is forced, not planned because of the consequences of the pandemic that in previous year took human lives and endangered or shut down the business of many companies around the world. Many markets, especially in the areas of tourism and hospitality, do not exist or currently suffer large losses. All activities in the organization are aimed at prioritizing and optimizing spending or postponing tasks that will not bring value in the current environment. Companies in general, especially start-ups, have stopped hiring new workers. In parallel, online communication, online entertainment and online shopping are seeing unprecedented growth. As the COVID-19 pandemic continues to evolve, there has never been a more pressing need for organisations to rethink and reconfigure their businesses for a changed world. Now is the time for organisations to focus their efforts on supporting key areas of their businesses that will help them to stabilise in the new environment and strategies for what is coming next. The paper aims to identify the factual situation and the effects caused by the pandemic through a qualitative research conducted through interviews with managers or directors of companies from various sectors in Bosnia and Herzegovina. Also, this paper identified key areas of focus for organizations: crisis management, workforce, operations and supply chain, finance and liquidity and tax, trade and regulations.

Keywords: pandemic, crisis, business impact, technology role

JEL: L2, L6

Sažetak

Trenutno živimo u svijetu u kojem je digitalna transformacija forsirana, a ne planirana zbog posljedica pandemije koja je prethodne godine odnijela ljudske živote i ugrozila ili ugasila poslovanje brojnih kompanija širom svijeta. Mnoga tržišta, posebno u oblastima turizma i ugostiteljstva, ne postoje ili trenutno trpe velike gubitke. Sve aktivnosti u organizaciji usmjerene su na određivanje prioriteta i optimizaciju potrošnje ili odgađanje zadataka koji neće donijeti vrijednost u trenutnom okruženju. Kompanije generalno, posebno start-up, prestale su zapošljavati nove radnike. Paralelno s tim, online komunikacija, online zabava i online kupovina bilježe neviđeni rast. Kako pandemija COVID-19 nastavlja da se razvija, nikada nije postojala hitnija potreba da organizacije preispitaju i rekonfiguriraju svoje poslovanje za potrebe promijena u svijetu. Sada je vrijeme da organizacije usmjere svoje napore na podršku ključnim područjima svog poslovanja koja će im pomoći da se stabilizuju u novom okruženju i

strategijama za ono što slijedi. Rad ima za cilj identificirati činjenično stanje i efekte uzrokovane pandemijom kroz kvalitativno istraživanje provedeno kroz intervjue sa menadžerima ili direktorima kompanija iz različitih sektora u Bosni i Hercegovini. Takođe, ovaj rad je identifikovao ključne oblasti fokusa za organizacije: upravljanje krizama, radnu snagu, operacije i lanac snabdevanja, finansije i likvidnost i poreze, trgovinu i regulativu.

Ključne riječi: pandemija, kriza, poslovni uticaj, uloga tehnologije

JEL: L2, L6

1. Introduction

The modern business world is characterized by major advances in information technology and science, as well as an increasingly turbulent and dynamic environment. The greatest challenges facing organizations today are the transformation of existing organizational culture and its adaptation to new knowledge, information and technological innovations, as well as the constant, sometimes unpredictable changes in the environment (Lemon & Sahota, 2004). One such unpredictable event, the new coronavirus (COVID -19), a pandemic that has swept the world, has challenged society in ways once thought unthinkable, forcing organizations to rethink the way they do business and adapt to new situations. Ensuring the well-being of employees is a priority business issue during COVID 19 (Joly, 2020). It is a daunting task that requires a coordinated understanding of the needs of all employees (as well as their families), a clear interpretation of government guidelines, and an adjustment in the way employees work.

In March 2020, the World Health Organization (WHO) declared a pandemic of the highly transmissible coronavirus disease, COVID-19 (World Health Organization (WHO), 2020b) with global spread. Six months after that, the number of cases in the world is not decreasing (World Health Organization (WHO), 2020a). The virus has crippled the whole world. Freedom of movement is no longer guaranteed, globalization is no longer fully possible, and many companies have disappeared overnight. General purchasing power and household consumption have also been affected. As a result, economists predict a slowdown in economic momentum from March 2020 with no specific end date (Segal & Gerstel, 2020). The governments of many countries have taken drastic measures that have affected the daily life of the individual and society as a whole. In order to slow down the transmission and spread of coronavirus, public health tactics of "social distancing" have been widely used (Kraus *et al.*, 2020). At the beginning, many countries have opted for a lockdown strategy to slow the spread, and reduce pressure on under-equipped and prepared health facilities, especially in developing countries. Schools, universities and public institutions were closed. Public events (including sports matches, concerts) were banned in most countries and still reduced for most.

Due to the uncertainty of how the Covid -19 will continue to evolve and how the impact of its spread will affect businesses, companies must adapt to the changing business environment. They are at risk for two main reasons. The first is that their access to customers has been blocked and disabled from the onset of the pandemic until now to the extent that it has been. The second reason is that companies are vulnerable to turbulence in their supply chains. A crisis can be defined as "a specific, unexpected, and non-routine event or series of events that create a high degree of uncertainty and threaten or are perceived to threaten an organisation's high-level objectives." (Seeger *et al.*, 1998).

The aim of this study, therefore, is to examine the challenges most commonly faced by companies during a pandemic, how they overcome them, and what their expectations are for the future when it comes to business operations and survival. It also examines the role of technology, which currently occupies a central position and enables the sustainability or progress of businesses in Bosnia and

Herzegovina. Therefore, the findings of this study help to improve our current understanding of the situation and activities related to remote work from the perspective of workers outside the context of Western developed countries. This study therefore addresses the following research questions:

RQ1: What are the main challenges that companies are currently facing?

RQ2: How will the impact of COVID-19 be reflected in the future of the business in certain industries?

RQ3: What is the role of technology in the COVID-19 way of business?

The contribution of this paper is twofold: to government and to business decision makers. After analysing the results of this research, the government will have a more complete picture of the real situation and the impact of the pandemic on the work and development of businesses in Bosnia and Herzegovina, and the results of this research can be used to develop policies that will facilitate the future of small and medium enterprises. In addition, through the results of the qualitative analysis, the decision-makers in the companies will be able to identify the main challenges that their employees have overcome, and on this basis they will be able to adjust to the future activities of the company.

The paper is organized as follows: In the first part of the paper, theoretical concepts related to working from home are presented, followed by an explanation of the methodology used. In the subsequent chapters, the findings of the study are presented from three main perspectives: the challenges of working from home, the future and the role of technology. Finally, the conclusions of the study are presented, along with limitations and recommendations for future research.

2. Theoretical foundations

2.1 Work from home

Interest in the concept of home-based work began not with the COVID 19 pandemic, but in the 1970s, when the term "home-based work" was used to refer to off-site work (Nilles *et al.*, 1976). In the 1980s, telecommuting was referred to as the "next revolution in the world of work" (Diab-Bahman & Al-Enzi, 2020; Kelly, 1985). This type of work is gaining attention from managers, workers, and organizations in general. Diab-Bahman & Al-Enzi (2020) notes that one of the most recent definitions of telework is that it is a "form of flexible work that involves remote work, remote work, or telecommuting and depends on the use of information and communication technologies" (ILO, 2020).

Table 1. *Types of work from home*

| Type of work | Definition | Source |
|--|---|------------------------------|
| Telework from remote location | "work is done at workplaces that are far from the primary office such as at "satellite workplaces" (which is controlled by the owner); at telecentres (information technology and work space is accommodated for a given group, and managers are approached to rent space for their workers) or at telecottages (where training is accommodated for clients, and attempts are made to attract recruitment for independently employed telecommuters)." | Diab-Bahman & Al-Enzi (2020) |
| ICT based mobile work | "Is a work arrangement characterised by working from more than one place (not necessarily form home), and is enabled by ICT. It can be performed by both dependent and independent workers." | Eurofound (2020) |
| Work from home/ Home-based telework | "Refers to work that takes place fully or partly within the worker's own home, can be performed by both dependent and independent workers, and does not necessarily entail the use of digital devices" | Samek Lodovici et al. (2021) |

Source: Authors' research

Working from home according to various studies conducted recently is neither negative or positive driven (Ipsen *et al.*, 2021). In their recent research Ipsen *et al.* (2021) found out that main advantages include: work-life balance, work efficiency and work control. Disadvantages include: home office constraints, work uncertainties and inadequate tools. According to a study by Deloitte, current experience shows that telecommuting does not necessarily reduce productivity - which will continue to improve once kids go back to school. Although telecommuting is expected to remain at a higher level than pre-crisis COVID 19, they note that there are good reasons to return to the office. The reasons include:

- Regulatory requirements, *e.g.* control of trading activities and restrictions on cross-border activities;
- Security concerns related to remote access to sensitive data;
- Efficiency, where face-to-face exchanges are critical;
- Access to facilities that employees may not have at home (Deloitte, 2021).

In this sense, the paper will analyse the main challenges faced by businesses in Bosnia and Herzegovina, with the aim of developing recommendations that will be useful to the government and business decision-makers.

3. Research methodology

We conducted a qualitative study using a content analysis method to gain an understanding of the current market situation caused by the corona virus. Qualitative research design is of particular importance when observing organizational processes of this type (Bluhm *et al.*, 2011), and we have included a sufficient number of documents to obtain the most robust results we can generalize (Eisenhardt & Graebner, 2007).

3.1 Sampling, data collection and analysis

We used a purposive sampling technique to analyse information-rich cases "from which much can be learned about issues central to the purpose of the study" (Patton, 2005). The respondents represented companies located in Bosnia and Herzegovina. In selecting the companies, we made sure that companies from different industries were involved in order to get as good a picture as possible of the actual situation and challenges. The main questions were the following:

1. What are the main challenges that companies in Bosnia and Herzegovina are facing and how has COVID-19 affected the sector in which you operate?
2. What impact will the current pandemic have on the business of your company and sector in the future?
3. What is the role of technology in the current situation of your company, sector and what will be its role in the future?

Data analysis started immediately after data collection, and stopped when the saturation level was reached (after 26 cases). We used microanalysis of the text (Strauss & Corbin, 1998) to look for common themes among participants. The transcripts were unitized for coding and further analysis using thought units as units of analysis. MaxQDA software program was used for qualitative content analysis, to analyse and code transcripts. During process of coding, 278 codes were generated. Participant in the research were managers or top managers (male and female) for various sectors.

4. Results

4.1 Challenges

Acknowledging that it is a difficult environment, respondents pointed to certain challenges that they encountered most frequently in the period between the lockdown and the current business activities, when the situation had partially stabilized. In particular, they pointed out that there were difficulties in transitioning and adapting to the new way of working, from telecommuting to changing business models so that companies could survive in the market. This is illustrated by the following quotes:

- “The sector itself has a slower pace of work, attachment to administration in public administrations, institutions and companies that also had reorganizations in business and reduced the number of workers and working hours so that the number of open procedures and public procurement in general are smaller and more difficult to answer to public calls due to the difficulty in obtaining documentation and certification of the same.” #8
- The decline in revenue was felt in most sectors, especially tourism, restaurants and other service sectors. The least affected were IT companies, especially those involved in the sale of hardware.
- "Except for a drop in revenue of around 30% compared to this period in 2019." #8
- In order for businesses to survive and continue the race in the market, it was crucial to manage the crisis that is to run the business properly in accordance with the opportunities. Some activities were much more difficult, such as production, but thanks to a clear vision and management ingenuity, some companies were able to use their own resources for production, as they did not have access to suppliers. This is illustrated by: "The whole crisis management has tried to find solutions within the company. We made many tools, machines and parts ourselves and proved that many things can be done independently of others." # 21
- In addition, it was necessary to train employees to use the new technological tools to make the transition to a new way of doing business as easy as possible. This was especially challenging for the older employees, but very quickly they all embraced the new changes and are positive about them. One of the interviewees commented on this issue as follows: "This will require retraining and additional training of existing staff. Reorganization will be inevitable with the introduction of modern technologies" # 21
- It was a particular challenge for the government, which had to respond clearly and quickly to the new situation and help the businesses most affected. Unfortunately, respondents were generally negative about the government's incentives and actions during the pandemic. Particular emphasis was placed on the problems with the laws and regulations in place at the state level, given the complex political environment in which businesses operate, and the general uncertainty about the current government, which respondents felt did not provide enough support at a difficult time for many businesses. These government related issues have been described by one informant as follows: “Also in the era of the pandemic, governance mechanisms at different levels of government, again showed problems in coordination, uneven capacities and showed demands for a single authority.” # 20

Table 2. *Emerging topic: challenges*

| Emerging themes | Emerging sub-themes | Exemplary statement |
|-----------------------------|--|--|
| Negative impact on business | business decline | “In both activities, a decrease in turnover and project activities is evident.” #16 |
| | inability to collect receivables | “... a smaller number of users and that in the long run there will be a large debt for services provided during the pandemic ...” #10 |
| | lack of financial stability | “due to the pandemic, the company does not possess the exceptional financial stability as before” #2 |
| | increased workload / Overtime | “There is also the phenomenon that people work much more from home and have less control over personal commitment to work” #2 |
| Transition process | Change of mode of operation | “complete change of one sector or part of the population that will definitely result in long-term changes in the way of working, schedule of working hours, ways of internal and external communication, and possibly changes in the way of managing and executing projects in the information sector” #2 |
| | Procurement | “Procurement from suppliers is difficult due to the closure of border crossings and traffic jams at the same, Difficult procurement, ie impossible due to the closure of major suppliers.” #18 |
| | Day-to-day activities | “Some new rules of behaviour were set up, rules like hand disinfection when entering the firms, mandatory wearing of both gloves and protective masks, keeping a physical, but not social distance, communicating with clients via online communication platforms” #11 |
| | Innovations | “The use of substitution products is another novelty in our factory.” #21 |
| | New business models | “Also, the firm I work in decided to make a move from the “retro accounting” style of business towards a style that supports physical distance. The firm has started to reasonably expand its management and business toward the IT segment and reshaping the benefits of ICT.” #11 |
| Government regulations | Laws and regulations | “A very important detail is certainly the regulatory and state laws that are currently in force, and which we hope the new situation will lead to change. In the first place, we mean the regulatory restrictions on data storage on cloud systems. We can also add biometric data, fingerprint and digital signature technology to this group, which would enable the vast majority, if not the entire physical offer of a company, to be translated into online mode.” #19 |
| | Insecurity | “State aid was small, and the sluggishness and inefficiency of the apparatus further exacerbated the situation.” #21 |
| Personnel related | Crisis management | “The entire crisis management tried to find solutions right from inside the company. We made many tools, machines, parts ourselves and proved that many things can be done independently of others.” #21 |
| | Psychological impact | “The psychological effect was really great, fear was felt and many employees (including me) were in self-isolation.” #21 |
| | Low productivity Dismissal of employees | “...many more companies are facing declining productivity” #2 “which ultimately led to the dismissal of more than 600 workers and the closing of doors, a company that at one point had more than 1,000 employees” #12 |

Source: Authors’ research

4.2 Technology role

Technology played a central role in the conditions of the pandemics. All processes and business were generally supported by various technological solutions: Meetings took place using different video streaming applications such as Zoom, Teams, and Skype. Traditional business moved very quickly to the Internet, and many companies created their own e-commerce platforms or opted to use social media to sell and deliver products by mail. Certainly, most businesses experienced high initial expenditures to purchase hardware and software, as employees had to provide machines they

could operate while adhering to security protocols for privacy-sensitive businesses. This is confirmed by the following informants:

- "Laptops were provided for a certain number of employees for whom the decision was made to work from home, for which there was a significant jump in demand in the market in the short term." # 6
- "Minor challenges include obtaining the technical equipment needed to do the work - laptops, monitors, mice, keyboards, monitoring employee work activities remotely, and generally monitoring day-to-day activities." # 2

In addition to the initial investments, respondents believe that the future will bring further new investments in sophisticated technology and new business models that have already been foreseen and explained, involving the use of big data sets, artificial intelligence, robots and other technological solutions. This is supported by following statement:

- "I think that this pandemic will be a turning point in the automation of production and the way of life itself. Robots and AI will largely replace the traditional way of doing business and doing business." #12

One particular pressure is the work overload suffered by each company's IT department, especially at the beginning of the pandemic when it was necessary to set up remote work. This is illustrated by the following statement:

- "As a result of the increased use of a company's IT resources, we see a corresponding increase in the workload borne by the local IT of the same company. The pressure on the local IT team has become extremely high because not only do we need a VPN, but we are getting into a situation where the same technology is actually unavoidable." # 19

Table 3. *Emerging topic: technology role*

| Emerging themes | Exemplary statement |
|-----------------------------------|--|
| Necessity | "which is why we are forced to invest in infrastructure in times of crisis and thus meet customer requirements and remain competitive in times of crisis" #10 |
| New technical requirements | "Which has affected the increased requirements for IT infrastructure, by introducing additional security controls, as the existing ones may not be applicable to support the work of more employees from home." #6 |
| Pressure on IT department | "As a consequence of the increase in the use of IT resources of one company, we see a corresponding increase in the burden borne by the local IT of the same company. The pressure on the local IT team has become extremely high as a kind of change in philosophy has taken place, where in just a few days, from not needing a single VPN, we have come to a situation where the same technology is actually inevitable." #19 |
| Future investment | "In the future, we expect even greater reliance on modern technology. The future brings the use of modern machines, which can perform tasks automatically." #21 |

Source: Author's own research

4.3 Future

Even though the future holds some challenges in the form of an economic recession, which will inevitably lead to rising unemployment, inequality and increasing poverty, the general view of the respondents on the future after the end of the pandemic is very positive. They pointed out that they also see the positive impact of Covid-19 through more creative business and the use of existing resources for sustainability or business improvement. They point out that the experience of the pandemic has made them realize the importance of indigenous production and support for it. By analysing the market, they have found new partners and realized which ones they can rely on and which ones they cannot.

- "The success of this way of doing business could also become a trend of externalizing or ending part of the business associated with the physical presence of workers in the facility and direct contact with a reduction in business space and costs." # 15
"It will be necessary to change the strategy in such a way as to adapt to the market and generate new revenue through technological solutions." #10

Table 4. *Emerging topic: Future*

| Emerging themes | Emerging sub-themes | Exemplary statement |
|-----------------|----------------------------|---|
| Change | Challenges | "As the COVID 19 health crisis spreads, there will certainly be an economic recession, which will inevitably lead to rising unemployment, inequality and increasing poverty. There are already fears of a sharp rise in human trafficking, black market trafficking, serious organized crime increase the crime rate. It could also be expected that the impact of this crisis will increase the real perception of inequality, which could lead to dissatisfaction and social unrest." #20 |
| Optimism | New business opportunities | "It is important to note that the number of startups and companies whose focus will be medical research combined with information technology is very likely to increase." #2 |
| | Creativity | "But also FIM notices a lot of creativity to manage challenges among entrepreneurs and in the communities we care about." #7 |

Source: Authors' research

5. Conclusions

It can be concluded that the pandemic has created threats, challenges and opportunities for businesses in Bosnia and Herzegovina. Their existence certainly depends on how they will cope with the challenges imposed by the pandemic, which are reflected in the impossibility of doing business and adapting to the new situation. Similar challenges have been described in previous studies by (Irawan, 2020). Overcoming the challenges depends on proper crisis management and management preparedness, as well as adaptation of employees through continuous learning and adaptation to new challenges and business activities. Companies need to choose an appropriate business strategy that they can translate into the safest business transformation during a pandemic (Irawan, 2020). The role of information and communication technology (ICT) in the current situation is a key supporting factor (de Lucas Ancillo *et al.*, 2021; Priyono & Moin, 2020). Technology has been crucial since the time of the lockdown when it was the only way to do business. So far, the stars have guided new business processes and models across all industries.

The contribution of this paper is twofold. First, it relates to the contribution to government, which is that the findings of this research can be used to identify key business challenges and develop policies that will help sectors affected by this pandemic. The current image that the government has in the eyes of businesses is not enviable. Uncertainty, insufficient help in difficult moments that affected certain sectors were noted. Problems related to legislation are definitely the first step for improvement recommended by most respondents. This can certainly be repeated for future challenges. Corporate decision makers can certainly contribute to the analysis of this paper. It has been shown that proper crisis management is an important milestone. Adapting business practices, using technology at key moments, and continuously investing in it, as well as properly training employees, is something without which the business could not have been done. Of course, the employees themselves should also understand the importance of continuous improvement of knowledge in order to keep their own performance, as well as that of the company, at a satisfactory level. It is well known that motivated and productive employees are an important asset of the organization, as they directly contribute to the achievement of goals and development. The general increase in the importance of human resources, now considered a key factor in economic

development, and the changes in the environment emphasize the importance of human resources and the need for planned and well-organized management.

There are several limitations of this study that need to be pointed out. The first limitation relates to the fact that it is not possible to generalize the results of the survey as the data was collected in a single unit of time, on a sample of respondents. Given the predicted enormous long-term impact of the COVID -19 virus crisis, our study should be followed up with longitudinal analyses to examine the long-term impact and suggest strategies to governments and policy makers. Finally, we would encourage researchers to conduct further studies in other countries to provide a global picture of the results of such a study. Furthermore, this study is based on the interpretive paradigm, meaning that the concepts and themes identified are the result of the researcher's interpretation of the participants' stories and experiences.

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QUALITY MANAGEMENT AND LEADERSHIP OF LEADERS AND MANAGERS DETERMINED BY EMOTIONAL INTELLIGENCE AND MOTIVATIONAL FACTORS

KVALITETNO UPRAVLJANJE I RUKOVOĐENJE LIDERA I MENADŽERA DETERMINISANO EMOCIONALNOM INTELIGENCIJOM I MOTIVACIONIM FAKTORIMA

Abstract

The subject of research relate to the connection of emotional intelligence and motivational factors as the basic elements necessary for quality management of managers and leaders, and through IQ and professional experience. Due to the lack of important personality factors, and based on research on emotional intelligence and motivational factors, a clear connection and dominance of emotional intelligence factors has been observed in solving the problem of quality human resource management. Modern management is defined through the complexity of the development of human resource management, which is why scientific research related to personality traits and the amount of emotional intelligence are exclusively determined through motivation factors and how they are applied. The key to each company's success lies in the ability of leaders and managers to maximize profits by applying appropriate models, techniques and conceptual tools, while maximizing consumer needs and achieving the goals of key company stakeholders. Paper singles out one special aspect of human resource management, which is based on emotional intelligence settings, determining their awareness, position and success in jobs and tasks, as well as how to conduct or motivate both themselves and the environment. Research mirrors all levels of leaders and managers, their personality traits, the amount of emotional intelligence, and the motivation factors defined by their actual possibilities. The paper shows the real value of the scientific approach to defining successful managers and leaders through their personality lines in Bosnia and Herzegovina. Three standardized psychological tests were used relating to performance in work, motivation and emotional intelligence. The data was processed through the SPSS statistical software package, where the starting hypothesis has confirmed, that leaders and managers with a higher emotional intelligence are more successful and have a clearer and more flexible management role as well as a relationship with the employee.

Keywords: modern management, emotional intelligence, motivational factors, leaders and managers, profits

JEL: D91, L2, L20, L21, L26, M12, M51

Sažetak

Predmet i problem istraživanja rada odnose se na vezu emocionalne inteligencije i motivacionih faktora kao osnovnih elemenata potrebnih za kvalitetno upravljanje menadžera i lidera, a kroz IQ i profesionalno iskustvo. Zbog nedostatka bitnih faktora ličnosti, kao što je u ovom radu dokazano, a na osnovu istraživanja

o emocionalnoj inteligenciji i motivacionim faktorima, uočena je jasna povezanost i dominacija faktora emocionalne inteligencije u rješavanju problema kvalitetnog upravljanja ljudskim resursima. Savremeni menadžment je definisan kroz složenost razvoja menadžementa ljudskih resursa, zbog čega su naučna istraživanja vezana za osobine ličnosti i količinu emocionalne inteligencije isključivo determinisane kroz faktore motivacije i način njihove primjene. Ključ uspjeha svake kompanije leži u sposobnosti lidera i menadžera da primjenom odgovarajućih modela, tehnika i konceptualnih alata ostvare maksimum profita, uz istovremeno maksimalno zadovoljenje potreba potrošača i ostvarivanje ciljeva ključnih stejkholdera preduzeća. U ovom radu izdvojen je jedan poseban aspekt menadžementa ljudskih resursa koji je zasnovan na postavkama emocionalne inteligencije, određivanju njihove svjesnosti, poziciji i uspjehnosti u poslovima i zadacima, kao i načinu vođenja odnosno motivisanja kako samih sebe tako i okruženja. Ovaj rad preslikava sve nivoe lidera i menadžera, njihove crte ličnosti, količinu emocionalne inteligencije, kao i faktore motivacije koji su definisani njihovim stvarnim mogućnostima. U radu je jasno pokazana stvarna vrijednost naučnog pristupa definisanju uspješnih menadžera i lidera kroz njihove crte ličnosti u Bosni i Hercegovini. U sklopu metode ispitivanja korištena su tri standardizovana psihološka testa koji se odnose na uspješnost u radu, motivaciju i emocionalnu inteligenciju, NEO PI-R test ličnosti, UEK-45 i Test kompetencije – situacijske presudbe. Podaci su obrađeni kroz SPSS statistički softverski paket, gdje se dokazalo da je polazna hipoteza potvrđena, da su lideri i menadžeri sa većim kvocijentom emocionalne inteligencije uspješniji i imaju jasniju i fleksibilniju upravljačku ulogu kao i odnos sa uposlenim.

Ključne riječi: savremeni menadžment, emocionalna inteligencija, motivacioni faktori, lideri i menadžeri, profit

JEL: D91, L2, L20, L21, L26, M12, M51

1. Introduction

In the last ten years, more than ever, the struggle for knowledge and talents has become the fiercest form of competition in the global market, which clearly shows that without quality and motivated people, certain abilities and skills, with a clear vision, ready for constant change, ensure survival in an increasingly demanding business environment. Such characteristics are especially expected from leaders and managers, because it is assumed that they are a role model for their followers and that their influence will stimulate their desire to act and continuous improvement, which will create a better product and maintain a competitive advantage. Simply, a man is considered to be the most valuable asset of any organization depending on its actual success in the market. Exactly, The segment of understanding and predicting human behaviour is not at all simple and therefore different skills, knowledge and emotional intelligence are necessary, in order to create a clear picture of human capital or its real potential. The importance of the leadership function is manifested in the fact that it drives people and thus drives all available resources of the company to effectively and efficiently achieve its goals. Initiating people is the most difficult and complex task of leaders and managers, since the most important problems come from people - their desires and attitudes, their behaviour as individuals or groups, and therefore leaders and managers should be exemplary leaders, and through recognizing and controlling their own, so their emotions create quality conditions for work and job satisfaction. The new modern management defines the complexity of human resource management development, because the key success factors of all companies are defined precisely through managerial and leadership functions, *i.e.* their ability to define, explain and implement the set goals and objectives of the company. Therefore, scientific research are related to personality traits and the amount of emotional intelligence is exclusively defined through the factors of motivation and the manner of their application. The key to the success of any company lies in the ability of both leaders and managers to get the maximum through models and tools of both lower management and the workforce and a common maximalist approach to profit as the basic needs of today's modern society. Emotional intelligence is our ability to recognize emotions, both in ourselves and in others, but also our ability to use that awareness to manage our behaviour and relationships with other people. This paper shows how much emotional intelligence is related to general intelligence, how emotional intelligence affects leaders and

managers, which are the motivating factors, and which also affect the success of top management. What are the qualities of good managers, and what are the qualities of leaders.

2. Previous research

Marcel Robles' research "Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace" in its 2007 study found that soft skills were key to working in jobs at the time, with a 85% percentage of impact on success related to soft skills in which as the main skill stands out emotional competence. Complementing the insights into the factors essential to success that (McClelland, 1973, pp.1-14) achieved, Goleman in 1998, in an article published in the Harvard Business Review, focused on the importance of emotional intelligence in business. Based on research on skills that result in business excellence, for 181 jobs within 121 different organizations, (Goleman, 1998, pp.92-102) concluded that as many as 67% of skills considered necessary for business success are based on emotional abilities. That same year, McClelland conducted a survey to identify the traits by which top managers differ from average ones. A survey conducted within 30 different companies found that the traits that set the best managers apart from the average were: desire to achieve, developing others, adaptability, influence, self-confidence, and leadership. The only cognitive trait was the ability to think analytically (McClelland, 1998, pp.331-340). Both Chen and co-workers conducted a survey on business excellence in the late 1990s, concluding that higher cognitive capacities were 27% more common in excellent employees, as opposed to emotional competencies, which they found to be 53% more often with excellent employees. In other words, emotional skills have been shown to be twice as important in business results as intelligence and technical skills. Better business results of emotionally competent employees, compared to employees with only high cognitive capacities, have been confirmed by other research (Seligman, 1990,p.43).

3. Leaders and managers

Leaders and managers are defined on the basis of the amount and presence of emotional intelligence and through new scientific methods we can more clearly and confidently single out team leaders and their roles, all on the basis of emotional intelligence, since teamwork has become an integral part of a successful company. Emotional intelligence is not a state, it is not a trait that you have or do not have, and it is a process of orientation in the world, internal and external. It is a process that requires dedication, courage, curiosity and perseverance. Being emotionally intelligent means understanding feelings, knowing how they arise and what they serve, and that means accepting feelings as a sign of humanity, not experiencing them as a sign of weakness. Be aware of your feelings, but know when and to whom it is better not to show them. The paper seeks to recognize the possibilities of predicting better results through the development of emotional intelligence. More and more companies are realizing the importance of the presence of motivation and emotional intelligence, that fostering the skills of emotional competence is a key component of any philosophy of management development in a positive direction. Leadership in the leadership process, in a narrower sense, should be understood in the sense of first, leading, best, in accordance with which leadership is a special form of leadership inherent in individuals who are leaders. In a broader sense, leadership is used to denote not only a particular way of leading, but a new approach in management, which is claimed to provide the best results in business. The terms management and leadership are often used interchangeably. "It can be concluded that the quality of managers can be determined with regard to the criterion of efficiency, while leaders stand out with regard to their impact on the effectiveness of the organization or company. Likewise, it can be said that managers find a way to manage the complexity, *i.e.* complexity and diversity of business, while leaders deal with the vision of change and gathering people to achieve it." (Kotter, 2009, pp. 85-96). While the manager is oriented towards the present and the past (when conducting the control process), the leader is oriented towards the future. "Managers have the authority to allocate resources. The results

of the manager's work are subject to constant evaluation. Managers are responsible not only for their work, but also for the work of subordinates. In particular, the subject of evaluation is the effectiveness of the actions taken by the managers as well as the efficiency of the actions of the subordinates. The (failure) of subordinates is an indicator of the (failure) of managers. Since managers are expected to do more than other companies, they have the authority to allocate resources."(Kulović, *et al.*, 2012, p. 47) Analysing the work performed by managers, Fayol concluded that all managers perform the following functions: forecasting and planning; organization; command; coordination; controlling. "(Fayol, 2006, pp. 26-29). "A leader who is too far from his subjects can easily be pushed out of his position, because his ties with his subjects have become too weak. In that sense, it is wise to be high but not too far from your base. If a leader positions himself at the level of his subjects, there is a risk known in popular literature "that no one could be a great man in the eyes of his valet." Such a leader loses leadership authority. It becomes too ordinary for those who follow it. Psychologically speaking, the leadership position must be somewhat mystical. Demystified, it has no content. " (Slović & Dragoslav, 2011, p. 224) In terms of cooperation, the result will be the synergistic action of all members (Kohn, 1993, pp. 27-28). At the inter organizational level, *i.e.* the level within the company, the leadership process thus grows into a continuous process of managing the complexity of internal relations, which are often conflicting (Weymes, 2004, pp. 338-348). "If a manager doesn't manage jobs, they start managing them." (Rupčić, 2018, p. 1). Manager characteristics: manager is administrator, copy, manager maintains, focuses on system and structure, develops control, focuses on short-term perspective, asks how and when, keeps an eye on the end result, is an imitator, accepts status quo, is a classic obedient soldier, the manager trains, cares about where you are, deals with the present, works with certainty, focuses on facts, finds answers and solutions, seeks similarities, believes that the right solution can be used again in the future, the manager is in charge of efficiency. Characteristics of a leader: a leader is an innovator, a leader is original, a leader develops, is focused on people, develops trust, has a long-term perspective, asks what and why, a leader is only his own, a leader is educated, a leader leads you to a new place, the leader formulates questions and problems, the leader works with probability, he is focused on decisions, the leader seeks difference, the leader wonders if a new solution is needed for the future, the leader is in charge of effectiveness.

4. Leadership and motivation

Motivation is the influence that provokes, directs and maintains the desired behaviour of people. Within management, motivation plays an important role, because with it managers and leaders try to satisfy the desires and instincts of their associates so that their behaviour is desirable and acceptable for the organization. Factors influencing motivation

1. Individual characteristics - needs, attitudes, interests
2. Job characteristics - different skills, similarities and meaning of the task, autonomy, feedback
3. Organizational characteristics - characteristics related to the workplace. "Growth is pure oxygen. It creates a vital company full of enthusiasm in which people see their opportunity. They take more risks. They work harder and smarter. " (Kotler, 2006, p. 22).

4.1 Motivational techniques

Money is a very important motivator and is often much more than monetary value. However, managers who use money as a motivator must be careful not to use it in the wrong context. It is often used as a motivator, but it also encourages human greed, dulls the conscience, and can lead to unethical and illegal behaviour. Participation is a significant motivator, because it is also a means of recognition. By consulting associates about events that affect them and that affect them, they cause increased motivation. All co-workers want to know what is going on in their environment and want to know the background of the problem. Quality of the working environment, Eng. Quality of Working Life (QWL) - A systematic approach to job design and promising progress in the broad

field of job enrichment. QWL contains, in addition to job enrichment, elements of industrial and organizational psychology and sociology. The art of criticism, to speak correctly - People become demotivated when they hear that they are not doing something properly, and they do not know all the details that would help him change his work or his actions. One should talk directly without riddles and avoid the right question, thus obscuring the right message. It is necessary to state the exact problem, how the critic criticizes it, to state what is not good and it is especially important to state what can be changed. General praise has absolutely no effect and is not taught on the basis of it.

4.2 Cognition-emotions-motivation

Numerous theorists and psychologists throughout history have researched the concept of motivation, its definition and the discovery of factors that motivate people. Before presenting the definition itself, it is necessary to emphasize and explain the concept of manipulation, which in practice is often mistakenly indirectly identified with the concept of motivation. Motivation in the narrowest sense can be explained as encouraging people to achieve organizational goals and personal goals, and these goals are intertwined and often the realization of some indirectly, but at the same time means the realization of others. "Everyone wants more motivation, but he's not entirely sure what it is. Individuals would say they want to be more motivated. Managers and leaders would say they want a more motivated team of employees or group, and employers want to hire a motivated person. Moreover, employers' demands are even greater. For example the person they are looking for and want to hire should be self-motivated" (Richard, 2000, p. 15). Throughout history, the idea of management and the understanding of employees has changed, from the resources that should be used to the maximum, to the potential that should be directed and led. Today, the notions of motivation and manipulation are often equated or misinterpreted.

4.3 Modern understanding of motivation strategy

In modern business conditions, managers have at their disposal through theoretical and practical research strategies for motivating human resources, such as financial incentives, job enrichment, employee participation, flexible working hours, recognition and public praise, training, career development and more. Motivation and adequate rewarding have become key tasks and functions of human resources management, and the decisive factor in motivation is managers and leaders. Motivated employees identify and connect with the organization, are interested in finding solutions to organizational issues and problems, development and performance, are interested in the quality of products and services, and contribute to productivity and performance.

5. Emotions

Discrete emotion theory (the word discrete is used in the sense of "special, separate") assumes the existence of a smaller number of core or basic emotions, and words that describe emotions actually refer to those core emotions and their combinations. Core emotions, according to this theory, are specific, biologically determined emotional reactions whose expression and recognition are basically common to all people. It is Darwin's evolutionary understanding of emotions that contradicts previously accepted understandings of cultural anthropologists who speak of culturally specific emotions. Evolutionary understanding suggests that certain emotions and their expression are retained during animal development because of their adaptive value. Darwin's contribution consisted in emphasizing personalities in different kinds and shaping principles that explain the enduring presence of these emotions. According to cognitive theories, emotions depend on how we evaluate situations. Argues that emotions are related to our willingness to act depending on how we assess the possible consequences of a situation for ourselves. Such a willingness to act partially defines different emotions. When we hear someone's footsteps, we can judge that the situation is

bad (burglar) and we can get scared or we can judge that it is good (our friend is coming -?!) And we can feel relief and happiness.

5.1 Modern approaches to the study of emotions

Structure of Affects - The term affect refers to experiences or experiences that have the quality of pleasure or discomfort. Three types of affective experience can be described as follows:

- Temperament refers to a very stable tendency to certain types of affective experience. This tendency is long-lasting and seems to have a genetic basis. The most significant genetically based trait is the one described by the introversion / extraversion dimension, *i.e.* shyness towards openness. Personality and temperament are not complete synonyms, but temperament is a distinctly enduring trait.
- Moods are usually characterized as weak, but pervasive affective states, without focus on a specific and specific object, and are relatively permanent (from a few minutes to a few hours). These moods are low-intensity affective states that set the tone for our thoughts and behaviours from the background. Moods are often explored, whether they are positive or negative, whether they are cheerful or melancholy, but there are other moods as well. Positive moods include liveliness and calmness, and negative sadness, irritability, or anxiety.
- Emotions, unlike temperament or mood, are usually described as relatively shorter and stronger affective states that are directed towards a particular object towards which there is a tendency to act (moving away or approaching). Emotions as an intervening variable - emotions can be thought of as intervening variables, how we can avoid the problem of circular definition and relatively objectively distinguish individual emotions. For example, for William James, a man who sees a bear (precondition), the heart starts beating faster and he runs away (consequential condition). From this behaviour we conclude that man was afraid of the bear (emotion). If he starts approaching him, we will conclude that he is not afraid of the bear or that there is some more important reason why he is approaching him.

6. Emotional intelligence

“Measuring Emotional Intelligence,” based on twenty-six years of research, takes the next step and provides you with the keys to: assessing emotional intelligence in you and others; strengthening feelings and actions; success at work; successful organization. ” (Simmson & Simmons, 2000, p. 11). More and more companies are realizing that fostering emotional intelligence skills is a key component of any management organization philosophy. Emotional intelligence is even more important because of another set of facts: as organizations shrink in the tidal waves, people who preserve their jobs become more responsible - and more visible. While a mid-level employee has managed to hide his or her excessive temper or shyness, today the ability to manage one's feelings, good communication in meetings and the propensity for teamwork and leadership are expressed - and calculated - more than ever.”(Goleman, 2017, p. 15). Emotional intelligence is the ability of individuals to recognize and acknowledge their own emotions as well as the emotions of others, distinguish different feelings and understand them appropriately, use emotional information to direct thinking and behaviour, and adjust emotions to adapt to environments or achieve their goals. Daniel Goleman dealt with the concept and concept of emotional intelligence more systematically in the book of the same name "Emotional Intelligence", published in 1994. The model of emotional intelligence consists of the following components: self-awareness - the ability to "read" one's own emotions and understand what impact they have on the environment; personal decision making - studying one's own actions and knowing the consequences; emotion management - knowing what is the basis of feelings; overcoming stress - learn to relax and understand the importance of relaxation; empathy - understanding other people's feelings and respecting differences of opinion; communication - talk about feelings with understanding and be a good listener; self-discovery -

understanding the need for openness and trust, learning when and how to talk about your feelings; insight - recognizing patterns in personal and other people's lives; only acceptance - to know how to accept one's shortcomings, to know how to appreciate one's virtues; personal responsibility - take responsibility and know how to recognize the consequences of personal decisions and reactions; self-confidence - to be able to express your worries and feelings without anger and passivity; group dynamics - know when to follow and when to lead; conflict resolution - a "win / win" model in a negotiated compromise. Emotional intelligence consists of non - cognitive abilities, competencies and skills that affect a person's ability to cope with the demands of the environment. According to him, emotional intelligence is partly acquired through genetic inheritance, but develops through an active learning process.

6.1 Upcoming crisis: IQ is rising and EQ is falling

There is a dangerous paradox at work: as children become smarter on intelligence tests, their EQ declines. The data that is probably most worrying comes from extensive research by teachers and parents, which showed that the current generation of children is more emotionally upset than the previous one. On average, children are lonelier and more depressed, more restless and disobedient, more nervous and prone to anxiety, more impulsive and aggressive and termination of schooling. These are bad omens for the situation in the workplace: a growing lack of EQ among workers, especially those hiring for the first time (Goleman, 2017, p.33).

7. Research methodology

The subject of the research refers to the connection between emotional intelligence and motivational factors as basic elements necessary for quality management of managers and leaders within their activities, as well as defining their abilities in the field of education and career development, *i.e.* professional development. The problem of the research is that based on the results of the research so far, the problem of quality management of leaders and managers through IQ and professional experience has been generated, due to the lack of important personality factors, which has been proven in this paper. Based on research on emotional intelligence and motivational factors in the work, a clear connection and dominance of emotional intelligence factors in solving the problem of quality human resource management will be presented. Human resources are aimed at seeing the employee as essential, valuable to the organization, and given, *i.e.* that its value increases day by day with development, HR departments, human resources are automatically focused on growth, development of human resources and skills. Human resource management is clearly defined as a strategic and very coherent, innovative approach to managing the essential, most valuable assets of a company or organization - people who work in the same organization with one goal, *i.e.* achieving clear organizational goals. The purpose of this research is to explain the importance of emotional intelligence and motivational factors in leaders and managers in order to successfully lead and motivate employees, make decisions and be effective in solving problems and successfully adapting to change. The objectives of the research in this paper are: to determine the importance of emotional intelligence in leaders and managers; the importance of motivational factors in leaders and managers; to explain on a practical example the connection between emotional intelligence and motivation for the success of the work of leaders and managers; determine the level of emotional intelligence in leaders and managers. Solving the problem of understanding the meaning of emotional intelligence itself, which is of great importance for society as a whole and social awareness in relation to general intelligence, which dictates the norms and rules of conduct of individual leaders and managers, which are recognized and explained, and at the same time responsible and defined depending from emotional intelligence and achievement motives. We can look at the problems of society from a special dimension of development through this paper, and on the basis of the obtained claims and evidence on the basis of which we can define the social goal. "A society in which a person acts and lives puts many demands on him. If he fails to

master them successfully, there is a possibility that he will become maladapted. A maladapted person is an individual who is not able to solve situations and problems that he encounters on a daily basis. His tolerance for frustration is extremely low and his adjustment mechanisms are inadequate. Such persons are constantly in conflict with their surroundings. There is no way I can establish true communication with other people. ” (Bajraktarević, 2014, p.168). “Leadership is therefore the privilege of conscious beings, not technical systems or unconscious biological organisms. It therefore does not appear in the organism or in the mechanism, but in the organization, and that is because the organization is a social relationship. It is immanent to relations in organized social groups, regardless of the goals for which they are organized and the duration of such an organization. In intellectual relations, in this way, the question posed by Emanuel Kant is opened, which indicates the inability of man to use his own reason without the guidance of another. ” (Slović, Dragoslav, 2011, p. 17). The practical contribution of the work is reflected in the ability of the surveyed organizations to, depending on the approaches they apply, the characteristics of the human resource management process and defined indicators to determine the degree and development of emotional intelligence.

8. Research results and discussion

All data related to this paper were collected and analysed by the following methods: testing method (as a technique in the testing method used three tests - NEO PI-R, Questionnaire of emotional competence UEK-45, Author: Assistant Professor Vladimir Takšić, PhD; Test „Competences base Questions and Answer new session. The research method which, based on the mentioned tests, researches and collects data, attitudes and opinions on the subject of research are used in the research part of the paper with the aim of determining the connection between motivation and emotional intelligence in the work of leaders and managers. The research was conducted on a sample of 158 leaders and managers from twenty-two companies in Bosnia and Herzegovina. Most managers are male (61.4%). About 90% of surveyed managers and leaders are aged 34 and under. About 95% of managers in the sample have a university degree.

Table 1. Education of respondents

| Education | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-------------|-----------|---------|---------------|--------------------|
| Valid | High school | 2 | 1,3 | 1,3 | 1,3 |
| | Bachelor | 6 | 3,8 | 3,8 | 5,1 |
| | VSS | 116 | 73,4 | 73,4 | 78,5 |
| | Master | 32 | 20,3 | 20,3 | 98,7 |
| | Phd | 2 | 1,3 | 1,3 | 100,0 |
| Total | | 158 | 100,0 | 100,0 | |

Source: Authors' research

Based on the five-factor analysis of personality, the necessary results were obtained on the basis of which it was possible to clearly distinguish personality traits of all levels of managers, which we could divide into: 1. Exclusive manager and leader; 2. Operational manager and leader; 3. Top managers and leaders; 4. Closed manager and leader; 5. Flexible manager and leader

Regression Flexibility - The regression model assumes that personality traits, emotional competencies, gender, and age will be significant predictors of manager and leader flexibility. The predictor set explains 9% of the variance in manager and leader flexibility ($R = .389$; $R^2 = .151$; adjusted $R^2 = .093$). The prediction model is statistically significant. Statistically significant predictors of manager and leader flexibility are Ability to perceive and understand emotions (UEK.SSURE) and Ability to express and name emotions (UEK.SSIIE). Present traits of a flexible manager and leader have respondents with below average Ability to perceive and understand emotions and above average Ability to express and name emotions.

Table 2. Regression flexibility

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | ,784 | 10 | ,078 | 2,616 | .006 ^b |
| | Residual | 4,408 | 147 | ,030 | | |
| | Total | 5,192 | 157 | | | |

Source: Authors' research

Regression Exclusive - The regression model assumes that personality traits, emotional competencies, gender, and age will be significant predictors of the exclusivity of managers and leaders. The predictor set explains 16% of the manager flexibility variance ($R = .458$; $R^2 = .210$; adjusted $R^2 = .156$). The prediction model is statistically significant. Statistically significant predictors of the exclusivity of managers and leaders are age, openness, conscience, Ability to perceive and understand emotions (UEK.SSURE) and Ability to express and name emotions (UEK.SSIIE). Younger respondents have more present traits of exclusive manager and leader, with below average openness, above average conscience, with below average Ability to perceive and understand emotions and above average Ability to express and name emotions.

Table 3. Regression exclusive

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | ,667 | 10 | ,067 | 3,903 | .000 ^b |
| | Residual | 2,513 | 147 | ,017 | | |
| | Total | 3,181 | 157 | | | |

Source: Authors' research

Regression operative - The regression model assumes that personality traits, emotional competencies, gender, and age will be significant predictors of manager and leader operability. The set of predictors explains 16.5% of the variance in the flexibility of managers and leaders ($R = .467$; $R^2 = .218$; adjusted $R^2 = .165$). The prediction model is statistically significant. Statistically significant predictors of managerial and leader operability are extraversion, Ability to perceive and understand emotions (UEK.SSURE) and Ability to express and name emotions (UEK.SSIIE). More present traits of the operational manager and leaders have managers and leaders with less pronounced extraversion, with below average Ability to perceive and understand emotions and above average Ability to express and name emotions.

Table 4. Regression operative

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | ,308 | 10 | ,031 | 4,098 | .000 ^b |
| | Residual | 1,104 | 147 | ,008 | | |
| | Total | 1,411 | 157 | | | |

Source: Authors' research

Regression Top Manager - The regression model assumes that personality traits, emotional competencies, gender, and age will be significant predictors of top managers and leaders. The predictor set explains 6% of the variance in manager and leader flexibility ($R = .348$; $R^2 = .121$; adjusted $R^2 = .061$). The prediction model is statistically significant. A statistically significant predictor of top managers and leaders is the personality trait of extraversion. Managers and leaders with more pronounced extraversion have more present traits of top managers and leaders.

Table 5. Regression top manager

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | ,679 | 10 | ,068 | 2,022 | .035 ^b |
| | Residual | 4,938 | 147 | ,034 | | |
| | Total | 5,618 | 157 | | | |

Source: Authors' research

Regression closed - The regression model assumes that personality traits, emotional competencies, gender, and age will be significant predictors of closed managers and leaders. The predictor set explains 6% of the variance in manager and leader flexibility ($R = .273$; $R^2 = .074$; adjusted $R^2 = .012$). The prediction model is not statistically significant. None of the predictors in the model has a statistically significant contribution to the prediction of a closed manager and leader.

Table 6. Regression closed

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | ,825 | 10 | ,083 | 1,183 | .307 ^b |
| | Residual | 10,255 | 147 | ,070 | | |
| | Total | 11,080 | 157 | | | |

Source: Authors' research

9. Conclusions

Today's modern capital society is exclusively defined by new profit ideas as well as the abilities of leaders and managers within those companies. Modern management is part of this process and deals exclusively with the ability, skills and knowledge of leaders and managers at all levels of management. General intelligence is no longer primary in the definition of performance. From all the above, it can be concluded that the quotient of emotional intelligence and motivational factors are the basic elements of quality management and leadership of leaders and managers. Leaders and managers with a higher quotient of emotional intelligence have been shown to be more successful and have a clearer and more flexible management role as well as a relationship with the employee. Statistically significant predictors of managerial and leader operability are extraversion, Ability to perceive and understand emotions (UEK.SSURE) and Ability to express and name emotions (UEK.SSIE). More present traits of the operational manager and leaders have managers and leaders with less pronounced extraversion, with below average Ability to perceive and understand emotions and above average Ability to express and name emotions.

Motivational factors defined through career development show a clear distinction between successful and unsuccessful leaders and managers. Managers and leaders with a higher level of education had a more present motivating factor for career development and greater ambition in achieving the set goals of both the company and their personal goals. A statistically significant predictor of top managers and leaders is the personality trait of extraversion. Managers and leaders with more pronounced extraversion have more present traits of top managers and leaders, which means that they are open to all types of cooperation and problem solving both on the horizontal and vertical level of the management system. The quotient of emotional intelligence directly determines and separates the ability of managers and their careers. The research clearly identifies managers and leaders with the maximum quotient of emotional intelligence who have been successful in all jobs and tasks, which is presented through the satisfaction and success of leaders and managers.

The assumption that emotional intelligence is a key factor reflected in the quality management and leadership of an organization by leaders and managers cannot be considered correct, because

emotional intelligence alone is not enough for quality leadership, leaders and managers must have a satisfactory quotient of general intelligence that will greatly contribute to the work and leadership of the organization. An integral part of general intelligence is reflected in personality traits that we have just explored through the NEO PI-R test, which includes traits that are neuroticism, extraversion, openness, pleasantness, conscientiousness. Emotional intelligence and motivational factors of personality are directly related to the intelligence of leaders and managers. A successful manager, depending on motivational factors and emotional intelligence, represents a successful managerial level through the definition of intelligence that includes the complete personality. What is important to point out is that emotional intelligence and motivation are in direct connection with general intelligence and as such give completeness to leaders and managers in their key functions, and that is leadership and leadership. This work, through his scientific research, came to a real conclusion, and that is that certain types of leaders and managers have been singled out: top managers and leaders, and inclusive managers and leaders, operational managers and leaders, closed leaders and managers, flexible managers and leaders. All of these managers and leaders have clear characteristics and personality traits depending on motivational factors that can give us a picture of all managers and leaders within small and medium enterprises and serve as a tool for their education, skills development and further career advancement as well as way and the model of behaviour of superiors and subordinates within the company itself. Based on all this, teams can be defined in which all managers and leaders with the above characteristics can be developed, educated and trained. Personality traits of leaders and managers are clearly and precisely determined depending on the group in which they are classified. The paper gives us a clear idea of how and what personality traits a leader and manager, someone who manages and leads the organization, should possess.

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ENTREPRENEURIAL PERCEPTION ON THE STATE INTERVENTIONISM MEASURES IN CRISIS CIRCUMSTANCES

PREDUZETNIČKA PERCEPCIJA MJERA DRŽAVNOG INTERVENCIONIZMA U KRIZNIM SITUACIJAMA

Abstract

Within the current crisis period caused by the COVID-19 pandemic and the future business context in general, government measures will be present within different areas of social, business and individual life. According to the theoretical framework, two extreme and diametrically opposite concepts of economics could be recognized, from full state interventionism to entirely liberal economy, but real-life situations show that most economies are a hybrid of these two extremes. This means that in reality there is no “pure” interventionism or “pure” liberal economy, but a certain level of state interventionism in the economy has always been present, especially within some crisis circumstances. In the stable phases of economic development, it is preferably to find the optimal level of state interventionism avoiding of suppression entrepreneurial activities that spur innovation and economic development through entrepreneurial companies operations. This manuscript will elaborate the results of research focused on the entrepreneurial perception on the state interventionism measures based on survey conducted during the second half of the 2020 in Bosnia and Herzegovina. During the research process, a special set of survey questions was applied with the aim to reveal entrepreneurial activities and perceptions on state interventionism measures implemented during the “second wave” of the pandemic crisis. Thus, the first part of the questionnaire refers to the entrepreneurs’ features and their approach towards organizational and operational changes caused by the pandemic crisis, and the second part of the questionnaire refers to the entrepreneurs’ perceptions towards state intervention measures to reduce the negative consequences of the pandemic crisis. The survey sample is composed by 202 entrepreneurial companies in Bosnia and Herzegovina, and the findings on entrepreneurial perception related to the activities of state interventionism that differ according to the type of state measure and the respondents’ gender.

Keywords: economic policy, state interventionism, crisis management, entrepreneurship

JEL: A12, A13, L26

Sažetak

Unutar trenutnog kriznog razdoblja uzrokovano pandemijom COVID-19 ali i budućeg poslovnog konteksta općenito, vladine mjere će biti prisutne u skladu s različitim područjima društvenog, poslovnog i individualnog života. Unutar teorijskog okvira mogu se prepoznati dva ekstremna i dijametralno suprotna koncepta ekonomije, počevši od punog državnog intervencionizma do potpuno čiste liberalne ekonomije, ali situacije u stvarnom životu pokazuju da je većina ekonomija hibrid ove dvije krajnosti. To znači da u

stvarnosti ne postoji "čisti" intervencionizam ili "čista" liberalna ekonomija, ali određena razina državnog intervencionizma u ekonomiji uvijek je bila prisutna, posebno u nekim posebnim kriznim okolnostima. U stabilnim fazama ekonomskog razvoja poželjno je pronaći optimalnu razinu državnog intervencionizma, izbjegavajući gušenje preduzetničkih aktivnosti koje generiranje inovacija i ekonomski razvoj kroz poslovanje poduzetničkih tvrtki. Ovaj će rukopis predstaviti rezultate istraživanja fokusiranog na poduzetničku percepciju učinaka vezanih za mjere državnog intervencionizma na temelju istraživanja provedenog tokom druge polovine 2020. godine u Bosni i Hercegovini. Tokom procesa istraživanja primijenjen je poseban set anketnih pitanja s ciljem otkrivanja preduzetničkih aktivnosti i stavova vezano za mjere državnog intervencionizma koje su poduzete tokom takozvanog "drugog vala" pandemijske krize. Dakle, prvi dio upitnika odnosi se na aktivnosti poduzetnika usmjerene na organizacijske i operativne promjene uzrokovane pandemijskom krizom, a drugi dio upitnika odnosi se na percepciju poduzetnika vezano za mjere državnog intervencionizma usmjerene na smanjenje negativnih posljedica pandemijske krize. Istraživački uzorak čine 202 poduzetnička poduzeća u Bosni i Hercegovini, a nalazi o poduzetničkoj percepciji u vezi s aktivnostima državnog intervencionizma razlikuju se prema vrsti državnih mjera i spolu ispitanika.

Ključne riječi: ekonomska politika, državni intervencionizam, krizni menadžment, preduzetništvo,

JEL: A12, A13, L26,

1. Introduction

The intensity of state interventionism in economic processes is a very subtle issue, especially when focusing on relationship between state administration and entrepreneurial companies. In this regard, there are two diametrically different frameworks: one is based on extreme „sharpness“ where any state interventionism in the economy perceived as „not good“ and should be removed using "laissez faire" and perfect free market assumptions, and the other concept that stands on a fully planned economy that implies overall state interventionism in all economic and business operations. Nowadays, it is difficult to discuss about some extreme concepts, since in the most of the countries there is some „hybrid concept“, that is the mixture composition of these two extreme concepts in some percentages proportions. Always, this issue is very important even in stable economic circumstances in the sense that the economy seems more or less attractive for business by applying economic policy measures that may support or hinder some economic and business activities. In the crisis period, the importance of state interventionism grows significantly, especially in the field of entrepreneurial organizations – it is very important and needed for short-term sustainability.

The main features of entrepreneurial companies, especially micro and small enterprises, are emphasized need for financial resources and high level of survival inconsistency due to poor cash flow potentials – *i.e.* only a few months of cash flow disturbance might be the cause of the termination of the business. Even during stable economic stages those entrepreneurial companies are endangered by different risks that pose a business threat – hence during economic crisis periods these businesses are even more vulnerable. Still, true entrepreneurial businesses are flexible, adjustable and opportunity oriented with high level of business resilience and would consider some crisis situations as a possible business opportunity. Within this accented ambiguity constellation it is not simple to define „perfect“ economic state policy but the policy makers are dedicated to formulate „near to optimal“ concept that will assist to sustain and maintain economic and businesses activities during crisis period and to create precondition for future businesses survivals after crisis period has passed. Smart, well-designed interventions, such as enlargement of micro-lending, support by business angels, strengthening of venture capital or tax reduction policies will be better suited to support future entrepreneurial-driven innovation (Gebhardt, 2012, p. 1480).

Even in the age that is marked with suffusion of information and agile digitalization including the implementation of artificial intelligence bringing multiple business advantages, still policy makers, managers and entrepreneurs need to act together and simultaneously to generate certain economic

policy measures that will obtain a platform for sustainable economic and business growth and development through usage of different tools for risk mitigation. According to abovementioned concepts there is a need to examine perceptions of entrepreneurs according to different measures that government administration undertook during the last economic crisis caused by COVID-19 pandemic. During this period the most of the states, including Bosnia and Herzegovina, imposed different health, pharmaceutical and non-pharmaceutical measures to obtain preconditions for safe lives of its population such as reduction or total prevent of people physical movement what therefore generated very important and different repercussions on economy functioning and business running, and some special economic policy measures to shield industries and businesses.

2. Literature review

State interventionism or state intervention in the economy has its two main justifications. The first is traditional justification and it is connected with financial aspects in nature and is related to the fact that the state, through taxes and other duties, by encroaching on the gross domestic product, obtains funds for financing a number of state functions from security to the different social aid aspects. The second justification is more recent and is related to market imperfections and the fact that the market, although it is an effective framework for economic flows, does not have an automatic mechanism for preventing economic crises (Begić, 2000, p.14). During the last pandemic crisis, most companies redefined the way they manage their business, but have continued their activities, while some service companies in the field of tourism and hospitality stopped their operations completely for a while. Since the great economic crisis at 1929. there is very intense debate about issue on the level of freedom that should be „given“ to economy and companies since the great crisis dissolve that economy and business could not be „preserved“ without the state influence on the economic streams.

The recent financial crisis in 2008 indicated the same stronghold in sense of different intervention activities defined by the state for survival of the entire economic systems. The state carefully intervene in economic system to correct some free market imperfections by using different measures including antitrust laws implementation, antipollution laws implementation, subsidizing some industries, progressive taxation for some income categories, monetary policies, fiscal policies, infrastructure development, education and prequalification programs *etc.* (Samuelson & Northaus, 2010, p. 40). It should be noted that the crisis caused by a pandemic in the literature, in terms of state intervention, has often been compared to earlier economic crises (Mau, 2021, p. 9). The „triggers“ of the economic crisis are very different, but the repercussions are always similar and one society „pays“ them with a lower standard of workers and citizens in general, reduced level of enterprises operations, layoffs, market changes and decreased budgets of state institutions and worsening financial results for most of the companies.

In addition, during the crisis period there are some specific changes that include structural, strategic, operational alternations and changes in knowledge gathering within different organizations as well as behavioural changes of different categories - from the employees and clients further to some public and private sector institutional decision makers. No one can ever predict fundamental changes in macroeconomics before they occur. Yet, it is possible to identify some of the key issues that the crisis raises for certain area and some possible direction of future researches (Romer, 2012, p. 645). Since unpredictability is a major feature of the recent economic crisis caused by the COVID-19 pandemic, and despite a high level of research development, nations still are questioning at some economic, social and business consequences that have not had been recognized and predicted for long or even short term period, considering „the spill over effect“ that could manifest in terms of economic and social instability, demographic issues and migration, inflation, investments, alienation of people and other psychological issues as well as other economic and social phenomena. The most critical shortcoming „lies“in the treatment of time. Rooted in the

ancient ideas of equilibrium, harmony and social balance, the mainstream economics treats the future as an extrapolation of the past - hence predictable except for accidental mistakes, which are called "risks". As Davidson insists - this is incurably incorrect; there is uncertainty and at all times financial markets are prone to collapse due to their tendency to „escape“to safety, which depletes liquidity and deprives both financial and physical assets of their market value. (Galbraith, 2018, p. 17).

The latest economic crisis caused by COVID-19 virus pandemic outbreak is quite specific triggered crisis but the consequences of crisis are again very similar in some segments to previous crises, so the state interventions measures were very permissible. In parallel, governments have introduced several economic policies to minimize economic damage of anti-contagion procedures, such as massive injections of money into lending markets and the provision of direct subsidies to households and firms. To create and implement the correct decisions under crisis, governments need to understand the short-run economic and epidemiological trade-off as well as the potential long-run benefits of anti-contagion and economic policies (Kawaguchi *et al.*, 2021, p. 2). The human society, economies and businesses are highly exposed on different sort of crisis and they are significantly intertwined in sense of various impacts between each other – it is a need to aspire and recognize some mutual elements that will assist decision makers to define scenarios that could prevent some crisis using preventive measures or decrease the crises consequences by implementing some repressive measures when crisis has already happened. The causes and symptoms of the crisis could be different but the model of the crisis monitoring could be applied on different crisis and could generate similar positive effects in sense of crisis overcoming. Within the management science, the decision makers in public and private sector can use certain frameworks that are lined on both crisis management concept and risk management concept, as an integral parts of any organizational strategy. The concept goals are to identify main relations and screen the coronavirus pandemic impact on entrepreneurial business and to recognize the main areas that are most influenced with crisis – all this in order to understand which aspects of the government measures and criterions are most suitable for survival of entrepreneurial businesses (Čizmić *et al.*, 2021, p. 1130).

Attitude is mind-set to act in particular way as a response to the objects and situations to which is attitude related and perception (as interpretation situation or stimuli confronted) along with other factors affect the attitude and it is „formed“ prior to the attitude (response if generally speaking) (Pickens, 2005). Sources of real time data could potentially yield invaluable insights to aid rapid policy responses to tackle these types of quickly unfolding crisis periods within strategically targeted policy interventions (Brown & Rocha, 2020, p. 174). The early warning system, scenario planning concept and the lesson learned framework could be used in any organization to strengthen capacity of the state or the enterprise to manage and cope with different crisis that could affect our societies, without exception, including different causes that intensify within global context.

For this reason, it is necessary to have a continuously engaged model of crisis management in every country and company, with a high degree of international coordination - especially when managing the goals of sustainable development and latest science implementation through the use of modern technologies for positive purposes - crisis prevention and management within which processes need to be optimized in an effective way (Tanović *et al.*, 2021, p. 1145). Furthermore, crisis business interventions could enable women to take advantage that business seeks in this specific time, especially in conditions in which digital versus physical interactions accelerate digital acceptance in women preferred business areas. In this regard, women entrepreneurship could be a valuable and potential part of societal health and economic wealth (Šestić *et al.*, 2021, p. 1138). Therefore it is important "to portrait“the gender compliance perception according to the state interventionism measures in sense of their attitudes and further business activities. Above mentioned complexity of direct and indirect crisis impact on society, economy and businesses and especially direct and

indirect repercussions of the state measures impose a need for questioning perception differences of some state benefits beneficiaries' categories, such as entrepreneurs according their gender.

3. Research methodology

The research was conducted in a way that the research instrument was specifically designed and segmented. The questionnaire was fragmented into two general parts and five main segments to cover different aspect of the relation between state and entrepreneurial businesses within crisis period. The first part of the questionnaire refers to the entrepreneurs' features and their approach towards organizational and operational changes caused by the pandemic crisis, and the second part of the questionnaire refers to the entrepreneurs' perceptions towards state intervention measures. The first segment of the questionnaire refers to demographic indicators of business owners and their companies with the aim of clear positioning the research focus on entrepreneurial companies operating within competitive conditions in different businesses areas - in this case the owners are managers also and they "bear" the total value of business risk. The second segment of the questionnaire is focused on an overview of the changes that have taken place in these companies with the aim of surviving in crisis situations, including strategic, organizational and operational aspects of adjustment and change. The third segment focuses on questions related to their assessment of compliance, sensitivity and timeliness of measures undertaken by the state to mitigate the effects of the economic crisis caused by the pandemic COVID 19. The fourth segment of the questionnaire includes questions related to the review on the perception and preferences of entrepreneurs regarding the effectiveness of particular measures implemented by various government institutions and levels in the context of mitigating the effects of the economic crisis caused by the pandemic. And finally the fifth segment calls into question on the impact of the pandemic on personal life of entrepreneurs. This paper focuses on fourth segment mainly, thus the analysis and interpretation of the findings of the conducted empirical research related to examine the entrepreneurial perception of various state interventionism measures in crisis circumstances in terms of gender aspect. The main research proposition is to recognize possible differences in entrepreneurs' perception to the government measures implemented during second wave of pandemic crisis according to the entrepreneurs' gender. The main measures that have taken in consideration during research process are Co-financing the cost of the employee salaries-CoS, Moratorium on credit obligations-MoCO, Benefits on paying taxes-BoPT, Initiation of public works-IoPW and Education and training-EandT.

This research survey was conducted in Bosnia and Herzegovina during October and November 2020 on a sample of 202 respondents. Through the analysis of the main content and structure of the questionnaire, it can be seen that the sample consists of 76 female respondents, therefore woman entrepreneurs and 126 male respondents or male entrepreneurs. In this case, there are two independent/unpaired samples. The research model can be set up as follows $H_0: \mu_1 = \mu_2$ and it is a general null hypothesis and $H_1: \mu_1 \neq \mu_2$ is a general research hypothesis for all examined differences in gender perception. The null hypothesis assumes that the arithmetic means of the female and male populations are equal while the research hypothesis assumes that they are not equal and the above mentioned test can be used to test the above claims. A brief and concrete research conceptual model is proposed on the basis for empirical research with the next set of hypothesis:

H1: There is a statistically significant difference between the compliance perception in terms of Co-financing the cost of the employee salaries, as a measure of state interventionism, for male and female entrepreneurs.

H2: There is a statistically significant difference between the compliance perception regarding to Moratorium on credit obligations, as a measure of state interventionism, for male and female entrepreneurs.

H3: There is a statistically significant difference between the compliance perception regarding to Benefits on paying taxes, as a measure of state interventionism, for male and female entrepreneurs.

H4: There is a statistically significant difference between the compliance perception regarding to Initiation of public works, as a measure of state interventionism, for male and female entrepreneurs.

H5: There is a statistically significant difference between the compliance perception regarding to Education and training for overcoming the negative impact of the pandemic, as a measure of state interventionism, for male and female entrepreneurs.

For the hypothesis testing, we used adequate statistical tools that include independent samples T test for Equality of Means and Levene's Test for Equality of Variances, with the test of Equality Variances and F statistics and its value reading for indicating the significances on gender perception difference/s.

4. Results

The results of testing hypotheses on the equality of arithmetic means of perception in relation to the gender of the entrepreneur - for the measures of government institutions can be seen in Table 1. In the group statistics section, we can read the arithmetic means of the independent samples of men and women in terms of perception related to state aid intervention during the pandemic crisis, with their standard deviation and the size of the standard error.

Table 1. *The means of compliance perception on state measures and entrepreneurs' gender*

| Group Statistics | | | | | |
|------------------|--------|-----|------|----------------|-----------------|
| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
| CoS | Male | 126 | 3,70 | 1,455 | ,130 |
| | Female | 76 | 4,21 | 1,062 | ,122 |
| MoCO | Male | 126 | 3,40 | 1,398 | ,125 |
| | Female | 76 | 3,67 | 1,370 | ,157 |
| BoPT | Male | 126 | 3,69 | 1,450 | ,129 |
| | Female | 76 | 4,13 | 1,075 | ,123 |
| IoPW | Male | 126 | 3,42 | 1,427 | ,127 |
| | Female | 76 | 3,41 | 1,516 | ,174 |
| EandT | Male | 126 | 2,90 | 1,441 | ,128 |
| | Female | 76 | 2,82 | 1,503 | ,172 |

Source: Authors' research

Based on research data presented in Table 1, it can be seen that the average value of perception of male and female entrepreneurs differ regarding the Co-financing the cost of the employee salaries, Moratorium on credit obligations, Benefits on paying taxes, while in relation to the Initiation of public works and Education and training to overcome the negative impact of the pandemic crisis there are almost no difference in average values of perception between entrepreneurs according to gender. The t-test for Equality of Means was used to test the differences in the arithmetic mean values of the perceptions, because through the previous testing of the mentioned variables the normality was tested where based on the size of skew ness and kurtosis it could be concluded that the variables have approximately standard normal distribution and the sample size is suitable to be used according to the central limit theorem propositions. Within the table of independent samples test, the Levene's Test for Equality of Variances can be seen, with the test of Equality Variances and F statistics and its significance. The results of the abovementioned testing of hypotheses on the equality of arithmetic means regarding the perception of entrepreneurs on the measures of government institutions can be seen in Table 2.

Table 2. Testing statistical significance of gender perception differences regarding state interventionism measures

| | | Independent Samples Test | | | | | | | | |
|-------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|-------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | T | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper | |
| CoS | Equal variances assumed | 14,260 | ,000 | -2,669 | 200 | ,008 | -,512 | ,192 | -,891 | -,134 |
| | Equal variances not assumed | | | -2,879 | 192,702 | ,004 | -,512 | ,178 | -,863 | -,161 |
| MoCO | Equal variances assumed | ,140 | ,709 | -1,321 | 200 | ,188 | -,266 | ,202 | -,664 | ,131 |
| | Equal variances not assumed | | | -1,328 | 160,761 | ,186 | -,266 | ,201 | -,662 | ,130 |
| BoPT | Equal variances assumed | 15,407 | ,000 | -2,297 | 200 | ,023 | -,441 | ,192 | -,820 | -,062 |
| | Equal variances not assumed | | | -2,470 | 191,546 | ,014 | -,441 | ,179 | -,793 | -,089 |
| IoPW | Equal variances assumed | ,829 | ,364 | ,060 | 200 | ,952 | ,013 | ,212 | -,406 | ,431 |
| | Equal variances not assumed | | | ,059 | 150,796 | ,953 | ,013 | ,215 | -,413 | ,438 |
| EandT | Equal variances assumed | ,392 | ,532 | ,381 | 200 | ,704 | ,081 | ,213 | -,338 | ,501 |
| | Equal variances not assumed | | | ,377 | 153,026 | ,707 | ,081 | ,215 | -,344 | ,506 |

Source: Authors' research

As shown in Table 2, the average value of the compliance perception for male entrepreneurs regarding the Co-financing the cost of the employee salaries implemented by government institutions is 3.70, while the value for female entrepreneurs is quite more positive 4.21. This difference in the compliance perception is the statistically significant because the size of sig = 0.000 by Levene's Test for Equality of Variances is less than 0.05 so that the similarity of the size of the sample variances cannot be assumed and consequently it can be seen that the size of sig = 0.04 of t-test is lesser than 0.05 - it means that for this item the difference is statistically significant and confirms that the difference evidently exists – therefore the hypothesis of equality of arithmetic means in the sample is rejected and this research hypothesis is accepted. The compliance perception regarding the Moratorium on credit obligations (measures implemented by the institutions in Bosnia and Herzegovina) shows that male entrepreneurs have an average value of 3.40, while female entrepreneurs have slightly more positive perception and it is 3.67 and this difference is not statistically significant; Levene's Test for Equality of Variances sig = 0.709 and it is greater than 0.05; for the t-test it can be read that sig = 0.188 which is higher than 0.05 so that the difference is not significant - it means that the hypothesis of equality of arithmetic means in the sample can be accepted and this research hypothesis is rejected.

Referring to the compliance perception for Benefits on paying taxes values for male entrepreneurs as 3.69, while the value for female entrepreneurs is quite more positive 4.13; there is a difference in the compliance perception and the difference is statistically significant because the size of sig = 0.000 by Levene's Test for Equality of Variances is less than 0.05; the similarity of the size of the sample variances cannot be assumed and the size of sig = 0.023 of t-test is lesser than 0.05 - in this case the difference is statistically significant and confirm that the difference evidently exists, so the hypothesis of equality of arithmetic means is rejected and this research hypothesis is accepted. The compliance perception for both Initiation of public works and Education and training for overcoming the negative impact of the pandemic, for gender differences - it could be concluded that the average grades are rather lower and very similar - there are no statistically significant differences between male and female entrepreneurs' perceptions.

5. Discussion

Insights of the research sample, according to the rest of research instrument segments, reveal the preferences of female entrepreneurs towards certain types of business and on the other hand also their distancing from certain types of business. The first segment of the survey expose that female entrepreneurs prefers certain service oriented businesses – they prefer trade, education and some types of engineering, while they are negligibly or not at all represented in the construction businesses. According to the data from second segment of questionnaire where respondents were asked to express their attitudes or opinions regarding possible strategies related to the introduction of new technology, organic growth, inorganic growth strategy, structural changes, changes in their business models: this preference for female entrepreneurs is scored at 7.09 towards changes on average and at a higher level compared to male entrepreneurs of 6.67; the stated differences are not statistically significant. In the third segment of the research questionnaire items concerns the relationship of entrepreneurs regarding their compliance perception towards state intervention measures implemented to reduce the negative consequences caused by the pandemic crisis, there is a significant difference in compliance perception regarding some of the state measures in sense of harmonization, sensitivity and timeliness according to the entrepreneurs gender perception.

Based on gathered data, it can be said that there is a difference in the average value of the compliance perception of male and female entrepreneurs: there are significant differences in areas of Co-financing and paying taxes issues but with female entrepreneurs' recognisable higher satisfaction, findings based on fourth segment. Finally, the fifth segment which is taking in consideration perceptions related to changes in the organization of personal life caused by the COVID-19 pandemic are statistically significant and more strongly expressed in women, where female entrepreneurs score is 4.14 compared to average score of male entrepreneurs 3.74, which indicates that the crisis has put a higher level of pressure on change in the personal life of female entrepreneurs, which could be related to the cultural context in Bosnia and Herzegovina. On the other hand, gender differences in the compliance perceptions for some implemented government measures could be interpreted in the way of understanding the „patriarchal mental background“ of male entrepreneurs with a lower degree of tolerance as their families welfare strongly tied to survival for the businesses they run.

6. Conclusions

In the future to come, policy decision makers, business decision makers related to economic policy as well as business owners affected by the policies will have to cooperate significantly more to seek optimal solutions to the situations of unpredictability for certain phenomena that may occur within different segments of the business environment. Various management disciplines continuously provide business and entrepreneurship with decisions related to various issues for business optimization – therefore policy decision makers will permanently have to analyse the environment and use methods such as early warning systems, risk management, scenario planning concept and strategic management with the aim of adjusting management parameters to optimal settings for avoiding duplication, wasting time and resources or creating „bottlenecks“ in the national economy. Thus the policies that will be adopted in the coming period will need to be transparent and sensitive to different categories of supplementary benefit recipients and their interests, to generate sensitive policies that take into account all underrepresented categories in business. All those in the decision-making chain will have to take into account the causal links of their actions, including the identification of various indicators based on which to ensure follow-up monitoring of the implementation of decisions over time, when creating and implementing different instruments of economic policy.

Abovementioned should be done in order to raise the security and standard of citizens in all spheres of human activity, whether it is the private or public sector, small or large systems within different industries and business areas. In order to make right decisions, decision makers will have to use scientific methods that will rationalize intuitive political issues and intentions in an acceptable and explainable way.

What needs to be taken as a lesson from a slowly declining but still ongoing crisis is the specific knowledge and civilizational legacy that economies, societies and individuals experienced during decision-making at critical moments trying to make optimal balance between human health, as the main prerequisite, and the health of economy and businesses.

The research explained above confirmed that there are significant differences in the perception of entrepreneurial satisfaction according to the gender in the context of state intervention measures for entrepreneurs, which suggests the logic that even more significant differences could be expected in the satisfaction between public and private sector management and employees or in the production and service sector.

In the future should be the rule selective, adaptive and sensitive state hybrid intervention measures harnessing at all times with clear criteria on the basis of which support is given and indicators on the basis of which their effects are measured in order to optimize, rationalize and increase the competitiveness of the national economy in an ethical acceptable way.

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RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND THE LOCAL COMMUNITY

UTJECAJ DRUŠTVENO ODGOVOROG POSLOVANJA PREDUZEĆA NA LOKALNU ZAJEDNICU

Abstract

Corporate social responsibility is a concept that has become the dominant approach in conducting business on a global scale, including Bosnia and Herzegovina. Corporate social responsibility is a way of doing business in which companies undertake various types of activities that will positively affect society as a whole, the environment, the local community, its employees, and other stakeholders. The main goal of this paper is to investigate and analyze the relationship of corporate social responsibility in Bosnia and Herzegovina on the local community, as primary stakeholders of a company. An empirical study was conducted to examine the relationship between enterprises in Bosnia and Herzegovina and the local community, aiming at the relationship of corporate social responsible activities of a company towards the local community, on its development. The research was conducted using a survey questionnaire on a sample of 30 companies from all over Bosnia and Herzegovina.

Keywords: corporate social responsibility, stakeholders, local community

JEL: M14

Sažetak

Društveno odgovorno poslovanje preduzeća predstavlja koncept koji je postao dominantan pristup u poslovanju preduzeća u svijetu ali i u Bosni i Hercegovini. Društveno odgovorno poslovanje predstavlja način poslovanja u kojem preduzeća preduzimaju razne vrste aktivnosti koje će u pozitivnoj mjeri utjecati na društvo u cjelini, na okoliš, na lokalnu zajednicu, na svoje uposlenike, te druge interesne grupe. Osnovni cilj ovog rada je istražiti i analizirati utjecaj društveno odgovornog poslovanja preduzeća u Bosni i Hercegovini na lokalnu zajednicu, kao primarnu interesnu grupu svakog preduzeća. Provedeno je empirijsko istraživanje kako bi se ispitao odnos između preduzeća u Bosni i Hercegovini i lokalne zajednice, odnosno utjecaj koje društveno odgovorne aktivnosti usmjerene prema lokalnoj zajednici imaju na razvoj iste. Istraživanje je provedeno pomoću anketnog upitnika među kompanijama u BiH, na uzorku od 30 kompanija iz cijele Bosne i Hercegovine.

Ključne riječi: društveno odgovorno poslovanje, interesne grupe, lokalna zajednica

JEL: M14

1. Introduction

Corporate social responsibility is an area of scientific interest that studies the way companies do business in which they take various types of activities that will positively affect society as a whole,

the environment, employees, the local community, *etc.* Corporate social responsibility itself is a broad concept that covers many business issues of the company itself as well as the relationship of the company to society. Doing business in a time of globalization and the increasing demand of the public and customers towards companies to use their influence and strength on the well-being of the society in which they operate leads to increasing growth in the importance of corporate social responsibility. Accordingly, the concept of corporate social responsibility is becoming significant for solving global challenges in the future (Mallin, 2009, p. 126). Employees in companies, business partners, and customers are increasingly focusing their attention on the spheres of corporate social responsibility. Corporate social responsibility can be explained as a way in which companies achieve business goals but by the principles of sustainable development, which means that corporate social responsibility is a constant commitment of companies to ethical behavior and economic development while improving the qualities of employees, their families and the local community and society as a whole (Mukherjee, Bird & Duppati, 2018, p.254). When making business decisions, each socially responsible business also takes into account the comprehensive impact on the local community and the environment (Vlastelica, Cicvarić & Nesković, 2015, p.48).

The economic and business justification of the concept of corporate social responsibility has already been confirmed in practice and literature. Businesses that adopt this concept have multiple benefits in their business such as the impact on corporate image and reputation, impact on brand perception, easier attracting of new customers and, the loyalty of existing ones. Businesses with the concept of corporate social responsibility have a better influence on the working environment, on improving the quality of their products and services, better financial performance, *etc.* (Vlastelica, Krstović & Cicvarić, 2012, p.196). According to Budde (2008, p.62), companies contribute to improving the qualities of the local community in which they operate through environmental protection, respect for adopted legal norms, activities aimed at developing the local community, reducing poverty, creating new jobs and development chances in less developed communities. The impact of corporate social responsibility on the local community is reflected in the closer cooperation between companies and the local community in terms of cooperation in the progress and development of the local community, supporting projects in the fields of culture, health, education, and various philanthropic activities, thus building a better reputation in public and supporting the development of the local community in which they operate (Maimunah, 2009, p. 205).

The general aim of the research is to provide a view of certain professional and scientific papers dealing with the topic of corporate social responsibility with special attention to the connection with the local community. The subject of the research is to present the application of the concept of cooperation and investment in the local community among companies in BiH, on a sample of 30 companies from all over Bosnia and Herzegovina. Following the stated research goals, the following hypothesis H1 has been defined: Companies in Bosnia and Herzegovina invest in the local community in which they operate. This means that businesses in Bosnia and Herzegovina understand the principle of corporate social responsibility and the importance of investing and cooperating with the local community in which the business exists.

The work is conceived as follows. After the introduction, the second chapter gives a brief overview of the literature and theoretical framework for research on the topic. The third chapter concerns the methodology of the research, and the fourth chapter presents the results of the research and their interpretation. In the final chapter, the conclusion is derived from research, limitation during research as well as recommendations for further research.

2. Literature review

Corporate social responsibility is not easy to define, since the concept of corporate social responsibility has been developing for several decades through research of academia and practice,

and different authors have given their opinions and created various approaches to the implementation of corporate social responsibility. However, several very important approaches stand out. Friedman (1970, p.32) noted in his article, which was published in the New York Times Magazine, that managers have only one task and that is to increase profits for shareholders. Freeman (1984) introduces into development a stakeholder theory that will make a huge impact on the development of corporate social responsibility. When making decisions, managers should take into account not only the interest of shareholders but also the interests of the above social groups on which the business depends. It outlines a new approach and new tools and techniques for managers that can better understand management in stakeholder relationships. His book introduced a new theory and strategic categorization about what it means to be an effective manager by establishing a stakeholder group-level analysis of the company. This theory was called stakeholder theory by Freeman or known in our country as shareholder theory. The approach to this theory starts from the notion that the company exists not only because of the owner but also because of all those who add values or resources to the chain so that the company can function more successfully in the market. More exactly, the companies are networked into a system for which its role in a broader context is crucial (Omazić, 2008, p.323). Interest-influential groups or stakeholders are most often divided into primary and secondary groups. However, this division also depends on the development of the company, the national circumstances of the company in which the company operates, and many other factors.

According to Hopkins (2003, p.18), we can also look at the division into primary and secondary stakeholders as follows, by considering under the primary those without whose continued contribution the company's business would be at risk. This includes owners (shareholders), investors, suppliers, customers, employees. As well as those defined by interest groups such as the Government, the local community that provide essential infrastructure, markets, laws, and regulation.

The EU Commission also discusses the importance of corporate social responsibility in its reports, that this way of doing business is important for achieving the strategic goals of the European Union, all to improve the competitiveness in the world. In its 2001 reports and in a 2005 report entitled "Green Report", corporate social responsibility is defined as the activity of a company defined by law and contracts, as well as activities such as investing in human resources, protecting the environment, and improving relations with interest groups in general. In this report, the EU Commission divides corporate social responsibility into two dimensions, both internally and externally.

The internal dimension includes :

- *Investments in human resources* that include hiring talented employees, reducing discrimination, implementing policies that will ensure work-life balance for employees, codes of ethics, respect for diversity, taking into account the health of employees, etc.
- *Adapting to changes*, which is to keep account of the interests of all groups that may be affected when restructured the business. Especially referring to the dismissal of workers when restructured the advance.
- *Rational use of bulk and energy* and preservation of non-renewable natural resources for the use of future generations.

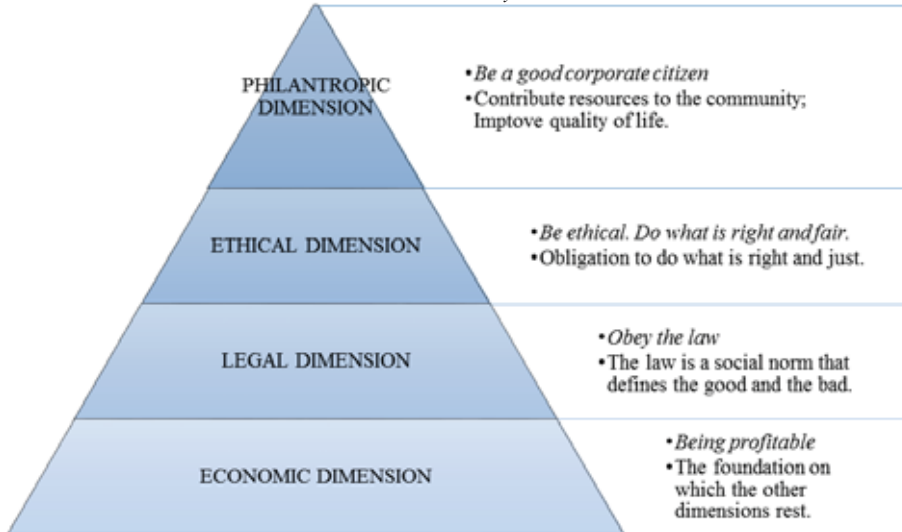
The external dimension includes the following corporate social responsibility factors:

- Development of the local community. Education and scholarships for young people, an adaptation of services or products for populations with special needs. The development of the local community involves participating in campaigns that do the public good, and campaigns that promote health and healthy living, sports, and the development of the local community, volunteering, development, and party with the local community to improving development, etc.

- Improving relations with business partners, suppliers, and customers. This means protecting consumer rights, supporting development for suppliers, prohibiting the exploitation and employment of children, avoiding corruption, responsible advertising, *etc.*
- Respect for human rights. The right to life, to human dignity, freedom of assembly and association, *etc.*
- Environmental protection that involves the application of healthy technologies, recycling of waste, participation in environmental campaigns, *etc.*

The literature most often mentions the economic, legal, ethical, and philanthropic dimensions (Table 1).

Table 1. Pyramid CSR



Source: Pyramid CSR according to Carroll (1979), p. 42

The economic dimension or economic responsibility is the first step of social responsibility in the above pyramid. The economic dimension represents the condition for the work and livelihood of business entities.

The legal dimension is the second step on the pyramid of social responsibility. In addition to acting to maximize profits, the company is expected to comply with regulations and laws adopted by the authorities as rules for the functioning of the business.

The moral dimension is third in the ranking of the pyramid of corporate social responsibility. The application of ethics or fundamental values in society is what precedes the establishment of the law. Ethics is what's called the driving force behind creating laws and regulations. Environmental protection, civil rights, for example, indicate social values and responsibilities.

The philanthropic dimension on the pyramid of corporate social responsibility represents the activities of the company as a "good corporate citizen". This represents active participation in programs that result in human well-being. Examples of philanthropy include contributions in the form of financial contributions and time to the local community, the arts, education, *etc.* The main difference between philanthropic and ethical responsibility is that the company does not commit to being philanthropic. Each community wants businesses to contribute either through money, equipment, or time of employees in humanitarian and similar projects, but they do not consider them unethical if the company does not. Thus, philanthropy is based voluntarily, highly desirable, and valued in the community, but intrinsically a little less important than the previous three dimensions on the pyramid of corporate social responsibility.

The local community belongs to the external dimension of society. The local community consists of people and the natural environment (environment), as well as the interaction between members of the local community and their attitude towards the natural environment. The very attitude of the company towards the local community is the core of the concept of corporate social responsibility because the purpose of the company is to operate in the interests of society. Companies can have a positive or negative effect on the local community, and in this interaction, the local community can, through legal representatives and other activities, retaliate against the company itself. That is why the imperative is imposed as necessary for the company to gain the trust of the local community and therefore an easier and more successful business. In this process, the company involves the local community in its business activities and invests in growth and development and local communities. The purpose of the development of the local community is to grow, develop and raise the quality of life and therefore to create better advances for the more successful business of the company itself. Carroll (1991,p.39) points out that the public and society as a whole are increasingly paying attention to the company that presents itself and acts as socially responsible and their influence on the environment.

The biggest obstacle to the development of the local community is the lack of financial resources. For this reason, cooperation with other local communities, the state, and companies becomes necessary. According to Grujic (2019,p 145), investing in the local community implies the goal of improving the quality of life, and thus financial investments are mainly directed to members of the local community with lower incomes, the poor, and those who need to improve their quality of life. Investments and cooperation begin with local community initiatives through projects and partnerships with the company. According to Barnett (2007,p.798), some companies focus only on certain segments such as environmental protection or human rights protection, while some companies focus on improving all socioeconomic parameters in the local community. Some companies are engaged in the local community through philanthropic activities, fundraisers, and donations, while the most prevalent way is to apply good practice in the field of environmental protection. Cochran (2007,p 451) believes that local communities are very important in the development of society and play a role in contributing to the corporate social responsibility strategy in connecting with the goals of the local community. According to Lyons (2015), the development of the local community is influenced primarily by investing in human capital through personnel training than through the expansion of the company's business by creating new jobs, and the best effect of investing in the local community is seen through reducing the departure of young and educated people, reducing the degree of poverty, increasing employment, *etc.* In the research conducted by Camilieri (2017), companies most often invest in the following areas:

- Job creation,
- Business improvement,
- Organizing various training, courses, and seminars,
- Investing in community culture, health, and education,
- Encouragement of entrepreneurialism,
- Encouraging innovation,
- Investment in infrastructure.

According to Owen (2007), there are many advantages that the business has by investing and cooperating with the local community, such as:

- Improving the business image and reputation of the business.
- Defining and aligning socially responsible strategies with the business goals.
- Encouraging philanthropy in employees.
- Creating partnerships with NGOs, representatives of local communities, other companies, government agencies, *etc.*
- Measurement and reporting on investment in the local community.

Thus, each company is specifically committed to the extent to which and how it will support the local community through activities and projects. It is precisely the organizational culture, the size of the company, the characteristics of the economic branch in which it operates, that the requirements of stakeholders represent a manner and a difference in the way the company is engaged in the local community. The success of investments in the local community and such projects largely depends on the intensity of direct cooperation between the business and the local community and is based on the recognition of companies about the needs and problems of the local community.

3. Research methodology

The study was conducted using the study technique through a telephone interview (93.33% of the usable response rate). The empirical part of the research was carried out on a sample of 30 cases from all over Bosnia and Herzegovina. The basis for structuring the sample was data from the register of the Directorate for Indirect Taxation of Bosnia and Herzegovina, the Financial information agency of the Federation of BiH and the Business Register of Republika Srpska as well as the publication Good Practices of Corporate Social Responsibility in BiH. Using this data, a proportional stratified sample was created according to the criteria of small, medium, and large companies. Interviewed representatives of the company answered questions regarding different areas of activity in corporate social responsibility in the local community. The results were analyzed using descriptive statistics using STATA and Excel. The Liqueur scale was used to measure respondents' perceptions of the social responsibility of the company in the local community.

4. Research results and discussion

The results of the survey showed that as many as 96.67% of respondents know what corporate social responsibility means and what CSR activities are directed towards the local community (Table 2).

Table 2. *Do you know what CRS and activities towards the local community entail?*

| Question | Yes | No |
|--|--------|-------|
| <i>Do you know what CRS and activities towards the local community entail?</i> | 96.67% | 3.33% |

Source: Authors' research

When asked if their company was distinguished by a high degree of corporate social responsibility, as many as 83.33% of the company's representatives said they fully agreed with the claim (Tabela 3).

Table 3. *Our company is characterized by high degree of CSR*

| Question | <i>I agree completely</i> | <i>I agree</i> | <i>Neither</i> | <i>I disagree</i> | <i>Fully disagree</i> |
|---|---------------------------|----------------|----------------|-------------------|-----------------------|
| <i>Our company is characterized by high degree of CSR</i> | 83.33% | 16.66% | 0% | 0% | 0% |

Source: Authors' research

Furthermore in the study, it was offered to companies to describe what activities they carry out according to the local community. As the chart shows (Chart 1), as many as 53.33% of companies responded that it provides financial and other forms of support for events in the fields of sports, history, and culture. 46.67% of companies responded positively to support and participation in humanitarian actions. Participation in projects dealing with environmental protection 43.33%, various forms of donations to NGOs and individuals 40.00% of companies.

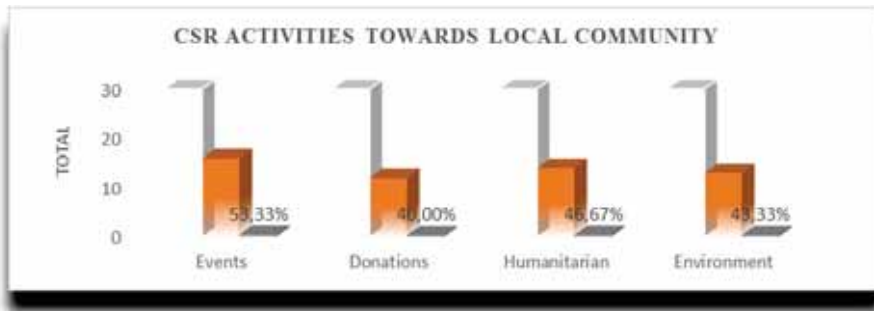


Chart 1. CSR activities towards local community

Source: Authors' research

The above results of the research are in line with the Philanthropic Dimension on the Pyramid of Corporate Social Responsibility according to Carroll and show that businesses in Bosnia and Herzegovina participate in programs that result in human well-being. By their resources, the advances seek to be a "good corporate citizen" as we can see in the results shown above. Also on Chart 1, it is noted that the main focus of companies in Bosnia and Herzegovina is on philanthropic activities and sponsorships, and projects dealing with the protection of the environment.

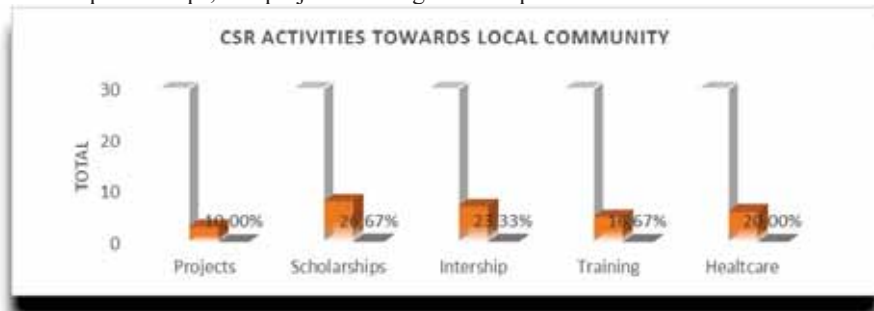


Chart 2. CSR activities towards local community

Source: Authors' research

Below describing the activities that companies carry out towards the local community (Chart 2), the results showed that 26.67% of companies participate in some form of scholarships for gifted students or children with poorer assets. The possibility of traineeships, organization of various training, courses or seminars is organized by 23.33%, and additional training by 16.67% of the company. For participation in projects for helping health institutions, 20.00% of companies responded positively, while only 10.00% of companies responded positively to independently organize some aspects of projects in the local community. From the above results, we can conclude that to some extent they are in line with the research conducted by Camilieri (2017).

Based on the results presented in the charts, we can conclude that there is a lack of engagement and activities that focus on stimulating entrepreneurialism and investing in innovation. It can be concluded that companies in Bosnia and Herzegovina generally consider the concept of investing in the local community as various forms of one-time financial assistance (sponsorship of cultural and sports events, donations in money and equipment to hospitals, schools, etc.). When asked if they believe that CSR activities create a connection with the local community and whether the local community benefits from corporate social responsibility, 46.66% of companies fully agree.

Table 4. *The local community has a high degree of benefit from CSR*

| Question | <i>I agree completely</i> | <i>I agree</i> | <i>Neither</i> | <i>I disagree</i> | <i>Fully disagree</i> |
|--|---------------------------|----------------|----------------|-------------------|-----------------------|
| <i>The local community has a high degree of benefit from CSR</i> | 46.66% | 33.33% | 20.01% | 0% | 0% |

Source: Authors' research

This indicates that the concept of CSR is primarily understood as a good way for the company to build a good image in the public eye and that the company in Bosnia and Herzegovina does not have developed ways of measuring results and reporting on investment in the local community.

During the research, it was not noticed that companies have special departments that are in charge of cooperation with the local community, which as such would represent the basic link between the business of the company and the local community. Therefore, they do not have feedback mechanisms implemented, so that the company can regularly receive, monitor, and respond to questions or possible complaints from members of the local community. In this way, they would be able to quickly and transparently solve potential problems, monitor business performance, as well as the demands and wishes of members of the local community.

This paper pre-defined hypothesis H1: Companies in Bosnia and Herzegovina invest in the local community in which they operate. Already when reviewing the results, it is evident that companies in Bosnia and Herzegovina are active in the local community and participate to some extent in the activities of the local community. After conducting research and analyzing the results received, we can conclude that companies in Bosnia and Herzegovina understand the principle of corporate social responsibility as well as the importance of investing and cooperation with the local community in which companies exist and confirm the definite hypothesis.

5. Conclusions

The paper presents a view of certain professional and scientific papers dealing with the topic of corporate social responsibility with special attention to the local community. The subject of the research was presented through the results of the empirical part of the research. From the above, we can conclude that modern business requires new approaches. Corporate social responsibility is a modern approach that also takes into account the connection with society and the environment. Corporate social responsibility should be seen as a long-term process oriented towards the future, which requires innovation and changes in the way we do business. Companies belong to and are an integral part of the local community in which they operate and as such have an impact on the economic and social development of the local community. Through various types of activities, businesses can contribute to improving the quality of life in the local community and thus improve the business of the company itself. Activities of companies that recognize the principle of corporate social responsibility and that are aimed at the local community, usually come down to philanthropy and as a form of support for cultural and sports events organized in the local community. Businesses in Bosnia and Herzegovina are very few and rarely start and organize activities towards the local community on their own. The initiative to cooperate through various forms of partnership and strategy through the subset of entrepreneurialism or innovation still does not exist.

The limitation of research refers to the fact that companies in Bosnia and Herzegovina very rarely respond to questionnaires sent by e-mail, and that there are rarely departments in charge of cooperation with the local community in companies. For these reasons, it is more difficult to monitor the activities of the companies themselves related to corporate social responsibility and activities aimed at the local community. This leads to a lack of feedback and adequate monitoring of performance, which complicates and limits research results.

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CONNECTION BETWEEN CORPORATE BRAND AND EMPLOYEE SATISFACTION

POVEZANOST KORPORATIVNOG BRENDA I ZADOVOLJSTVA ZAPOSLENIKA

Abstract

Employees are the key resources of any organization, especially in the service sectors. It is increasingly important to attract young talents, but also to keep quality and loyal employees. Employee satisfaction is influenced by different factors, from material and intangible compensations, the quality of the working environment to increasingly important, the image and reputation of the company itself. It is believed that companies who have built a strong brand, ensure a competitive advantage not only through customer loyalty, but also through the satisfaction of their employees. In this research, the primary goal is to determine if there exists a connection between the corporate brand and employee job satisfaction. In the primary research, we are using the survey questionnaire as a form for data collection, the research will be conducted on a sample composed of microfinance institutions that are spatially dispersed in the territory of Bosnia and Herzegovina.

Keywords: corporate brand, employee satisfaction

JEL: M10, M29, M39

Sažetak

Zaposlenici predstavljaju ključne resurse svake organizacije, a posebno u uslužnim sektorima. Sve je važnije privući mlade talente ali i zadržati kvalitetne i lojalne zaposlenike. Na zadovoljstvo zaposlenika utječu različiti faktori, od materijalnih i nematerijalnih kompenzacija, kvalitete radnog okruženja pa do, u posljednje vrijeme sve važnijeg, brenda samog preduzeća. Naime, smatra se da preduzeća koja imaju izgrađen jak brend, osiguravaju konkurentsku prednost ne samo kroz lojalnost kupaca već i kroz zadovoljstvo svojih zaposlenika. U ovom istraživanju primarni cilj je utvrditi da li postoji povezanost korporativnog brenda i zadovoljstva zaposlenika poslom. Korporativni brend će se posmatrati kroz tri elementa: interno upravljanje brendom, odgovorno predstavljanje brenda i posvećenost brendu. U sklopu primarnog istraživanja, koristeći anketni upitnik kao obrazac za prikupljanje podataka, istraživanje će se provesti na slučajnom uzorku sastavljenom od mikro kreditnih organizacija koje su prostorno disperzirane na teritoriji Bosne i Hercegovine.

Ključne riječi: korporativni brend, zadovoljstvo zaposlenika

JEL: M10, M29, M39

1. Introduction

Trust and loyalty to a brand today does not only depend on the company logo, advertising and sponsorships. Today, it is much more important how employees in the company communicate with other interest groups, in all forms. The value of a company's brand is in the eyes of clients, customers and business partners, and we can say that today employees are actually a company's brand. Of course it is very important to invest in the website, advertising and marketing function, which is in charge of creating value for customers and clients. The true value of a brand is in the experience of customers and clients, in what they will remember and tell others about the company and products or services. The most important value of a brand today is what customers tell their acquaintances about the company's brand. The corporate brand combines functional and emotional values, which means a unique experience for users. The corporate brand should be based on the core values and culture of the company. Core values should add value to customers in the target segment (Urde, 2003, p. 1025). Employees are very important in building a corporate brand since they are the first to communicate with business partners and customers, they know the values of the corporate brand, so trust between these stakeholders is crucial. In order for employees to be able to present key values in communication, they must first of all trust, work and live the company's brand, they must be satisfied with the work they do. Internal actors are an important source of competitive advantage, especially in the services sector. There is a lack of studies that simultaneously analyse the effects of brand identity management and social responsibility from an employee perspective (Arendt & Brettel, 2010, p.1480).

In microfinance institutions, closeness and trust between loan officers and clients is essential. It is very important how employees will present the microfinance institutions to clients, through their own behaviour. In order for employees to retain a client through their work, they need to feel a certain degree of closeness to the brand values of the organization. Through this research, the main goal is to determine whether the corporate brand of microfinance institutions is related to employee satisfaction, because only satisfied employees will be able to fully represent the brand values of the microfinance institutions. The subject of the research are credit officers of microfinance institutions in Bosnia and Herzegovina.

In this paper, the corporate brand will be viewed through three factors that will be related to employee satisfaction. The three basic elements that will be observed and evaluated by employees are internal brand management, responsible brand representation and brand commitment. The idea of internal brand management emerged as the idea that employees, as internal users, should be satisfied with the company. This means that employees are aware of the company's vision, that they work in accordance with the vision, and that it is clear to them what the best way to communicate with clients is and how to present the company, themselves and the company's services. According to Burmann and Zeplin (2005, p. 283) internal brand management consists of three levels.

The work of Nouri *et al.* (2016, p. 7), was used as a theoretical inspiration for this research, who through their research identified the relationship between internal brand management, responsible brand representation and customer satisfaction in the banking sector. To examine employee satisfaction, the form of questions from a previous study by Homburg and Stock (2004, p. 155) was used, who in their research observed the relationship between job satisfaction of salesmen and customer satisfaction. Other studies dealing with similar topics show that this topic is important. Davies *et al.* (2017) in their paper examine the impact of employee characteristics, such as age, gender, role and experience, on the effects of an employer's brand image, on employee satisfaction and engagement. The results showed that satisfaction partially affects the corporate brand.

2. Literature Review

Corporate branding is a systemic process of a company whose goal is to create a favourable brand image and maintain the brand reputation through interaction with internal and external stakeholders (Chang, Chiang & Han, 2015, p. 121). Corporate branding includes practices throughout the organization that contribute to corporate identity (Melewar & Karaosmanoglu, 2006, p. 848). Corporate branding includes intangible elements that are not directly related to the company's product or services. The intangible elements of a corporate brand are social responsibility, employee relations and corporate trust. A corporate brand is created not only for customers and clients, but also for other interest groups. Corporate branding is not tied to one particular product or service, but unites the shared values and quality of a company's products, relationships with people, social values, and corporate reputation (Keller, 2003, p. 232).

The brand building process begins with identifying the core values of the brand, which drive the attitudes and behaviours of business customers. The value of a brand in the business market is built through the functional characteristics and performance of the product, which has the consequence that customers are interested in the best solutions to their problems through the given products or services. Changes in the business market have led manufacturers to shift the focus in creating a brand from its functional characteristics to emotional characteristics such as trust, feelings, security (Lynch & De Chernatony, 2004, p. 406). The emotional values of the brand last longer and are less endangered by the activities of the competition.

Instead of insisting solely on the functional or emotional values of a brand, a better approach to creating corporate brand values is to unite both functional and emotional values, which together guarantee the delivery of a unique experience to customers. This is especially important to emphasize in communicating this value. This achieves a differentiated, personal and strong brand position in the market. Giving additional value to customers includes a holistic approach, transparent communication and a socially responsible attitude of the company (Gligorijević & Janičić, 2011, p. 288). Therefore, we can see that the role of employees is of great importance for building and maintaining a brand.

According to Burmann and Zeplin (2005, p. 283) internal brand management consists of three levels. The first level refers to human resource management, which is based on connecting the company brand and with the advancement of employees through education and understanding of the company brand identity. The second level of internal brand management refers to strengthening brand awareness among employees through awareness creation and internal communication. The last level of internal brand management is brand leadership, which refers to the fact that employees live the brand, at all levels of the company. Brand citizenship behaviour is the overall structure of employee behaviour that aims to strengthen brand identity through voluntary activities of employees, and which includes behaviour that is outside the defined official duties (Porricelli *et al.*, 2014, p. 748). For example, an employee who is loyal and responsible to the company in private conversations, outside of work, speaks to his friends on his own initiative about the company, services and products. Burmann, Zeplin and Riley (2009, p. 269) presented responsible brand representation in three dimensions: brand acceptance, brand enthusiasm, and personal brand development. Brand acceptance implies empathy with others because of the company brand. Brand enthusiasm or enthusiasm means that employees are willing to do additional work because of the company's brand. Personal development of the brand refers to the willingness of employees to improve and adopt knowledge that is related to the brand of the company.

Commitment to the organization implies the involvement and interference of employees in the goals of the organization and their interest in continuing to work in the organization. Organizational commitment can be defined as a sense of belonging to an organization and a sense of responsibility

toward the organization's goals (Ng & Feldman, 2011, p. 533). Brand commitment can be defined as the mental attachment of employees to the brand, the tendency of employees towards the brand and the aspiration to achieve the goals and strategy of the brand. Creating a brand commitment concept is an important element in strengthening and succeeding an internal brand (Ahn, Kim & Lee, 2016, p. 21).

Job satisfaction implies the feelings of employees. If their feelings are positive or optimistic, they feel emotionally attached to the job, that is, employees are satisfied with their current job. Job satisfaction is an optimistic feeling of employees when doing work, when the realization of business values leads to job satisfaction (Cronley & Kim, 2017, p. 197). Extensive studies indicate that job satisfaction plays a key role in work performance. Researchers divided job satisfaction into two main categories: general satisfaction and specific satisfaction. General satisfaction, which is called total satisfaction, is defined as an overall assessment of a person's feelings towards their job. Specific satisfaction determined by various elements of the job, such as working conditions, salary, relationships with colleagues and the supervisor, organizational policy, and the nature of the job itself (Drummond & Stoddard, 1991, p. 1117). According to Bai *et al.* (2006, p. 40), job satisfaction and quality of internal service have positive links with organizational commitment, which is of great importance for service companies striving for competitive advantage. Companies are increasingly looking for new ways to attract highly qualified employees, and are becoming increasingly aware of the importance of their brand. Fombrun and Shanley (1990, p. 241) list many benefits that a good brand can create for an organization. One of these benefits is that organizations with a better brand or reputation can benefit from attracting better job candidates. Gatewood *et al.* (1993, p. 419) concluded that perceptions of corporate image are significantly associated with these intentions.

According to Robbins and Judge (2013, p. 321), there are four ways in which employees can express their dissatisfaction: 1) leaving or behaving when leaving the organization, including seeking a new position and resigning; 2) aspirations that seek to improve the situation, including making suggestions for improvement, discussing problems with superiors and union activities; 3) loyalty, which is passive but optimistic, including the defines of the organization; and 4) neglect, which means passively allowing the situation to worsen, including continuous absence or delay, reduced performance, and increased errors. Job satisfaction can be improved to achieve maximum work results. Earlier research (Homburg & Stock, 2004, p. 155) shows that, regardless of the type of company, employee satisfaction with work in itself affects customer satisfaction, and the research recorded evidence of the great importance of the role of employees. Elements of this research were also used as a theoretical basis in our research. Analysing the brand of the employer, Ambler and Barrow (1996, p. 190), as the main research question, emphasize the application of the principles of branding and marketing, within the function of human resource management, in order to improve the company's business results. The conducted study indicates the positive impact of the employer's branding strategy on the business of companies, which should be an example for microcredit organizations as well.

3. Research methodology

The focus of this research is two variables: corporate brand (independent variable) and employee satisfaction (dependent variable). The aim of the research was to determine the connection between the corporate brand and employee satisfaction in microcredit organizations in Bosnia and Herzegovina. The corporate brand is viewed through three elements: internal brand management, responsible brand representation and brand commitment. The work of Nouri *et al.* (2016, p. 7) was used as a theoretical inspiration for this research, and a form of questions from a previous study by Homburg and Stock (2004, p. 155) was used to examine employee satisfaction. Empirical research was conducted on the basis of primary data collection through online research, using a structured

survey questionnaire as a form for data collection. Respondents were employees of microfinance institutions in B&H. Data collection was performed on the basis of a random sample. Based on the report of the Banking Agency of the Federation of Bosnia and Herzegovina and the Banking Agency of the Republic of Srpska, the number of microfinance institutions was determined. According to the latest available report (Banking Agency of Bosnia and Herzegovina) from 2017, there are a total of 12 registered microfinance institutions (MFIs) in FB&H, while in RS, according to the report (Banking Agency of Republika Srpska), there are 13 MFIs registered from 2021. Through this paper, the following hypotheses were tested:

H₁ There is a connection between the corporate brand and employee satisfaction.

H₂ There is a link between internal brand management and employee satisfaction.

H₃ There is a link between responsible brand representation and employee satisfaction.

H₄ There is a link between brand commitment and employee satisfaction.

When researching the contact emails of MFIs, it was noticed that the websites of some MFIs are not active, and that some MFIs are more focused on telephone and personal contact. In order to provide answers to the research questions, different procedures and methods of data processing were used, all in accordance with the research problems. After the descriptive analysis, the significance of the mutual correlations of all variables used in the analysis was examined and tested. The analysis was performed using the Spearman correlation coefficient. After the defined research hypotheses, the results of the conducted research will be presented below. After the presentation of the research sample, the answer to the research question will be determined on the basis of the tested research hypotheses.

4. Results and discussion

Analysing a sample of 81 respondents, an attempt was made to establish a link between the corporate brand and employee satisfaction in microfinance institutions in Bosnia and Herzegovina. About 18 out of a total of 25 microfinance institutions operating in the territory of Bosnia and Herzegovina are included in the research area. From the territory of the Federation of Bosnia and Herzegovina, the survey was completed by 47 respondents from 11 MFIs, while from the territory of Republic of Srpska, 34 respondents from 7 MFIs completed it. MFIs employees surveyed work in a variety of positions. Most of the respondents are first-line managers, credit officers, but there were also respondents of branch managers and top managers, general managers. A total of 52% of the respondents were men. Most respondents belonged to the age group of 31 to 45 years, or 45%. Most of the respondents, as many as 60%, have a university education. Respondents, 85% of them, answered in the affirmative that they had worked in another MFIs in the previous period. Based on their own experience, MFIs employees evaluated the MFIs corporate brand and answered questions regarding the level of job satisfaction. Considering that in this paper the corporate brand is observed through three elements of internal brand management, brand citizenship behaviour and brand commitment, in this order will be tested working hypotheses related to checking the connection of these activities with employee satisfaction.

Table 1. *Relationship between internal brand management and employee satisfaction*

| | | internal brand management | Employee satisfaction |
|---------------------------|------------------------------------|---------------------------|-----------------------|
| internal brand management | Spearman's correlation coefficient | rank 1 | 0,687** |

| | | | |
|-----------------------|---|--|---|
| Employee satisfaction | Spearman's rank correlation coefficient | | 1 |
|-----------------------|---|--|---|

** The correlation is significant at the significance level of 0.01
 Source: Author's research

Based on the results of Spearman's correlation coefficient, in table 1, when it comes to the relationship between internal brand management and employee satisfaction, we can state that the correlation is positive, moderate to strong, significant at the level of significance of 1%, where $r = 0.687$. Based on this, we can conclude that the second research hypothesis has been confirmed that there is a connection between internal brand management and employee satisfaction.

Table 2. *The relationship between brand citizenship behaviour and employee satisfaction*

| | | | |
|-----------------------------|---|-----------------------------|-----------------------|
| | | Brand citizenship behaviour | Employee satisfaction |
| Brand citizenship behaviour | Spearman's rank correlation coefficient | 1 | 0,624** |
| Employee satisfaction | Spearman's rank correlation coefficient | | 1 |

** The correlation is significant at the significance level of 0.01
 Source: Author's research

In table 2 find the results of the correlation between responsible brand representation and employee satisfaction. The correlation is positive, moderate to strong, significant at the significance level of 1%, where $r = 0.624$. Based on this, we can conclude that the third research hypothesis has been confirmed that there is a connection between responsible brand representation and employee satisfaction.

Table 3. *Relationship between brand commitment and employee satisfaction*

| | | | |
|-----------------------|---|------------------|-----------------------|
| | | Brand commitment | Employee satisfaction |
| Brand commitment | Spearman's rank correlation coefficient | 1 | 0,605** |
| Employee satisfaction | Spearman's rank correlation coefficient | | 1 |

** The correlation is significant at the significance level of 0.01
 Source: Author's research

Based on the results behind Table 3 we can conclude that the fourth research hypothesis has been confirmed. Relationship between brand commitment and employee satisfaction, given that the correlation is positive, moderate to strong, significant at the level of significance of 1%, where $r = 0.605$.

Table 4. Relationship between corporate brand and employee satisfaction

| | | Corporate brand | Employee satisfaction |
|-----------------------|---|-----------------|-----------------------|
| Corporate brand | Spearman's rank correlation coefficient | 1 | 0,654** |
| Employee satisfaction | Spearman's rank correlation coefficient | | 1 |

** The correlation is significant at the significance level of 0.01

Source: Author's research

Based on the conducted correlation analysis, we can conclude that the positive relationship between the corporate brand, on the one hand, and employee satisfaction, on the other hand, is confirmed, which is supported by the final table number 4. The correlation is positive, moderate to strong, significant at a significance level of 1%, where $r = 0.654$. Therefore, we can confirm the main research hypothesis that there is a connection between the corporate brand and employee satisfaction.

After testing the hypotheses of this research, we can determine that the answer to the research question was successfully found. The main research hypothesis has been confirmed, that there is a connection between the corporate brand and employee satisfaction, we can determine the importance of developing the corporate brand of companies. The corporate brand of microfinance institutions is an important factor related to employee satisfaction, and only satisfied employees can perform their work tasks more efficiently and attract new clients who are a source of income for the company.

5. Conclusion

Based on the results of the research, the goal of the research was successfully achieved, which provided an answer to the question of the relationship between the corporate brand of microfinance institutions and employee satisfaction. A relationship between these two variables was found to exist. The corporate brand was observed through three dimensions, internal brand management, responsible brand representation and brand commitment, where the connection of all these dimensions with employee satisfaction was determined. The management of microfinance institutions should accept this information as very important, and invest in the development of the corporate brand, because satisfied employees are more efficient in performing work tasks. One of the main factors when choosing a microfinance institutions by clients is the professional attitude and nice behaviour of the employees. In order for clients to trust the brand of a microfinance institutions, first of all employees must believe in it, and the MFIs brand should be presented in its work with clients. Only satisfied employees can represent the MFIs brand in the right way. We can conclude that the corporate brand combines functional and emotional values, which means a unique experience for users, and MFIs owners and management should primarily provide functional and emotional values to employees, so that they continue to exist and become recognizable through their work. In order to attract new and quality employees, MFIs need to pay more attention to the development of the corporate brand. Future employees will decide to apply for a vacancy or on their own initiative to work for a MFIs based on the brand that the MFIs has built in the market. Prior to entering into employment, they are likely to consult with other employees about the MFIs as an employer. That is why it is very important for MFIs to invest in the development of a corporate band. The research identified that some microfinance institutions were liquidated, which is probably a consequence of the current market situation due to the crisis that arose as a result of the COVID-

19 virus. Reports on microfinance institutions from the Federation of Bosnia and Herzegovina have not been updated since 2017, which is one of the limitations of this research. The response of the respondents was higher from the territory of the Federation of Bosnia and Herzegovina. For future research, in order to compare the results, clients of microfinance institutions could be surveyed, in order to determine how they choose MFIs and what this affects their satisfaction. That is, to what extent do they recognize the corporate brand of MFIs, and whether certain elements of the corporate brand of MFIs are presented by employees to clients. Internal branding not only shapes the perception of customers but also employees. It represents the relationship that an organization has with its employees as well as the relationship with customers.

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THE INFLUENCE OF MANAGEMENT STYLE ON WORK PERFORMANCES OF EMPLOYEES IN LARGE BOSNIAN AND HERZEGOVINIAN ENTERPRISES DURING THE COVID-19 PANDEMIC

UTICAJ STILA MENADŽMENTA NA RADNE PERFORMANSE ZAPOSLENIKA U VELIKIM BOSANSKOHERCEGOVAČKIM PREDUZEĆIMA U VREMENU PANDEMIJE COVID-19

Abstract

Motivation and employee satisfaction become the basis of modern human resources management, because only by building a quality motivation system can help the organization to increase its competitiveness and value. The subject of research in this paper is the work performance of employees under the influence of the application of management style as an intangible motivation strategy in large companies in Bosnia and Herzegovina. Primary data were collected using the survey technique, i.e. using a survey questionnaire as a research instrument. Measures of descriptive and inferential statistics were used in the data analysis, and the obtained data were processed in the statistical software package Statistical Package for Social Science (SPSS) 17.0 for Windows. As a measure of inferential statistics, the chi-square test was used, because the research empirically determined the existence of a statistically significant difference in percentage between top managers who agree and top managers who do not agree with the proposed claims about the impact of management style on employee performance in large Bosnian companies.

Keywords: motivation, intangible motivation strategies, management style and employee performance.

JEL: M12, D23

Sažetak

Motivacija i zadovoljstvo zaposlenika postaju temelj zanimanja savremenog menadžmenta ljudskih potencijala jer jedino se izgradnjom kvalitetnog motivacijskog sistema može pomoći organizaciji da poveća svoju konkurentsku sposobnost i vrijednost. Predmet istraživanja u ovom radu je radna uspješnost zaposlenika pod uticajem primjene stila menadžmenta kao nematerijalne strategije motivacije u velikim bosanskohercegovačkim preduzećima. Primarni podaci su prikupljeni primjenom tehnike anketiranja, tj. upotrebom anketnog upitnika kao instrumenta istraživanja. Prilikom analize podataka korištene su mjere deskriptivne i inferencijalne statistike, a dobiveni podaci su obrađeni u statističkom programskom paketu Statistical Package for the Social Science (SPSS) 17.0 for Windows. Kao mjera inferencijalne statistike, korišten je hi-kvadrat test, jer se istraživanjem empirijski utvrđivalo postojanje statistički značajne razlike u procentualnom učešću između top menadžera koji se slažu i top menadžera koji se ne slažu sa predloženim tvrdnjama o uticaju stila menadžmenta na radnu uspješnost zaposlenika u velikim bosanskohercegovačkim preduzećima.

Ključne riječi: motivacija, nematerijalne strategije motivacije, stil menadžmenta i radna uspješnost zaposlenika.

JEL: M12, D23

1. Introduction

Motivating others is a key part of managerial work. If employees are not motivated, the company has no chance of success in the long run, so it is understandable that the management of a modern company must pay special attention to employees in terms of their initiation towards achieving organizational goals. This does not mean just doing business, but enthusiasm that creates more than that. Namely, it is known that there is a difference between what employees have to do (then it is a duty or obligation) and what they do because they want to, therefore, when they are motivated to work with will (Buble, 2010, p. 142). According to (Bahtijarević-Šiber, 1999, p. 667), a comprehensive motivational system must include intangible incentives to work that meet the different needs of employees in the organization. For the motivation of employees, the needs of a higher order are especially important, *i.e.* the development and validation of one's own abilities and the possibility of autonomy and respect.

2. Previous research

According to Milkić-Bogićević's (2004, p. 416) definition, motivation is a process of directing and maintaining a certain behaviour, and it is based on some human need or expectation that needs to be met or fulfilled. Motivation is an individual phenomenon under human control. (Robbins, 1995, p. 44) cites the fact that some employees work better and are more committed than others, and as a result of such behaviour it happens that less capable employees can outperform their gifted colleagues. He argues that the performance of an employee at work or elsewhere depends not only on his ability but also motivation. Intangible motivation strategies aim to meet the needs of higher-ranking employees to which all those employed in the new economy aspire. These are the need for recognition, belonging and personal development (Lukić, 2015). In the workplace, they usually matter, those who work hard and succeed. There are many who receive special recognition from the environment for their work, much less those who constantly strive, but never manage to be important and receive special recognition. People believe and are emotionally engaged when their organization has a mission, that is, when their values match the values of the organization. By communicating, directing, and generally acting on associate behaviour, managers can make a significant contribution to their motivation. Ways of motivating employees by managers are essentially conditioned by his managerial style, which can be autocratic, paternalistic, consultative and democratic. Thus, in the autocratic style of management, motivation is based on the "carrot and stick" mechanism, and in the democratic style on the development of individual potentials, participation, intensive communication, teamwork, mutual trust, *etc.* Democratic managers support the development of their associates with the goal of achieving success, as they consider the success of their associates as their own success. (Rahimić, 2010, pp. 293-294) The main task of every manager is to continuously meet, develop and motivate their employees. Managers and management style are also very important factors in building a comprehensive motivational system as they by understanding what people want significantly influence their organization and action on employee motivation. In the segment of management style, the democratic style has the highest motivational potential, since managers understand that by strengthening their associates, they also strengthen themselves. Managers have a key role to play in motivating employees. This role is manifested through tasks that are divided into three groups. First of all, the basic task of the manager is to define the goals, the tasks that are derived from these goals, the standards of their performance and the way to determine the success of their execution. The second group of managerial tasks relates to the creation of objective assumptions that defined tasks can be performed. These include the necessary resources, good organization, stimulating organizational culture and more. The third group of tasks of managers consists of those that relate to various incentives for employees to perform their tasks well. These include the reward system, then the types, amount and timing of rewards, relations of fairness and fair treatment, *etc.* (Buble, 2010, p. 154). Performance appraisal is defined as a process of organized and continuous monitoring,

evaluation, direction and adjustment of their results and their work behaviour in order to achieve organizational goals (Jovanović - Božinov, Kulić & Cvetkovski, 2004, p. 204). Performance is defined as any measurable result that is achieved regardless of whether it is a measurable performance, behaviour or personal characteristics of employees, which are necessary to perform a certain activity in a defined period (Bogićević, 2004, p. 189). Monitoring and evaluating employee performance, with all its advantages and disadvantages, is a “cornerstone of an effective human resources system” and is extremely important for systems that aim to link organizational effectiveness and people effectiveness (Dessler, 2007).

3. Research methodology

The subject of research in this paper is the influence of management style on the work performance of employees in large Bosnian companies. The general goal of the research in this paper is to examine the impact of the application of management style on the work performance of employees based on the attitudes of managers in large BiH companies. Starting from the pre-defined general goal of the research, it is possible to define the basic research hypothesis as follows: "Management style has a significant impact on employee performance in large BiH companies, which ultimately affects the efficiency and effectiveness of these companies." Taking into account the previously defined basic research hypothesis, it is possible to define a dependent and independent research variable, as follows:

- Dependent research variable: employee performance
- Independent research variable: management style

The research was conducted in the Federation of Bosnia and Herzegovina, in its ten cantons: (Tuzla Canton, Sarajevo Canton, Zenica-Doboj Canton, Central Bosnia Canton, Herzegovina-Neretva Canton, West Herzegovina Canton, Una-Sana Canton, Bosnia-Podrinje Canton, West Bosnia and Posavina Canton). The research was realized on the basis of the application of scientific methods of primary and secondary research. Primary data were collected by survey method, *i.e.* using a survey questionnaire. A survey questionnaire with offered statements was used as the main instrument for data collection. To determine the attitudes of top managers, the Likert scale of courts with five degrees of intensity was used, which is considered the best solution when creating a survey questionnaire. Within the secondary research, the available secondary sources of data and information were processed, *i.e.*: books dealing with motivation with special reference to intangible motivation, books dealing with statistical analysis and methods, articles dealing with company motivation and results of research in this field, doctoral dissertations, master's theses, studies, statistical publications and reports and websites, all with respect to the principle of reference and topicality of the used literature. Measures of descriptive and inferential statistics were used for data analysis, and the obtained results were processed in the statistical program Statistical Package for the Social Science (SPSS) 17.0 for Windows.

4. Results and discussion

The research included 33 top managers from large companies in the entire territory of Bosnia and Herzegovina, from various business activities. The following table shows the data on the number of companies included in the survey, according to age.

Table 1 *Number and structure of managers by age*

| Age (years) | Number and structure of respondents | |
|----------------|-------------------------------------|--------------|
| | f | % |
| Up to 30 years | 6 | 18,18 |
| from 30-40 | 18 | 54,55 |
| from 40-50 | 5 | 15,15 |
| from 50-60 | 4 | 12,12 |
| total | 33 | 100,0 |

$$\chi^2 = 15,606; \text{ df} = 3; \text{ P} = 0,001;$$

Source: Author's research

Researching the impact of management style on employee performance, as an intangible strategy, aims to determine how management behaviour through communication, guidance and general action on the behaviour of employees can contribute to improving employee motivation and improve their work performance. The following table presents data on the number and structure of top managers in terms of agreement with the proposed claims regarding management style, as an intangible strategy, and its impact on employee performance.

Table 2. *Number and structure of top managers according to the degree of agreement with the proposed statements within the area of management styles and impact on employee performance*

| | Proposed claims-variables | I agree | | I do not agree | | P |
|---|---|---------|-------|----------------|-------|--------|
| | | f | % | f | % | |
| 1 | Managers exercise strict control over all phases of business activity, which has a positive effect on the work performance of employees. | 20 | 60,61 | 13 | 39,39 | 0,0710 |
| 2 | Managers show strong abilities and skills in management, which in stills confidence in employees and positively affects their work performance. | 24 | 72,73 | 9 | 27,27 | 0,0002 |
| 3 | Managers inspire and motivate employees, which has a positive effect on their work performance. | 23 | 69,70 | 10 | 30,30 | 0,0014 |
| 4 | Managers successfully delegate / transfer work tasks to employees, which has a positive effect on their work performance. | 24 | 72,73 | 9 | 27,27 | 0,0002 |
| 5 | Managers fairly evaluate the achievements of employees, which positively affects their work performance. | 21 | 63,64 | 12 | 36,36 | 0,0267 |
| 6 | Managers fairly reward or punish their subordinates, which positively affects their work performance. | 19 | 57,58 | 14 | 42,42 | 0,2109 |

| | | | | | | |
|----|--|----|-------|----|-------|--------|
| 7 | Communication between managers and their subordinates is honest and open, which positively affects the work performance of employees. | 21 | 63,64 | 12 | 36,36 | 0,0267 |
| 8 | Managers perform their work in accordance with ethical (moral) principles, which positively affects the work performance of employees. | 22 | 66,67 | 11 | 33,33 | 0,0068 |
| 9 | Employees feel free to turn to a manager for professional help, which has a positive effect on their work performance. | 22 | 66,67 | 11 | 33,33 | 0,0068 |
| 10 | Managers behave calmly and rationally in stressful situations, which has a positive effect on the work performance of employees. | 18 | 54,55 | 15 | 45,45 | 0,4597 |
| 11 | In addition to formal communication, there is also informal communication between managers and employees, which has a positive effect on employee performance. | 23 | 69,70 | 10 | 30,30 | 0,0014 |
| 12 | Managers show understanding and friendliness when it comes to personal problems of employees, which positively affects their work performance. | 23 | 69,70 | 10 | 30,30 | 0,0014 |

Source: Author's research

By reviewing the results of the 12 proposed claims, 9 or 75.00% of them had a p-value of less than 0.05. Therefore, in nine variables-statements of which are: abilities and skills of managers in management, managers inspire and motivate employees, successful delegation / transfer of work tasks, fair evaluation of employees, honest communication between managers and employees, managers perform work in accordance with ethical principles, the freedom of workers to seek professional help from the manager, the existence of informal communication, managers show understanding and friendliness when it comes to personal problems of employees, there is a statistically significant difference in percentage between top managers who agree and top managers who disagree with proposed claims. As there is a statistically significant difference in the percentage of agreement and disagreement with the proposed statements, and that the same variables have a higher percentage of top managers who agree with the proposed statements compared to top managers who do not agree with the proposed statements, these nine proposed statements-variables can be considered significant in the analysis of the impact of management styles on employee performance. The highest degree of agreement of top managers with the proposed statements within the strategy of management styles and its impact on employee performance was recorded in the following statements-variables:

- Managers show strong abilities and skills in management, which instils confidence in employees and positively affects their work performance in large Bosnian companies.
- Managers successfully delegate / transfer work tasks to employees, which has a positive effect on their work performance in large BiH companies. Among the 12 proposed claims, of which 3 or 25.00% of the proposed claims, the p-value is greater than 0.05.

Therefore, in the 3 mentioned statements-variables of which: managers exercise strict control over all phases of business activity, managers fairly reward or punish their subordinates and managers in stressful situations behave calmly and rationally, there is no statistically significant difference in percentage between top managers who agree and top managers who disagree with the proposed claims. Given that there is no statistically significant difference between the percentage of top managers who agree and the percentage of top managers who do not agree with the proposed statements, these three variables cannot be considered significant in analysing the impact of management styles, as an intangible strategy, on work performance of employees, *i.e.* the performance of employees. Based on the presented results on the impact of management style on the work performance of employees, the hypothesis can be confirmed, which reads: "The applied management style significantly affects the work performance of employees in large BiH companies." In June 2021, an analysis was made on the topic "The importance of intangible motivation strategies for employee performance". The results showed that even in times of pandemics, intangible motivation strategies are of great importance and that they have a great impact on the work performance of employees.

6. Conclusion

Successful human resources management implies the existence and application of a comprehensive reward system, which will, in accordance with the company's business strategy, lead the motivation of all employees and encourage them to maximum engagement, constant creative contribution and identification with the company. The conception and construction of such a system requires an understanding of motivation as a complex mechanism of individual behaviour. One must be viewed as a complex psychological system whose effectiveness depends on different motivational instruments, and one should keep in mind that people are different, have different aspirations, needs and drivers, which requires a diverse basis of motivation. Based on the research hypothesis, it can be concluded that there is a high degree of influence of management style on the improvement of work performance in large BiH companies. Managers have positive attitudes about the representation and influence of management style as an intangible strategy of motivation, which is an integral part of successful business. Management style, intangible motivation strategy, for managers represents the highest degree of agreement on the following statements: managers show strong management skills and skills that instil confidence in employees and managers successfully delegate / transfer work tasks to employees, which positively affects their performance in large Bosnia and Herzegovina companies.

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**STRENGTHENING COMPETITIVE ADVANTAGES BY DEVELOPING
INTRAPRENEURSHIP IN RESPONSE TO BUSINESS CHALLENGES IN
THE PANDEMIC CONDITION****JAČANJE KONKURENTSKIH PREDNOSTI RAZVOJEM
INTRAPODUZETNIŠTVA KAO ODGOVOR NA IZAZOVE POSLOVANJA
U USLOVIMA PANDEMIJE****Abstract**

The subject of the research presented in this paper is strengthening the competitive advantages by the development of intrapreneurship. Based on the theoretical and empirical findings, the aim of the research is to explore and create a model of connectivity between intrapreneurship activities and innovations and their impact on the competitive advantages of manufacturing companies. Hypotheses testing has resulted in the formation of a theoretical model of strengthening competitive advantages which was made by creating innovations that were created by the influence of intrapreneurship activities. The basic scientific method used in the research is hypothetical-deductive method. The deduction and induction methods, the analysis and synthesis methods and the systematization and classification methods were used as well. The primary survey was conducted among 300 employees in manufacturing companies in Bosnia and Herzegovina. The testing of established models was achieved by different statistical techniques: Multivariate analysis interdependence and dependence techniques, Principal Components Analysis and Multiple Linear Regression Analysis. The testing provided the accurate indicators of the company's competitive advantages strengthening under the influence of innovations created by intrapreneurship activity. According to the results of the research, it can be concluded that the theoretical model has a well-defined way of measuring the level of intrapreneurship activities, innovations and competitive advantages in manufacturing companies, as well as that the same model can determine average increases in company's competitive advantages that occur as the result of an increase in intrapreneurship activities. Therefore, this model can be applied in order to overcome the crisis caused by the Covid-19 pandemic.

Keywords: entrepreneurship, intrapreneurship, intrapreneurship activities, innovations, competitive advantages

JEL: L26, O30, O31

Sažetak

Jačanje konkurentskih prednosti razvojem intrapoduzetništva predmet su istraživanja prezentiranog u ovom radu. Cilj istraživanja je da se na osnovu teorijskih i empirijskih rezultata istraži i oblikuje model povezanosti intrapoduzetničkih aktivnosti i inovacija te njihovog utjecaja na konkurentске prednosti proizvodnih preduzeća. Testiranje hipoteza je rezultiralo formiranjem teorijskog modela jačanja konkurentskih prednosti stvaranjem inovacija koje su nastale pod utjecajem intrapoduzetničkih aktivnosti. Osnovna naučna metoda, korištena u istraživanju, je hipotetičko-deduktivna, a korištene su i metod dedukcije i indukcije, metod analize i sinteze i metod sistematizacije i klasifikacije. Primarno istraživanje je provedeno anketiranjem 300 zaposlenika u proizvodnim preduzećima iz Bosne i Hercegovine. Testiranje

uspostavljenih modela realizirano je statističkim tehnikama multivarijacijske statistička metode međuzavisnosti i zavisnosti, analiza glavnih komponenti i multiplom linearnom regresijskom analizom. Testiranjem se došlo do egzaktnih pokazatelja jačanja konkurentskih prednosti preduzeća pod utjecajem inovacija nastalih intrapoduzetničkim djelovanjem. Shodno rezultatima istraživanja, može se zaključiti da teorijski model ima utvrđen način mjerenja nivoa intrapoduzetničkih aktivnosti, inovacija i konkurentskih prednosti u preduzećima proizvodnog karaktera, i da je istim modelom moguće utvrditi prosječna povećanja konkurentskih prednosti preduzeća koja nastaju kao rezultat povećanja intrapoduzetničkih aktivnosti, te se stoga ovaj model može primijeniti u cilju prevazilaženja krize uzrokovanom pandemijom Covid-19.

Ključne riječi: poduzetništvo, intrapoduzetništvo, intrapoduzetničke aktivnosti, inovacije, konkurentске prednosti.

JEL: L26, O30, O31

1. Introduction

The success of market participants in the demanding regional and global market depends to a great extent on the competitive advantages of market participants. Manufacturers of various types of products achieve their market position by strengthening their competitive advantages. For those manufacturing companies that have been present on the market for many years, one of the opportunities to strengthen their competitiveness is to develop innovations within the available resources that the company owns. It is possible to develop different types of innovations in a company by implementing intrapreneurship activities, *i.e.* intrapreneurship. This research tries to answer the question whether and to what extent intrapreneurship activities affect the construction and maintenance of competitive advantages in the company.

An subject of the research, whose results are presented in this paper, are intrapreneurship activities and their impact on creation of innovations, which in return result in the construction and maintenance of the company's competitive advantages. The overall objective of the research, based on theoretical and empirical results, is to explore and shape a model of connection between intrapreneurship activities and competitive advantages through innovation, adjusted to the characteristics of manufacturing companies.

In order to achieve this goal, research hypotheses are defined:

H0: Conducting intrapreneurship activities has a positive effect on strengthening the competitive advantages of the company.

In an effort to prove the central research hypothesis, four working hypotheses are defined as well:

H1: Intrapreneurship activities have a direct impact on product innovations as an assumption for the development of all four fundamental competitive advantage pillars.

H2: Implementation of intrapreneurship activities generates innovations of processes which result in the strengthening of competitive advantages.

H3: Intrapreneurship activities create marketing innovations that influence all four fundamental pillars of a company's competitive advantage.

H4: Implementation of intrapreneurship activities leads to innovations in the field of organization, which directly impacts creation and maintenance of the company's competitive advantages.

Hypotheses testing will result the model of strengthening competitive advantages which was made by creating innovations that were created by the influence of intrapreneurship activities.

2. Literature review

A global study on the effects of the COVID-19 pandemic, led by the prestigious Royal Kings College London, has documented the negative effects of the pandemic on entrepreneurs and businesses around the world, including Bosnia and Herzegovina (Ute, Przemysław, Ana & Anna, 2021, p. 16). Entrepreneurs are known to be very astute people, as was the case during the pandemic: almost 70% of entrepreneurs adjusted their business plans to the pandemic, which is also the case with Bosnian employers. In addition, about 40% of companies managed to find new business opportunities in a pandemic, and this primarily includes activities related to digitalization, health, and changes from local to global focus, sustainability and new business models. Bosnia and Herzegovina is one of the countries with poorer results, where about one third of small and medium enterprises managed to realize new business ideas in the changed pandemic circumstances. According to these indicators, the theoretical model presented in this paper can serve entrepreneurs to find an adequate response to the challenges imposed by business in a pandemic.

In the context of this research, the most acceptable definition is that intrapreneurship is entrepreneurship within large and existing companies which involves a creation of a new business venture, innovation or transformation of a company by changing key business areas, conducting intrapreneurship activities and existing company resources.

The concept of intrapreneurship is inseparable from the concept of intrapreneurship activity. These activities are carried out in the existing companies from the creation of an idea or a project to their final implementation with the aim of creating an intrapreneurship climate. (Belusova, Gailly, and Basso, 2010, p. 13) conducted a research aimed at identifying the most important intrapreneurship activities in earlier researches on intrapreneurship and its classification as a conceptual model of intrapreneurship behaviour. Intrapreneurship activities are classified into four intrapreneurship activity types: *research / development (R&D)*, *implementation / evaluation*, *acceptance / legitimacy* and *exploitation / use*.

The general definition of innovation adopted in many countries was proposed by the countries gathered in the Organization for Economic Cooperation and Development (OECD) in the early 1990s. It was published in the OECD Guidelines for Collecting, Reporting and Using data on Innovation called the 'Oslo Manual', which is mainly concerned with innovation and technological changes. The final versions of the definitions of innovation and innovation activities proposed by the OECD and the European Commission were published in the Oslo Manual (OECD, 2005, p. 46) as guidelines for the collection of data on innovation. They are as follows:

- *An innovation* is the implementation of a new or significantly improved product (goods or services), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.
- *Innovation activities* are all the scientific, technological, organizational, financial and commercial steps which actually are, or are intended to, lead to the implementation of innovation.

This understanding of innovation also leads to a classification of innovation as *innovation of: product / service, process, marketing and organization*.

Many authors conducted research and wrote about competitive advantage. In today's theory, the most common understanding of the competitive advantage concept is the one presented by Michael E. Porter (Porter, 2007, p. 49), in which the author explained the principles of competitive advantage. Also, what is important is the understanding of the concept of competitive advantages based on the key competencies in the company which are the basis for defining and the selection of the appropriate pillar (block) of competitive advantages. Šehić defines four fundamental pillars of a

company's competitive advantages: efficiency, quality, innovation and customer responsiveness (Šehić, 2002, p. 106). All four fundamental pillars are highly interdependent which is seen in a way that a company, on the basis of superior innovation, can achieve superior efficiency, quality and responsiveness customer or by having superior quality a company can achieve superior efficiency and *vice versa*. Considering everything said above and in order to build a long-term competitive advantage the role of top management should be a continuous search and discovery of new possibilities of several fundamental blocks mutual action (Rahimić, 2006, p. 252).

3. Research methods

Researching an impact of intrapreneurship by implementing intrapreneurship activities on innovation, and applying such innovations on enhancing competitive advantage, is the main objective of this research. In order to do this, it is necessary for the research to include specific indicators that can facilitate the analysis of the innovations development influenced by intrapreneurship activities and then the impact of such innovations on strengthening competitive advantages. In order to test this impact, a theoretical model, whose claim was determined by the primary research in manufacturing companies in Bosnia and Herzegovina, was established.

3.1 Research indicators

The research covers intrapreneurship activities, defined as: *Intrapreneurship activities are activities undertaken within an existing enterprise in order to achieve innovative projects through the stages of research, implementation, acceptance and exploitation*. In accordance with the above definition, intrapreneurship activities are observed through four indicators:

- Intrapreneurship research in the field of research / development
- Intrapreneurship activities in the field of implementation / evaluation
- Intrapreneurship activities in the field of acceptance / legitimacy
- Intrapreneurship activities in the field of exploitation / use

The second set of indicators is related to the measurement of innovations whose definition acceptable for this research is: *An innovation is the implementation of a new or significantly improved product (goods or services), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations*. In this research, innovations are observed through four indicators:

- Product innovation
- Process innovation
- Marketing innovation
- Organizational innovation

The competitive advantages of the companies in this research are observed through four fundamental pillars which also represent four indicators:

- Quality
- Innovation
- Customer responsiveness
- Efficiency.

Figure 1 shows a theoretical model of strengthening competitive advantage by developing intrapreneurship in manufacturing companies with the relationship of indicators as independent and dependent variables formulated through central and working research hypotheses.

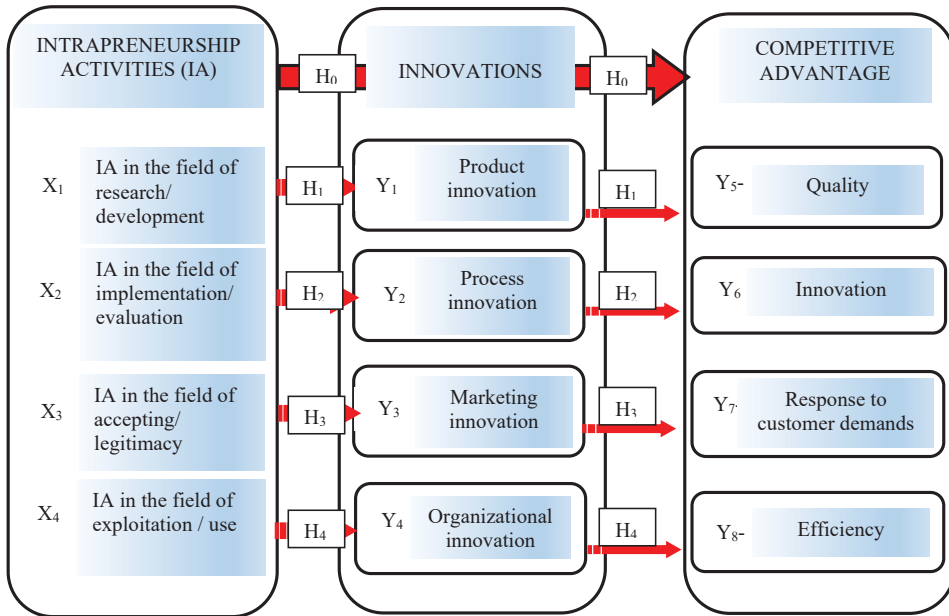


Figure 1. Theoretical model with the relationship of indicators as independent and dependent variables
Source: Author's research

3.2 A Research Sample

In order to test the hypotheses, data collection was performed on a stratified sample of 300 respondents, 100 manufacturing companies from Bosnia and Herzegovina each provided three respondents. The sample included 23.15% companies from the population and it completely represents the structure which remains the structure of the population itself. A sample of 100 companies was formed by random selection from the population, based on the table of random numbers, making sure to satisfy the principle of company's representativeness from the population and representation by strata.

3.3 Statistical Analysis Tools

Different tools, methods and techniques of research were used during the research. The basic scientific method used in the research is hypothetical-deductive method. The deduction method was used based on the analysis of existing articles and literature, and for the purpose of reviewing general views on the objective of the research. Contrary to this method, the induction method was used. Its application is primarily reflected in the conclusions drawn from the conducted research. The analysis and synthesis method was used for data processing, generating the results and their presentation. The systematization and classification method was used as well, especially in the theoretical and methodological part of the paper. Statistical analysis of the data was performed using IBM SPSS Statistics v.22, MS Excel and R programming language. Descriptive statistical analysis was used to describe the distribution of the variables obtained by the survey and calculate the frequencies, percentages, and arithmetic means with the corresponding standard deviations. Multivariate statistical method of interdependence and dependence was used to test the research hypotheses. As a statistical interdependence technique The Principal Components Analysis was used to reduce the original space of the variables and extract a smaller number of factors that would compose the principal components (linear combination of the selected variables) with the maximum

amount of information stored (maximum variance). Such reduced variables were used in further analytical procedures. The obtained components refer to the key dimensions of the independent and dependent variables measured in the research process. The analysis of the impact of different intrapreneurship activity components on the innovation components was carried out by Multiple Linear Regression Analysis. Using this methodology, statistical models with significant representativeness were obtained. They can evaluate the determination of independent components, as well as the strength of the influence of each independent component on the dependent component. Prior to the implementation of these statistical methods, it was verified that achieved variables measured in the study met the statistical assumptions of such techniques. Therefore, their universal statistical assumptions on which these methods are based, the normality of the distribution of variables and the presence of univariate atypical outliers were checked. Testing of univariate normality assumptions was verified by the histogram of modal frequencies, while the presence of atypical outliers was verified by Mahalanobis distance. All achieved coefficients obtained in the above statistical methods were tested with an alpha level of significance of 95% (5% risk).

4. Results

4.1 Variation reduction results using Principal Component Analysis

Using the statistical method of interdependence the reduction of original space of variables expressed through different statements in the questionnaire was done, thus separating the individual factors that make up the main component (linear combination of selected variables) with the preserved maximum variance, and then such reduced variables were used in further analytical procedures to meet research goals. Principal Component Analysis was used as a statistical method. Achieved factors (components), with the help of application of the above statistical method, are related to 12 key dimensions of independent and dependent variables measured in the research process, namely: research and development activities, implementation activities, acceptance activities, exploitation activities, product innovations, process innovations, marketing innovation, organizational innovation, quality, innovation, Customer responsiveness and company's efficiency.

4.2 Results of research hypotheses using regression methods

In order to quantitatively answer a defined research hypotheses a series of simple and multiple regression models was conducted. The obtained logical dimensions were used in the regression models based on the Principal Component Analysis algorithms. The most common statistical assumptions underlying multiple linear regression are; absence of multicollinearity, absence of atypical outliers, normality, linearity, homogeneity of variances and independence of residuals. Multicollinearity is observed through relations between independent variables in the regression model. In fact, multicollinearity exists when independent variables in the model highly correlate with one another, which then practically means that they are not independent. Checking of the multicollinearity presence in the set models was performed by collinearity diagnostics. Visualization representations were used in order to check atypical outliers, normality of residual distribution, linearity, homogeneity of variance and independence of residuals in models. These are: scatter plot of standardized residuals and standardized predicted values, and frequency histograms of standardized residuals. Checking stated statistical assumptions of the regression models no serious violations of the models were noticed. In the first step, the first regression model tested the influence of four types of intrapreneurship activities, as independent variables, on each of the four types of innovation, as dependent variables. Then, in the second step, the second regression model tested the impact of each of the four types of innovation, as independent variables, using the predicted values obtained by the first regression model, on the four fundamental pillars of competitive advantage as a dependent variable. The obtained results are presented below.

Impact of intrapreneurship activities through product innovations on competitive advantages

In order to conclude which intrapreneurship activities components have the greatest impact on product innovation in the company, the standardized (Beta) regression coefficient was observed. Acquisition activities (Beta = 0.462, $p < 0.000$) have the largest statistically significant impact on product innovation, acceptance activities (Beta = 0.193, $p < 0.010$) have a statistically significant impact on product innovation, while implementation activities do not have a statistically significant influence on product innovation with a realized probability of $p < 0.304$.

The achieved regression model, with the calculated regression coefficients (Beta), can be represented by the following linear equation:

$$Y_1 = 0,00 + 0,171x_1 + 0,069x_2 + 0,193x_3 + 0,462x_4$$

where:

- Y_1 = Product innovation
- x_1 = Research and Development Activities
- x_2 = Implementation Activities
- x_3 = Acceptance Activities
- x_4 = Exploitation Activities

The achieved regression coefficients of the four regressions models, the impact of regression product innovation on the competitive advantage components (quality, innovation, response to customer requirements and efficiency), reached statistical significance. The four obtained regression models can be represented as follows:

- quality: $Y_5 = 0,00 + 0,798 \hat{Y}_1$
- innovation : $Y_6 = 0,00 + 0,761 \hat{Y}_1$
- customer responsiveness: $Y_7 = 0,00 + 0,742 \hat{Y}_1$
- efficiency: $Y_8 = 0,00 + 0,688 \hat{Y}_1$

where \hat{Y}_1 = Achieved regression value of product innovation

Impact of intrapreneurship activities through process innovation on competitive advantage

Exploitation activity (Beta=0.440, $p < 0.000$) has the greatest statistically significant effect on process innovation in the company, then research and development activity (Beta=0.239, $p < 0.001$), while this model has no statistically significant effect on process innovations with implementation activities (Beta=0.098, $p < 0.192$) as well as with acceptance activities (Beta=0.067, $p < 0.423$).

The model of intrapreneurship activity impact on the process innovation can be presented by the following linear equation:

$$Y_2 = 0,00 + 0,239 x_1 + 0,098 x_2 + 0,067x_3 + 0,440x_4$$

where;

- Y_2 = Process Innovation
- x_1 = Research and Development Activities
- x_2 = Implementation Activities
- x_3 = Acceptance Activities
- x_4 = Exploitation Activities

The achieved regression coefficients of the four regressions models, the impact of regression process innovation on the components of competitive advantage (quality, innovation, customer responsiveness and efficiency), reached statistical significance. The four models can be presented through the following linear equations;

- quality: $Y_5 = 0,00 + 0,843 \hat{Y}_2$
- innovation : $Y_6 = 0,00 + 0,808 \hat{Y}_2$
- customer responsiveness: $Y_7 = 0,00 + 0,791 \hat{Y}_2$
- efficiency: $Y_8 = 0,00 + 0,736 \hat{Y}_2$

where \hat{Y}_2 = Achieved regression value of process innovation

Impact of intrapreneurship activities through marketing innovation on competitive advantage

The results of the testing lead to conclusion that exploitation activities have statistically significant impact on marketing innovations (Beta=0.389, $p < 0.000$), while in this research significant impact on marketing innovations with research and development activities ($p < 0.293$) implementation activities ($p < 0.150$) and acceptance activities ($p < 0.181$) was not proved.

On the basis of the obtained regression coefficients we present the model in the following way:

$$Y_3 = 0,00 + 0,085 x_1 + 0,127 x_2 + 0,131x_3 + 0,389x_4$$

where;

- Y_3 = Marketing Innovations
- x_1 = Research and Development Activities
- x_2 = Implementation Activities
- x_3 = Acceptance Activities
- x_4 = Exploitation Activities

The achieved regression coefficients of the four regression models, the impact of regression of marketing innovation on the competitive advantage components (quality, innovation, customer responsiveness and efficiency), reached statistical significance. The impact of regression of marketing innovation on the quality, innovation, customer responsiveness and company's efficiency is presented through the following four linear models:

- quality: $Y_5 = 0,00 + 0,968 \hat{Y}_3$
- innovation : $Y_6 = 0,00 + 0,924 \hat{Y}_3$
- customer responsiveness: $Y_7 = 0,00 + 0,905 \hat{Y}_3$
- efficiency: $Y_8 = 0,00 + 0,837 \hat{Y}_3$

where is \hat{Y}_3 = Achieved regression value of marketing innovation

Impact of intrapreneurship activities through organizational innovation on competitive advantage

Implementation activities have the greatest statistically significant impact on organizational innovation of the company (Beta = 0.325, $p < 0.000$), followed by exploitation activities (Beta = 0.296, $p < 0.000$), and the research and development activities (Beta = 0.180, $p < 0.019$), while significant impact of acceptance activity was not proven with a probability of $p < 0.851$.

The achieved regression model is presented with the following linear equation:

$$Y_4 = 0,00 + 0,180x_1 + 0,325x_2 - 0,017x_3 + 0,296x_4$$

where;

- Y_4 = Organizational Innovation
- x_1 = Research and Development Activities
- x_2 = Implementation Activities
- x_3 = Acceptance Activities
- x_4 = Exploitation Activities

The achieved regression coefficients of the four regression models, the impact of regression of the organizational innovation on the competitive advantage components (quality, innovation, customer responsiveness and efficiency), reached statistical significance. The four obtained models are presented through the following linear equations:

- quality: $Y_5 = 0,00 + 0,893 \hat{Y}_4$
- innovation : $Y_6 = 0,00 + 0,855 \hat{Y}_4$
- customer responsiveness: $Y_7 = 0,00 + 0,860 \hat{Y}_4$
- efficiency: $Y_8 = 0,00 + 0,783 \hat{Y}_4$

where \hat{Y}_4 = Achieved regression value of organizational innovation

5. Discussion

The theoretical model of strengthening the competitive advantages under the influence of innovations resulting from the implementation of intrapreneurship activities was theoretically explored on the basis of relevant literature and previously conducted similar research. It was also empirically tested on a sample of 300 respondents, with three respondents coming from one of 100 manufacturing companies from Bosnia and Herzegovina included in the research. The test results showed that there is an impact of each of the four groups of intrapreneurship activities (research/development, implementation/evaluation, acceptance/legitimacy and exploitation/use) on the creation of all four types of innovation (product innovation, process innovation, marketing innovation and organizational innovation) that impact the competitive advantages of the company (quality, innovation, customer responsiveness and efficiency).

Hypotheses testing confirmed the impact of intrapreneurship activities on innovation and strengthening of competitive advantage. The results showed that there is a clear impact on all four main pillars of competitive advantage, each of the four observed types of innovations that emerge under the influence of intrapreneurship activities. The quality, as one of the main pillars of the competitive advantage, is evidently influenced. The impact of all four types of intrapreneurship activities was confirmed on product innovation, process innovation and marketing innovation as three out of four observed types of innovations, with the strongest impact being on the intrapreneurship exploration activities. In the case of organizational innovation, the strongest impact of intrapreneurship implementation activities was confirmed, while the impact of intrapreneurship exploration activities was the second strongest.

On the basis of conducted research, it can be concluded that the model of strengthening competitive advantages which was made by creating innovations that were created by the influence of intrapreneurship activities has its empirically proven causality. This model has its practical application when it comes to measuring the existence of intrapreneurship activities, innovations and competitive advantages in companies, as well as recognized intrapreneurship activities whose improvement can determine the expected effect in terms of innovation creation and the effect on strengthening the competitive advantages of company as well. The model can be applied in order to overcome the crisis caused by the COVID-19 pandemic.

6. Conclusions

The research aimed to answer the question of whether innovations can be created through the implementation of intrapreneurship activities, thus enhancing competitive advantages.

According to the results of the research, it can be concluded that the theoretical model has an established way of measuring the level of intrapreneurship activities, innovations and competitive advantages in companies of manufacturing character, and that the same model can determine the average increases in competitive advantages of companies arising as a result of the increase of intrapreneurship activities. The contribution of this model can be significant in identifying and undertaking the necessary activities aimed at maintaining the acquired competitive advantages, as well as their development in the light of new "normal" market conditions caused by the COVID-19 pandemic.

The results of the research, both theoretical and empirical, are intended for companies engaged in production and will primarily be used by large and medium-sized companies, as well as by government institutions, branch associations, and other researchers studying this or similar issues. The results of the research indicated the importance of intrapreneurship in the company in the function of creating innovations and thus strengthening competitive advantages.

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THE IMPACT OF ORGANIZATIONAL STRUCTURE ON EMPLOYEES' MOTIVATION IN INSTITUTIONS OF BOSNIA AND HERZEGOVINA

UTICAJ ORGANIZACIONE STRUKTURE NA MOTIVACIJU ZAPOSLENIH U INSTITUCIJAMA BOSNE I HERCEGOVINE

Abstract

The organizational structure presents a systematized arrangement of available human and material resources, which enables the organization's effectiveness and efficiency. Employees' motivation is becoming a key issue of a modern organization. As many authors argue, the organizational structure has a unique impact on employees' motivation, and it is described as a mechanism that integrates employees' efforts through coordination and control. Researches on employees' motivation are increasingly focusing on approaches that link motivation concepts with change in organizational structure. The institutions of Bosnia and Herzegovina are characterized by a classic hierarchical organizational structure which has no positive impact on employees' motivation. This paper starts from the assumption that it is necessary to implement changes in the organizational structure of these institutions with aim to increase the level of employees' motivation. The subject of the research interest presents analyzing of the compliance of organizational structure with motivation of civil servants and employees. The research results determined indicators of the interdependence of organizational structure of institutions and employees' motivation. Opportunities for managing changes in the existing organizational structure of state-level institutions are presented. Recommendations and possibilities for applying the experiences of good practice of institutions on the state level of EU countries and developing countries to the institutions of Bosnia and Herzegovina are given.

Keywords: organizational structure, institutions, changes, employees' motivation

JEL: H10, H83, M12

Sažetak

Organizaciona struktura predstavlja sistematizovan raspored raspoloživih ljudskih i materijalnih resursa, što omogućava efektivnost i efikasnost organizacije. Motivacija zaposlenih postaje ključno pitanje savremene organizacije. Kao što mnogi autori tvrde, organizaciona struktura ima jedinstven uticaj na motivaciju zaposlenih i opisuje se kao mehanizam koji putem koordiniranja i kontrole integrira napore zaposlenih. Istraživanja o motivaciji zaposlenih se sve više fokusiraju na pristupe, koji povezuju motivacijske koncepte sa promjenama u organizacionoj strukturi. Institucije Bosne i Hercegovine karakteriše klasična hijerarhijska organizaciona struktura koja nema pozitivan uticaj na motivaciju zaposlenih. Rad polazi od premise da je neophodno provođenje promjena organizacione strukture ovih institucija, koje će rezultirati sa povećanjem nivoa motivacije zaposlenih. Predmet istraživačkog interesa predstavlja analiziranje usklađenosti organizacione strukture sa motivacijom državnih službenika i zaposlenika. Rezultatima

istraživanja utvrđeni su pokazatelji međuovisnosti organizacione strukture institucija i motivacije zaposlenih. Predstavljene su mogućnosti upravljanja promjenama postojeće organizacione strukture u institucijama na državnom nivou. Date su preporuke i mogućnosti primjene iskustava dobre prakse institucija na državnom nivou zemalja EU i zemalja u razvoju, u institucije Bosne i Hercegovine.

Ključne riječi: organizaciona struktura, institucije, promjene, motivacija zaposlenih

JEL: H10, H83, M12

1. Introduction

The organizational structure is an intangible motivation technique and also unique in its impact on job security, advancement, informality and social equality, removal of formal, status and functional barriers in communication between employees at all organizational levels and more. The literature confirms that motivation is determined by a large number of organizational factors, *i.e.* the basic elements of the organizational structure, such as rewarding, satisfaction, the relationship between superiors and subordinates, work's atmosphere, independence, employees' advancement, *etc.*

The classic pattern of hierarchical organizational structure is represented in the institutions of Bosnia and Herzegovina. In such a classic (bureaucratic) organizational structure, expertise is reflected in the "assignment" of work through public competition procedures and it is measured by formal procedures. The organizational structure within these institution exists primarily to fill positions of civil servants and employees on all levels of organizational structure.

We starts from the assumption that organizational changes in the existing organizational structures a the institutions of Bosnia and Herzegovina are necessary. The ability, commitment and employees' motivation in these institutions are crucial. It is necessary to implement changes in the organizational structure of these institutions with aim to increase the level of employees' motivation. These changes should result in less bureaucratization which will enable raising the level of employees' motivation. The subject of this research is to explore and describe relation between organisational structure and employees' motivation in institution at the state level of Bosnia and Herzegovina. Based on theoretical and empirical research, the main aim is try to determine and to examine the impact of organisational structure of these institution on the level of motivation of civil servants and employees. The purpose of the research is analyze the compliance of organizational structure with motivation of civil servants and employees within institutions of Bosnia and Herzegovina.

2. Theoretical framework of the research

The impact of organizational structure on employees' motivation, in the context of organizational design and employee behaviour, which link the organizational structure with employees' motivation, leads to the conclusion that the freedom and flexibility of the organic (adaptive) organizational structure are not preferred by all employees. That is why there are still employees, who are more motivated when they are in bureaucratic) organizational structures (Pollitt & Bouckaert, 2004, p. 117). Certain employees prefer centralized authority, numerous rules and procedures, a narrow range of control, a high degree of control from the top of the organizational hierarchy, specialized tasks, a small number of teams and working groups, and formal and impersonal coordination between management levels (Suzuki & Hur, 2020, p. 878). On the other hand, certain employees prefer decentralized powers, the flexibility of tasks, less established rules and procedures, then a low level of control from the top of the hierarchy and emphasis on self-control, horizontal communication, more teams and group work and informal coordination, which are basic characteristics of organic organizational structures (Sikavica, 2011, p. 420).

Organizational structure has a unique influence on the individual behaviour and motivation of employees. It is also described as a mechanism that integrates employee efforts through coordination and control. Organizational structure is an integral part and the most important part of every organism and organization (Žugaj, Šehanović & Cingula, 2004, p. 215). Between individuals and their activities in organizations, there are certain laws and relationships, which are defined by the organizational structure (Drucker, 2005, p. 240). The key components, which define the organizational structure are: formal relations in the organization, the number of levels in the hierarchy and the range of control, grouping of individuals into organizational units (departments), linking departments into an overall organization, organizational design, effective communication, coordination and integration of work (Sikavica, Bahtijarević-Šiber & Pološki Vokić, 2008, p. 60). The organization changes from bureaucratic to organic with the growth of the size of the organization, and at the same time, its organizational structure grows. With the increased degree of specialization, departmentalization, centralization, rules and regulations, the organization strives to change the organic into a mechanistic organizational structure. A dynamic environment requires an organic organizational structure, and a mechanistic organizational structure requires a stable environment. A bureaucratic organizational structure tends to be more efficient in a stable and simple environment, while the adaptability of an organic organizational structure is more suited to a dynamic and complex environment (McAuley, Duberley & Johnson, 2007, p. 79). The management of the organization is forced to design a model of organizational structure, which is a combination of mechanical and organic models, with aim to achieve the mission, survival, development and performance of the organization (effectiveness, efficiency, flexibility, competitiveness) (Cingula, 2008). The modern approach to organizational structures, which, in addition to vertical coordination, respects other forms and directions of influence on the behaviour of individuals and coordination of tasks, actually considers a set of coordination mechanisms, which complement each other (Jamshid *et al.*, 2013, p. 335). Coordination mechanisms are defined as own supervision or line hierarchy, then impersonal, formal systems of monitoring, reporting, control, standardization of procedures, standardization of knowledge and skills, standardization of output, direct horizontal connection, self-organization and self-control (Mintzberg, 2009, p. 33). Since the design of an organization is a dynamic process, it means that it is much more complex than a graphical representation of the organizational structure (Cingula, 2008). It is extremely important to continuously monitor the efficiency of the existing organizational structure and management system and adjust it to the needs of the strategy, employees, and managers. It is common knowledge that people are motivated for behaviours that are the result of meeting their needs. Motivation is seen as the process of giving individuals the opportunity to meet their needs by performing activities within the organization (Armstrong & Taylor, 2020, p. 181). Individual characteristics of employees, characteristics of organization, characteristics of job and society present factors that are influencing motivation in organization. Employees' motivation is becoming the basis of a modern organization and the emphasis is on active human resource management. In the context of improving the use of the human factor, various schemes are being developed to increase the level of motivation. Motivation is one of the most important topics in the field of management because organizational goals are achieved if all employees (superiors, associates, subordinates) achieve success (Bahtijarević-Šiber, Sikavica & Pološki Vokić, 2008, p. 17). Weinhrich and Koontz define motivation as "a general term referring to a whole set of instincts, demands, needs, desires, and similar forces". Buble believes that "motivation is manifested in the broadest sense as an influence that causes, directs and maintains the targeted behaviour of people". McGregor, Maslow, Herzberg, Mayo, and other authors in the field of motivation theory highlighted the importance of employees' motivation as a foundation for many studies of the behaviour of individuals and groups in an organization. (Beck, 2003, p. 398).

The research findings that link the organizational structure with the performance, satisfaction and employees' motivation leads to a fairly clear conclusion that nothing could be generalized. The starting point is that the freedom and flexibility of organic structures are not preferred by all

employees. Many people are more satisfied and motivated when they are in mechanical structures with standard work tasks and minimal ambiguity (Wilson, Nuwatuhaire & Turyamureeba, 2019, p. 77). Maximizing the performance, job satisfaction and motivation could be achieved if differences such as experience, personality and work task of the employee would be taken into account. The influence of organizational structure on employees' behaviour is reduced if in the selection process there is a possibility of harmonizing individual and organizational characteristics (Robbins, Judge, 2016, p. 150). Organizational structure is one of the main drivers of organizational success through efficiency, effectiveness, quality, creativity, innovation, mobility, customer satisfaction and competitiveness. Organizational characteristics that affect employees in the work environment are colleagues, superiors, awards, working conditions, work climate, organizational culture, *etc.* Organizational procedures, personnel policy, management practice and reward system, which contributes to efficiency, and all these instruments should be designed to attract new and retain existing employees. The three groups of factors that influence employee motivation to interact with each other in a particular work environment are (a) the characteristics possessed by employees; (b) the characteristics that employees should have concerning the work they perform and (c) organizational characteristics that affect employees (Buble, 2009, p. 263).

The European Commission has developed a research project management in institutions at the state level of EU countries (Coordinating for Cohesion in the Public Sector of the Future Project) to analyze the functioning of institutions and management of organizational structure changes, and human resource management. Many developing countries are facing the above challenges. They have the aim to increase the level of employees' motivation. Because of all these reasons the EU has established two institutions: the Regional School of Public Administration (ReSPA) and the European Group for Public Administration (EGPA). The purpose and mission of these established institutions are based on guiding developing countries, to create an adequate organizational structure of institutions at the state level, in the process of the EU accession. According to a report by the Organization for Economic Co-operation and Development (OECD), successful state-level institutions in EU countries view managing organizational change to raise employee motivation as the primary development resource of the institution as a whole (OECD Report, 2019).

3. Research methodology

The research was conducted in the institutions of Bosnia and Herzegovina. Secondary data is collected from professional literature in the field of organizational structure, motivation, change management, organisation, human resource management and similar fields. The primary data is collected through a structured questionnaire through which respondents, actually civil servants and employees, expressed attitudes on the impact of organisational structure on the level of their motivation within the institution in which they work. For the questions, the method of choosing the answer that is closest to their attitudes was used, as well as the five-point Likert scale, which made it easier for respondents to express their attitudes with the offered statements. Data gathering was carried out through an online platform.

For the purposes of research, 74 institutions at the state level of Bosnia and Herzegovina are chosen. To ensure the representativeness sample is carefully selected. Data is collected on a sample *i.e.* civil servants and employees from the institution at the state level, namely: agencies, directorates, institutes, commissions, ministries, committees, services, offices and others. The representativeness of the research sample was provided by the method of controlled random sampling in order to find answers about the influence of organizational structure on motivation. The total number of completed questionnaires is 337, which represents a return rate of 67.40%. Statistical methods which were used to process data are: (1) descriptive statistics - a descriptive analysis of the sample and factors using frequency tables and graphs, as well as indicators such as arithmetic, mean, standard deviation, minimum and maximum value and (2) inferential statistics - shows a list of

hypotheses, a research model, and the results of research at the level of each hypothesis individually, using the regression method. Empirical findings were combined with theoretical assumptions and data were processed using modern software packages for statistical analysis (Statistical programme for social sciences (SPSS) as well as Microsoft Excel). Results are analyzed and displayed descriptively, using tables and charts.

4. Research results and discussion

The purpose of this study was to describe relation between organisational structure and employees' motivation in institution at the state level of Bosnia and Herzegovina. The main aim of the research was to explore the impact of organisational structure of these institution on the level of motivation of civil servants and employees. Based on the theoretical research and empirical research, purpose and aim, the main hypothese was set, as follow: The organizational structure of the institutions of Bosnia and Herzegovina, defined by the regulations on the internal organization, does not increase employees' motivation.

The empirical research collected the attitudes of respondents about the relationship between the organizational structure of institutions and the motivation of civil servants and employees; the dependency of the employees' motivation on the organizational structure and the impact of the organizational structure on the level of employees' motivation within these institutions.

Graph 1 shows that the organizational structure is unique in its impact on employees' motivation. The most of respondents answered with "absolutely positive" (27.00%) or "positive" (50.84%) and (20.37%) of the respondents answered "neutral". It is important to emphasize that just (1.79%) of the respondents answered "negative" and neither one of the respondents answered "absolutely negative".

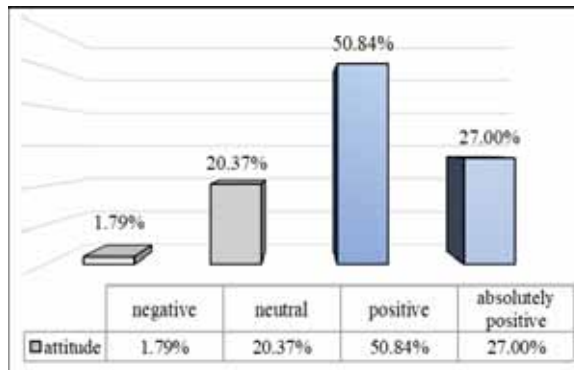


Figure 1. *Organizational structure impact motivation*

Source: Author's research

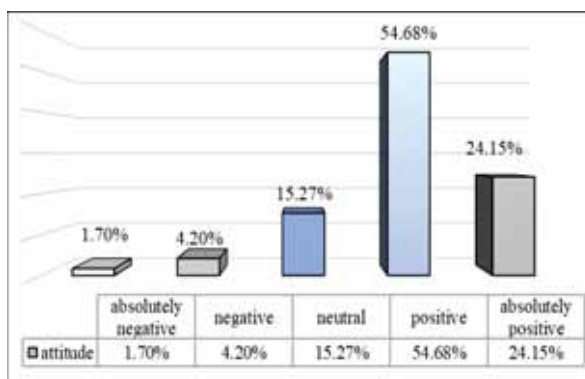


Figure 2. Motivation depends on organizational structure

Source: Author's research

Graph 2 shows that their motivation is highly dependent on the form of the organizational structure within the institutions in which they work. The most of respondents answered with "absolutely positive" (24,15%) or "positive" (54,68%) and (15,27%) "neutral". It is important to emphasize that (4,20%) of the respondents answered "negative" and just (1,70%) of the respondents answered "absolutely negative".

Graph 3 shows that currently, the organizational structure doesn't increase the level of employees' motivation. The most of respondents answered with "absolutely positive" (30,35%) or "positive" (57,19%) answered and 12,46% of the respondents answered "neutral" that the organizational structure of the institutions at the state level defined by regulations and laws don't increase employees' motivation.

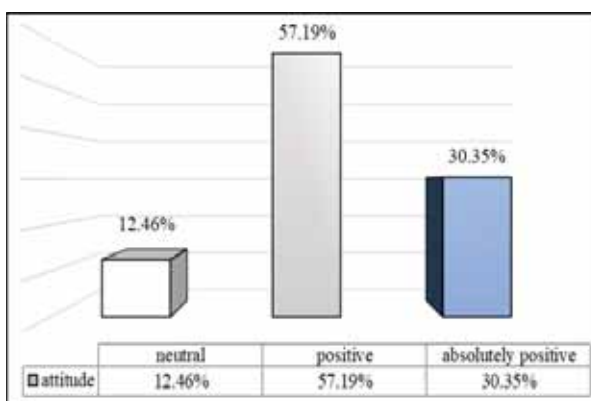


Figure 3. Organizational structure doesn't increase motivation

Source: Author's research

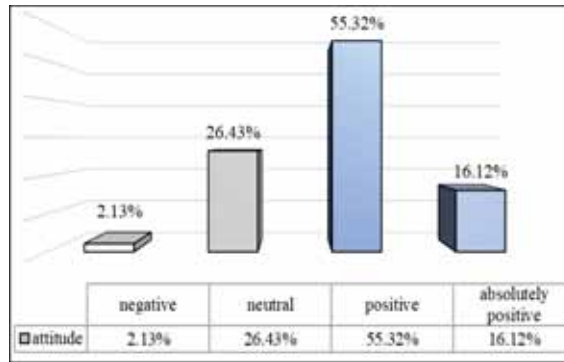


Figure 4. Possibility of applying EU practice

Source: Author's research

Graph 4 shows that experiences of good practice of other countries on changes in the organizational structure could be involved in the institutions of Bosnia and Herzegovina and thus raise the level of employees' motivation. The most of respondents answered with "absolutely positive" (16.12%) or "positive" (55.32%) and (26.43%) of the respondents answered "neutral". It is important to emphasize that just (2.13%) of the respondents answered "negative" and neither one of the respondents answered "absolutely negative".

The research hypothesis was tested by analyzing the relationship between indicators that are characteristic of bureaucratic organizational structure in the institutions of Bosnia and Herzegovina, observed through the motivation of civil servants and employees. The matrix of correlations between a set of independent variables (characteristics of the organizational structure of institutions) and the dependent variable of employees' motivation is presented at the level of significance of 1%. It was found that there is a statistically significant correlation between the dependent and independent variables $r = 0.725$. We continued the analysis with multiple simultaneous regression for hypothesis testing and in Table 1 presented the parameters:

Table 1. The model of simultaneous multiple regression analysis

| Model Summary ^b | | | | |
|----------------------------|---|--|-------------------|----------------------------|
| Model | R (multiple linear correlation coefficient) | R Square (coefficient of determinations) | Adjusted R Square | Std. Error of the Estimate |
| | ,875 ^a | ,766 | ,745 | ,456 |

Source: Author's research

The coefficient of multiple linear correlation is 0.875, which shows that there is a very strong positive linear correlation between the observed variables. Since the coefficient of determination is 0.766, and in accordance with the Chadock's scale, it was concluded that there is a strong relationship in terms of the direction and intensity of correlation between the observed variables. The table also shows the value of the corrected coefficient of determination, which is 0.745.

The analysis of variance (ANOVA) presented in Table 2, found that the presented model of simultaneous multiple regression analysis was statistically significant $F(28,308) = 35,984$, and the model is suitable for further data processing:

Table 2. Analysis of variance of the model of simultaneous multiple regression analysis

| ANOVA ^a | | | | | |
|--------------------|----------------|-----|-------------|---------|-------------------|
| Model | Sum of Squares | df | Mean Square | F omjer | Sig. |
| Regression | 209,351 | 28 | 7,477 | 35,984 | ,000 ^b |
| Residual | 63,996 | 308 | ,208 | | |

Source: Author's research

To determine how much each independent variable in the observed model contributed to the prediction of the dependent variable, and to compare the contributions of all independent variables, we used beta coefficients, standardized for the values of variables converted to the same scale to be compared. The non-standardized coefficients we used to set up the multiple regression equation:

Table 3. Results of simultaneous multiple regression analysis - evaluation of independent variables

| Model | Coefficients ^a | | | | |
|---|-----------------------------|------------|---------------------------|-------|------|
| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | B | Std. Error | Beta | | |
| (Constant) | -.242 | .285 | | -.847 | .398 |
| wide range of control | .082 | .051 | .069 | 1.629 | .104 |
| task flexibility | .049 | .045 | .049 | 1.107 | .269 |
| possibility of employee advancement | .024 | .045 | .027 | .522 | .602 |
| optimal division of labour | .117 | .055 | .128 | 2.146 | .033 |
| efficient use of resources | .073 | .048 | .084 | 1.538 | .125 |
| division of responsibilities of employees | .476 | .057 | .526 | 8.347 | .000 |
| employee career management | .078 | .053 | .075 | 1.462 | .145 |
| employee creativity, | .260 | .070 | .289 | 3.739 | .000 |
| employee development, | .397 | .051 | .442 | 7.759 | .000 |
| information and communication system | .038 | .050 | .041 | .768 | .443 |

Source: Author's research

The coefficient of multiple linear correlations is 0.875 and shows that there is a very strong positive linear correlation between the observed variables. The coefficient of determination based on the parameters in the model is $R^2 = 0.766$, which means that the selected model of simultaneous multiple regression analysis interpreted 76.6% of all deviations. The beta coefficient is 0.526, ie there is a statistically significant influence in the observed sample, which confirms the research hypothesis.

The complexity of research issues has reflected in the obtained results of the empirical research. It was limited by research goal. The research results determined the indicators of the interdependence of organizational structure of institutions and employees' motivation. The data on employees' attitudes on the impact of organizational structure on the level of motivation were presented. The results of research and the application of statistical methods have identified the extent to which the existing organizational structure of the institutions affects motivation. Research results also confirmed that experiences of good practice of other countries could be involved in the institutions of Bosnia and Herzegovina. The conducted research showed that the organizational structure is a reliable criterion for measuring the level of employees' motivation. By consulting relevant theoretical sources, as well as the analysis of procedures, and based on the results of empirical research in institutions at the state level, the research hypothesis was confirmed.

5. Conclusions

The research of the impact of organizational structure on employees' motivation within the institutions of Bosnia and Herzegovina was systematically combined. Given the insufficiently researched area, the obtained research results are intended to contribute to this topic. The existing legislation within the institutions of Bosnia and Herzegovina defines the traditional, classical or bureaucratic organizational structure of institutions, which is characterized by rigid hierarchical relations, fixed and defined duties, formalization and formalized channels of communication between levels of management, and centralized decision-making by the highest level of management. Answers had been given to some research that could be elaborated by further research. Taking into consideration everything, future research on the relationship between organizational structure and employees' motivation in the institutions of Bosnia and Herzegovina

would relate to: coverage of a larger target set of research (institutions at the federal, cantonal and other state levels, because they haven't been covered by the conducted research); more detailed research of modern concepts of managing changes in the organizational structure and employees' motivation; development of a reliable criterion for measuring the level of employees' motivation; research of new approaches based on objective assessments of areas for improving employees' competencies and the possibility of advancement; application of other methods of statistical analysis of the influence of organizational structure on employees' motivation.

Modern conditions are characterized by a dominant problem, ie the issue of human resources and employees' motivation for work, where everything comes first it talks about motivating employees and achieving constructive application of their capabilities and knowledge, to enable the achievement of organizational goals, as well as the development of the organization. EU institution have changed the classic hierarchical relationship between superior and subordinate in performing work tasks and agreeing and realizing goals. Decentralization and reduction of the range of control in the organizational structure are characteristic of the institutions of EU countries, which ultimately results in raising the level of motivation of employees. The practice of EU institutions is reflected in changes in the classic organizational structure. It creates the possibility of advancement of employees within these institutions and also gives results in an increased level of employees' motivation.

Recommendations for the institutions of Bosnia and Herzegovina are reflected in the need of continuously modernizing. Managing of organisational changes or inclusion of the components of the organic organizational structure in the existing bureaucratic organizational structure of institutions are necessary. It will create opportunities for the advancement of employees within these institutions, which will result in raising the level of their motivation. It is necessary to adapt to the requirements, strategies and goals set by the EU, as well as building a functional mechanism that will be an integral part of modern governance and will increase employees' motivation. In order to increase the level of employees' motivation, institutions need significant organizational changes, where the ability, motivation and commitment in institutions are crucial. Human resource management should be ready to manage changes in the existing organizational structure to ensure transparency, fairness, support of values and professionalism of management, as well as raising the level of employees' motivation for their continuous development and advancement. One of the possible solutions is the application of non-bureaucratic organizational structures, which will enable raising the level of employees' motivation.

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IMPACT OF DIGITAL STRATEGY ON PERFORMANCE OF HOTELS IN THE FEDERATION OF BOSNIA AND HERZEGOVINA

UTICAJ DIGITALNE STRATEGIJE NA PERFORMANSE HOTELSKIH PREDUZEĆA U FEDERACIJI BOSNE I HERCEGOVINE

Abstract

Digitalization and digital transformation have achieved macroeconomic scale and are at the forefront of nearly every industry's investment priorities. The hospitality industry is forced to face the digital transformation, as well. COVID-19 has made the use of technology even more important. Hotels aiming to improve their business performance should have a digital strategy which focuses on use of technology. The environment, consumer behaviour and the market are changing and a change in the way hotels operate is necessary in order to keep up with the competition. The main aim of this article is to investigate whether hotels in the Federation of BiH have a digital strategy, and how are some aspects of their digital strategy related to their performance. The results in the paper indicate that many of the hotels still do not have a digital strategy and that hotels with a digital strategy actually achieve better business performance.

Keywords: strategy, digital strategy, marketing, hospitality industry, Federation of BiH

JEL: M00, M3

Sažetak

Digitalizacija i digitalna transformacija danas su tema koja se posmatra na makroekonomskom nivou i na vrhu su prioriteta za investiranje u skoro svim industrijama. Hotelska industrija se također, suočava sa potrebom digitalne transformacije. Pandemija COVID-19 je posebno doprinjela porastu važnosti upotrebe tehnologije u poslovanju. Hoteli koji nastoje unaprijediti svoje poslovne performanse trebaju imati digitalnu strategiju koja se fokusira na upotrebu tehnologije s ciljem unaprijeđenja poslovanja. Okruženje, ponašanje potrošača i tržište se konstantno mijenjaju, stoga preduzeća koja imaju za cilj ostvarenje konkurentskog položaja na tržištu trebaju mijenjati svoj tradicionalni način poslovanja. Cilj ovog rada je istražiti da li hoteli u Federaciji BiH imaju digitalnu strategiju i na koji način pojedina obilježja digitalne strategije utiču na poslovne performanse hotela u Federaciji. Rezultati prezentirani u ovom radu ukazuju na to da mnogi hoteli i dalje nemaju digitalnu strategiju, a da je digitalna strategija u onim hotelima koji je imaju, uticala na poboljšanje njihovih poslovnih performansi.

Ključne riječi: strategija, digitalna strategija, marketing, hotelska industrija, Federacija BiH

JEL: M00, M3

1. Introduction

Tourism, as one of the branches of industry present in every economy, has in the last couple of decades become a large-scale social and economic phenomenon. In a relatively short time span, tourism has evolved into one of the largest and most important instances of social heritage of the contemporary society. However, tourism has also been marked as a very complex and important economic category with an exceptionally dynamic growth and fast and revolutionary qualitative and quantitative organizational changes. The main features of tourism as a branch of economy are dynamic environment, strong competition, and technological innovations (Đonlagić & Karalić, 2020, p. 656).

In order to navigate the dynamic market, hotels have to use modern technology to improve their resource management, quality of service, and their own products – as well as to build successful cooperation and partnership with all interest groups. Under such circumstances, a change in business strategy has become crucial. It has become very important for all business actors, especially for hotels, to embrace technological advancements and their application, for more than geographical connections and expansion, their promotion, and global and national coordination of activities.

The development of technology has allowed for other business actors and tourists to have better access to information, but they are also becoming more demanding. Due to better accessibility, tourists increasingly use the Internet to choose and book accommodation. Selection, booking, and payment are possible without the physical presence of the customer, *i.e.* without the tourist being in the hotel. There are constant innovations in the hospitality (hotel) industry because of the continuous process of introduction of new technologies, new business models, and new approaches to communication. In other words, it is visible that it is almost impossible for hotels to operate without accepting and efficiently using contemporary technologies. Digitalization and digital transformation have achieved macroeconomic scale and are at the forefront of nearly every industry's investment priorities. The hospitality (hotel) industry is forced to face digital transformation, as well. The COVID-19 has made the use of technology even more important. Hotels aiming to improve their business performance should have a digital strategy which focuses on the use of technology. The environment, consumer behaviour, and the market are changing and a change in the way hotels operate is necessary in order to keep up with the competition. Therefore, the aim of this article is to investigate whether hotels in the Federation of Bosnia and Herzegovina have a digital strategy, and how some aspects of their digital strategy are related to their performance.

2. Theoretical framework

2.1 Contemporary trends in tourism

One of the main characteristics of business in contemporary tourism is the use of computers, special software, contactless cards, loyalty cards, actually the use of all of the benefits of the development of modern technology. Everyday application and use of these tools at work is of crucial importance for each business in tourism. Their use reduces the cost of labour, substitutes entire work posts, increases competitiveness on the market, and facilitates administrative and legal affairs and every job, making work easier. Given the mentioned, employees, no longer, need to do some routine jobs that only consume time and reduce productivity and efficiency (Boban & Babić, 2014, p. 62). Since technology has invaded every aspect of people's lives, it is impossible to do anything without the help of devices available on the market. The same applies to tourism. Technology guides the guest/tourist through selection of the hotel, booking, and preparation for the trip, the stay, and the use of the product or service even after the trip.

The presence of technological organizational changes in tourism and hospitality (hotel) industry can be observed through the following trends: mobile applications (mobile booking, check-in options, room access, mobile technology dominates the list of the latest technological solutions), access to and use of information needed to personalize service, use of technology in rooms/accommodation for guests (for instance, on-demand content, flat screen TVs, access to Wi-Fi of fast speed, the ability to turn off the light from the bed, remote control of the sound system), providing security for the guests, energy conservation, and energy efficiency (Barjaktarović & Pindžo, 2016, p. 5).

Nowadays, it is almost impossible to imagine hospitality (hotel) industry without information technologies which allow hotels to establish electronic administration and management of all departments in the business. This primarily refers to the creation of a network which includes several departments such as finances, marketing, human resources, sales, controlling, reception, inventory management, but also to the creation of a common network with airlines, travel agencies, hotel chains *etc.*, which is of great importance for better management and strategic planning of business (Barjaktarović & Pindžo, 2016, p. 16).

Hotels aim to attract customers of the new generation which understands well, uses and loves technology and everything it offers. The fundamental technological framework currently used by hospitality industry is the implementation of the mentioned improvements to the point of complete remodelling of the service package. The aim of the improvement should be the personalization of experience and the digitalization of the service (Kansakar, Arslan & Shabani, 2018, p. 61). In the twenty-first century, tourism is under strong influence of growth of information technologies, especially the Internet, which creates a change in the company's marketing strategy in this industry. The Internet and other information technologies created new interesting and innovative ways of providing good services to clients. The use of Information and Communication Technology (ICT) in tourism has led to the coinage of a new term, e-tourism. It includes telephone calls, e-mail, websites, booking, airplane and bus tickets, SMS/MMS messages, chat and social media messaging, digital photographs and videos. These media provide a very good opportunity for the development of tourism which is connected to the growth of the hospitality industry. The growth of tourism creates the possibility for information technologies to grow (Šarenac & Rebić, 2013, p. 110).

2.2 Digitalization in tourism and the digital strategy of hotels

No other trend has had the effect on tourism that the COVID-19 pandemic had, which is true for BiH as well. However, recovery of this branch of economy is expected to occur this year. When it comes to BiH, this pandemic once again proved that out-dated technology prevents the development of tourism. According to McKinsey's research, this pandemic accelerated digital transformation in tourism by seven years, and the contemporary guest uses up to nine different applications during travel (Loo, 2017). Hotels and other business actors in tourism are becoming aware that digital transformation is necessary if they wish to improve their business. If tourism industry is observed from the perspective of ICT regarding supply and demand, it becomes clear that demand has made much more progress, because guests and travellers have embraced technology and its application faster, while hotels and other service providers have not followed these trends at the same pace. Digitalization is something that will define the development of tourism in the following years, especially in the context of smart tourism or Tourism 2.0.

Research in America shows that there is a direct correlation between digital presence and future growth in revenue. Digitally strong businesses manage better the relationship between the market and the consumers, and businesses which invest more into digital development, in long term, have better performance in comparison with their competition. In BiH, as well as in the countries of the region, most of the hotels and other service providers still do not possess adequate technological solutions for good business management, databases of guests, booking, sales channels *etc.*

Today digital strategy is necessary for businesses in all economic sectors, especially for hotels and other service providers in tourism. The changes in attitudes of consumers, *i.e.* tourists, require

changes in the approach to communication with consumers and use of new channels and platforms. In this context, traditional marketing has a lot of limitations, especially because it, *i.e.* only allows one-way communication with the targeted consumers. Contemporary hotels should have a marketing approach, so called digital marketing, which enables two-way communication with consumers through websites, platforms, and other social media. Consequently, hotels increasingly invest more money into digital marketing and transfer their marketing activities to digital media. Good digital strategy includes selection of appropriate digital communication channels, and tourism has the following at its disposal: search engine marketing (SEM), Google display network, websites, content marketing, mobile marketing, social media marketing, newsletter marketing, affiliate marketing, and video advertising. Therefore, it is evident that the development of the Internet has redefined communication channels in tourism and that contemporary hotels should identify one digital channel in their digital strategy that will allow better digital presence and communication with the targeted consumers (Softić, 2019, p. 34).

3. Research methodology

This research was conducted with the aim of discovering whether hotels have formulated a digital strategy and in which way certain aspects of their digital strategy are connected to the performance of the hotel. The research includes hotels in the Federation of BiH. In accordance with the aim structured in such a manner, a research hypothesis was formulated and it is the following: Hotels in the Federation of BiH have not formulated a digital strategy which affects weak digital presence and bad business performance. Primary research was conducted using survey research. For the purpose of the research, an appropriate survey was created and it includes questions about the respondent, the digital strategy, and the performance of the hotel. Survey was distributed via e-mail as well as delivered personally. The sample was designed as proportional stratified sample and it includes the total of 100 three, four, and five star hotels which operate in the Federation of BiH. The return rate of completed surveys was 100%. After preparation, collected data was analysed using an appropriate statistical methods.

4. Results and discussion

The conducted research surveyed the total of 100 respondents who work in different hotels on the territory of the Federation of BiH. Sixty percent of them were female and 40% male.

Table 1. Respondents according to gender and post

| Post in the hotel | Gender | | | | Total | |
|-------------------------|--------|-------|--------|-------|-------|-------|
| | Male | | Female | | | |
| | n | % | n | % | n | % |
| Hotel administration | 20 | 50.0% | 8 | 13.3% | 28 | 28.0% |
| Management | 9 | 22.5% | 14 | 23.3% | 23 | 23.0% |
| Finances and accounting | 3 | 7.5% | 2 | 3.3% | 5 | 5.0% |
| Reception | 6 | 15.0% | 27 | 45.0% | 33 | 33.0% |
| Marketing | 1 | 2.5% | 6 | 10.0% | 7 | 7.0% |
| Other | 1 | 2.5% | 3 | 5.0% | 4 | 4.0% |
| Total | 40 | 100% | 60 | 100% | 100 | 100% |

Source: Author's research

The majority of the respondents worked at hotel reception (33%), while 28% of the respondents worked in hotel administration and 23% in management (Table 1). The highest percentage of women worked at hotel reception (45%), then management (14%), and the lowest percentage in finances and accounting (3.3%). When it comes to male work posts, the highest percentage worked in hotel administration (50%), then in management (22.5%), and the lowest percentage in marketing (2.5%).

Table 2. Number of employees according to the hotel type

| How many employees work in your hotel | What is the rating of the hotel in which you work | | | | | | Total | |
|--|---|-------|-----------|-------|-----------|-------|-------|-------|
| | three star | | four star | | five star | | | |
| | N | % | n | % | n | % | n | % |
| Up to 10 | 24 | 60.0% | 20 | 37.0% | 1 | 16.7% | 45 | 45.0% |
| 11-20 | 9 | 22.5% | 11 | 20.4% | 1 | 16.7% | 21 | 21.0% |
| 21-30 | 3 | 7.5% | 11 | 20.4% | 2 | 33.3% | 16 | 16.0% |
| 31 and over | 4 | 10.0% | 12 | 22.2% | 2 | 33.3% | 18 | 18.0% |
| Total | 40 | 100% | 54 | 100% | 6 | 100% | 100 | 100% |

Source: Author's research

The highest percentage of respondents, 45% of them, was surveyed in hotels which have up to 10 employees. The next are the hotels which have between 11 and 20 employees, 21%. Hotels with 31 and more employees make up 18% of the surveyed sample, and the lowest percentage represent hotels with the number of employees between 21 and 30. The distribution of hotels according to their ranking is the following 54% are four star hotels, 40% are three star hotels, and 6% are five star hotels.

Table 3. Level of development of the digital strategy of respondents

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------|-----------|---------|---------------|--------------------|
| Valid | YES | 38 | 37.6 | 37.6 | 37.6 |
| | NO | 63 | 62.4 | 62.4 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

Source: Author's research

Through the analysis of the presence of digital strategy in respondents and based on the previous table, it can be concluded that 37.60% of the hotels included in the research have a defined and developed digital strategy, while 62.50% did not define one. It is interesting to point out that all of the hotels have their own websites and use some of the intermediary websites for booking accommodation such as Booking, trivago, etc.

Table 4. *The use of elements of digital marketing in hotel business*

| | Yes | | No | | X ² | p |
|---|-----|--------|----|-------|----------------|-------|
| | f | % | f | % | | |
| Does your hotel have its own website? | 100 | 100.0% | 0 | 0.0% | / | / |
| To reach wider audiences, do you use any Google services such as: Google Ad Words, Remarketing and similar? | 44 | 44.0% | 56 | 56.0% | 1.44 | 0.230 |
| Do you use E-MAIL MARKETING as a part of your digital strategy? | 60 | 60.0% | 40 | 40.0% | 4.00 | 0.046 |
| Do you use any form of MOBILE MARKETING as a part of your digital strategy? | 41 | 41.0% | 59 | 59.0% | 3.24 | 0.072 |
| Do you use CONTENT MARKETING as a part of your digital strategy? | 78 | 78.0% | 22 | 22.0% | 31.36 | 0.000 |
| Do you use SOCIAL MEDIA MARKETING as a part of your digital strategy? | 94 | 94.0% | 6 | 6.0% | 77.44 | 0.000 |
| Do you use paid advertising on social media as a part of your SOCIAL MEDIA MARKETING strategy? | 55 | 55.0% | 45 | 45.0% | 1.00 | 0.317 |

Source: Author's research

Results of the conducted research lead to different conclusions regarding the use of digital marketing elements in hotel business. All of the surveyed hotels have their own websites which suggests that business nowadays would be unimaginable without promoting their own tourist offer via website. Additionally, the percentage of hotels in the Federation of BiH which use content marketing, social media marketing, and e-mail marketing as elements of digital marketing is statistically significantly higher in comparison to that of hotels which do not use such strategies.

However, the results show that there is neither statistically significant higher percentage of hotels which in their business use paid advertising on social media ($p < 0.317$), nor statistically significant higher percentage of hotels which use mobile marketing ($p < 0.072$). In this case, the employees pointed out that hotels in which they work use some form of advertisement, be it content marketing, e-mail marketing, or social media marketing, but they do not use paid advertising on social media or mobile marketing. All of this points to underdeveloped and insufficient knowledge of this type of advertisement for hotels where all of the forms of advertisement are seen as social media and social media activity without paid advertising or mobile advertising being included.

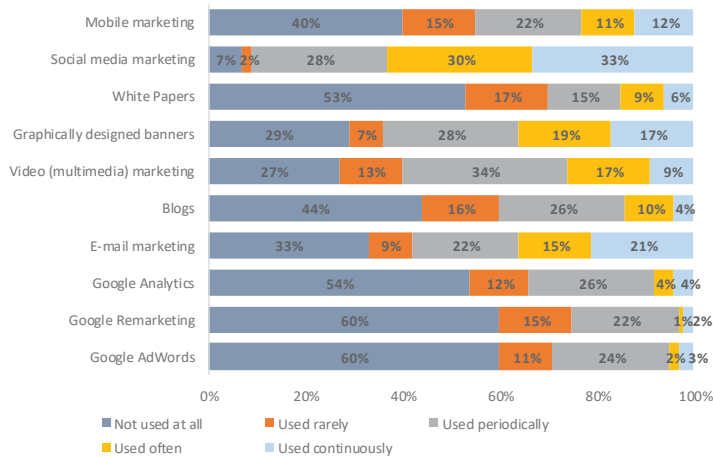


Figure 1. *The intensity of use of different elements of digital marketing in business*

Source: Author's research

The intensity of use of different elements of digital marketing in the business of hotels from the FBH is visible from the Graph 1. It can be noticed that the percentage of hotels that do not use Google Remarketing and Google Ad Words, which can be helpful in attracting new prospective clients, is the highest. That data can be explained as the result of the fact that social tools, apart from the most popular and used ones, are fairly neglected. Hotels direct their efforts towards social media, namely Facebook and Instagram, which are the most used in this region by prospective guests. Advertisement via digital channels, as a fast-growing trend, did not receive financial support of the management of hotels in the Federation of Bosnia and Herzegovina. Namely, 38% invests less than 5% into this type of advertisement, which is slightly alarming if one takes into consideration the presence of the trend of digital advertisement on the tourism market in the world and in BiH.

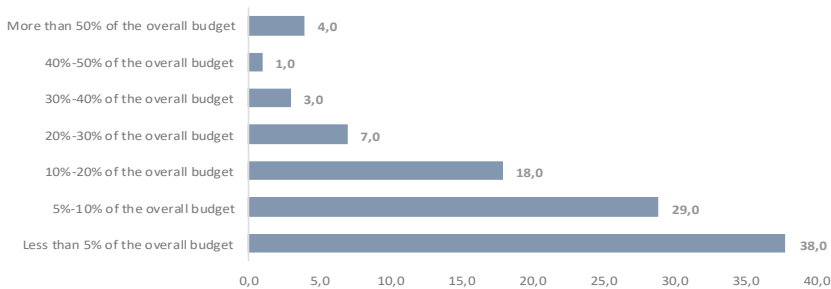


Figure 2. *Financial investments in advertisement via digital channels in relation to the overall budget for advertisement?*

Source: Author's research

The results of the research lead to the conclusion that statistically hotels earn significantly more revenue through online booking (social media, their own websites, and different web platforms) than offline (Table 5). However, 69% of the respondents stated, regarding the booking system, that more revenue is earned through booking made online than offline, personally or via telephone.

Table 5. Revenue generated by hotels

| | F | % | X ² | p |
|---|-----|------|----------------|-------|
| Online (via booking websites, social media, e-mail, or website) | 69 | 69.0 | 14.44 | 0.000 |
| Offline (via telephone, personally, and other) | 31 | 31.0 | | |
| Total | 100 | 100 | | |

*f- response frequency, %-response rate, X² - chi-square test value, p- probability of rejecting null hypothesis with 5% risk

Source: Author's research

In statistically significant (p<0.000) higher number of hotels, revenues increased though the use of information technologies, which is presented in the Table 6.

Table 6. Yearly revenue generated in hotels though the use of information technologies

| | f | % | X ² | p |
|--------------------------|-----|-------|----------------|-------|
| Increased | 73 | 73.0 | | |
| Decreased | 5 | 5.0 | 75.14 | 0.000 |
| No change in the revenue | 22 | 22.0 | | |
| Total | 100 | 100.0 | | |

*f- response frequency, %-response rate, X² - chi-square test value, p- probability of rejecting null hypothesis with 5% risk

Source: Author's research

Having taken into consideration the fact that developed strategy should contribute to the fulfilment of business objectives, next we will investigate whether there is a statistically significant difference in market performance between hotels which do have a developed digital strategy and those which do not. The analysis was conducted using independent sample t-test and the results are presented hereafter.

Table 7. Independent sample t-test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|--|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|-------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| INCREASE IN OVERNIGHT STAYS | Equal variances assumed | .289 | .592 | 2.382 | 99 | .019 | .439 | .184 | .073 | .804 |
| | Equal variances not assumed | | | 2.353 | 75.141 | .021 | .439 | .186 | .067 | .810 |
| INCREASE IN OVERNIGHTSTAYS BY FOREIGN GUESTS | Equal variances assumed | .010 | .921 | 1.485 | 99 | .141 | .264 | .178 | -.089 | .618 |
| | Equal variances not assumed | | | 1.473 | 76.087 | .145 | .264 | .180 | -.093 | .622 |
| NUMBER OF GUESTS KEPT | Equal variances assumed | .138 | .711 | 3.012 | 99 | .003 | .577 | .191 | .197 | .957 |
| | Equal variances not assumed | | | 2.926 | 71.116 | .005 | .577 | .197 | .184 | .970 |

| | | | | | | | | | | |
|------------|-----------------------------|-------|------|------|--------|------|------|------|-------|------|
| NEW GUESTS | Equal variances assumed | 1.944 | .166 | .511 | 99 | .611 | .101 | .198 | -.292 | .494 |
| | Equal variances not assumed | | | .480 | 63.916 | .633 | .101 | .210 | -.319 | .521 |

Source: Author's research

The part of the Table relating to the independent sample test shows the results of *Levene's test* for equality of variances, which examines whether the variance (variability) of certain market performance of both groups of respondents (those who have a digital strategy and those who do not) is the same. As the significance (shown in the section *Levene's test for equality of variances*) is over 0.05 (in our case it is 0.592 for the number of nights spent), the data support the assumption of equality for variances, and in this case the data shown in the first row of the Table should be used. The criterion for determining the statistically significant difference in the number of overnight stays between the two groups of respondents is provided in column Sig. (2-way) under the section *t-test for Equality of Means*. As the calculated value is under 0.05 (in our case it is 0.019), it can be concluded that there is a statistically significant difference between the mean values of the dependent variables of the two groups of respondents. The results relating to other market indicators are interpreted in the same manner. According to the results presented in Table 7, we see that there is a statistically significant difference between the groups of respondents when it comes to keeping existing guests; however, this difference is not statistically significant in other indicators (number of overnight stays by foreign guests and number of new guests attracted).

5. Conclusions

Bosnia and Herzegovina has a significant potential when it comes to tourism development. The development of tourism in the future will largely depend on the ability of the stakeholders in tourism market to digitize their business. It is imperative for the hotels in the Federation of BiH to develop a digital strategy if they are to ensure long-term market survival and performance improvement.

The research conducted on the sample of 100 hotels, which is a significant percentage compared to the total number of registered hotels in the Federation of BiH, has shown that two thirds of the hotels do not have a formulated digital strategy, although they use certain digital communication tools with their prospective guests, that is, with their targeted consumers. However, formulation of a strategy is necessary to target and optimize all marketing activities aimed to improve hotels' performance. Furthermore, the research has shown that the majority of respondents invest less than 5% of their marketing budget in digital marketing. This is completely contrary to the global trends in tourism that we have discussed throughout the paper. The research has also shown that of the digital communication channels, hotels mostly use their websites, e-mail marketing, and content and social media marketing, while less used tools, for instance, include mobile marketing. Although they use different social platforms, when it comes to social media hotels are most often visible on Facebook and Instagram, although they do not use paid advertising on social networks and the Google platform.

The results of the research presented in the paper suggest there is a statistically significant difference in the performance of the hotels that have a digital strategy and those that do not. In fact, this confirms the generally accepted scientific view that companies that are more digitally present achieve better business performance in the long run. If we look at the results relating to financial performance, we can conclude that as many as 69% of hotels generate more revenue online, while total revenues from online activities make up 30% to 60% of total revenue. However, about a third of hotels actually do not measure the performance achieved from online activities, which is completely disappointing. In addition, most hotels pointed out that there was an increase in total revenues, bookings and overnight stays based on online activity and digital presence. This is

reflected in the results obtained by statistical analysis of the relationship between certain elements of digital strategy and market performance.

The obtained and presented results point to the presence of global trends in BiH in the field of tourism. Domestic and foreign tourists are increasingly using social networks, applications and the Internet to research the market and make a decision on choosing certain tourist services. It is especially important for hotels in BiH to improve their digital presence, diversify the use of digital communication channels and formulate a digital strategy that will represent a systematized goal-oriented approach of hotels to modern "online" consumers.

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GENDER GAP IN YOUTH ENTREPRENEURIAL PREFERENCES: CASE OF TUZLA CANTON, BOSNIA AND HERZEGOVINA

RODNE RAZLIKE U PODUZETNIČKIM SKLONOSTIMA MLADIH: SLUČAJ TUZLANSKOG KANTONA, BOSNA I HERCEGOVINA

Abstract

The concept of entrepreneurial inclination is associated with the development of certain personality traits, skills and abilities that enable people to act entrepreneurially, create personal development and realize opportunities in a changing social environment. The purpose of this research is to examine entrepreneurial preferences among young population and gender differences, and whether and in what way the different dimensions of entrepreneurial preferences are interconnected, as well as the overall level of youth entrepreneurial preferences. This is a quantitative study, which will use the Questionnaire of Entrepreneurial Preferences based on the work of Irena Miljković Krečar (2008). Using a deliberate sampling technique, young respondents from public and private organizations will be selected. The research will be conducted in Tuzla Canton, Bosnia and Herzegovina, during the COVID-19 pandemic. Data will be collected using online questionnaires that will, in addition to socio-demographic variables, include different dimensions of entrepreneurial preferences. To gain a better understanding of the gender difference in youth entrepreneurial preferences, descriptive statistics, Cronbach's Alpha, t-test of independent samples, and correlation analysis of correlation using the Pearson coefficient will be used. The results of the research should show that there are gender differences in the entrepreneurial preferences of young people according to the observed dimensions, but also in the overall level of entrepreneurial preference.

Keywords: gender gap, entrepreneurship, entrepreneurial preferences, demographic characteristics, youth

JEL: C3, J16, L26

Sažetak

Poduzetničke sklonosti je povezan s razvojem određenih obilježja osobnosti, vještina i sposobnosti koje omogućavaju osobama poduzetno djelovanje, kreiranje osobnog razvoja i realiziranje mogućnosti u promjenjivom društvenom okruženju. Svrha ovog istraživanja ogleda se u ispitivanju poduzetničkih sklonosti mladih i razliku među spolovima, te da li su i na koji način međusobno povezane različite dimenzije poduzetničkih sklonosti, kao i ukupan nivo poduzetničke sklonosti. Ovo je kvantitativna studija, u kojoj će se koristiti Upitnik poduzetničkih sklonosti baziran na radu Irene Miljković Krečar (2008). Koristeći namjernu tehniku uzorkovanja, odabrat će se mladi ispitanici iz javnih i privatnih organizacija. Istraživanje će biti provedeno u Tuzlanskom kantonu, Bosni i Hercegovini, tokom pandemije COVID-19. Podaci će se prikupljati korištenjem online upitnika koji će, pored socio-demografskih varijabli, obuhvatiti i različite dimenzije poduzetničkih preferencija. Da bismo stekli bolje razumijevanje rodne razlike u poduzetničkim

sklonostima mladih, koristit će se deskriptivna statistika, Cronbach-ova Alfa, t-test nezavisnih uzoraka i korelacijska analiza povezanosti primjenom Pearson-ovog koeficijenta. Rezultati istraživanja trebali bi pokazati da postoje rodne razlike u poduzetničkoj sklonosti mladih po posmatranim dimenzijama, ali i u ukupnom nivou poduzetničke sklonosti.

Ključne riječi: rodna razlika, poduzetništvo, poduzetničke sklonosti, demografske karakteristike, mladi

JEL: C3, J16, L26

1. Introduction

Entrepreneurship is considered one of the key factors in stimulating employment growth in modern economies, and accordingly increasing overall economic well-being. Consequently, the development of entrepreneurship and entrepreneurial competences needs to be recognized as a key strategic priority which, especially in post-crisis and recessionary periods, as is very common in transition countries such as Bosnia and Herzegovina, can facilitate the path to competitive advantage and job creation. Entrepreneurship encourages creativity and presenting one's own ideas in an innovative way with the aim of creating new elements and adapting to frequent changes and accelerated market dynamics. At the individual level, entrepreneurship also affects the social and economic development of individuals and provides them with a new type of employment, which is especially important in periods after economic and financial crises, when it becomes much more difficult, especially for young people, to find employment in traditional structures. Accordingly, the term entrepreneurial propensity is associated with the development of certain personality traits, skills and abilities that enable entrepreneurial action, creating personal development and realizing opportunities in a changing social environment. Starting from the importance of entrepreneurship and gender differences in entrepreneurial preferences of young people, the general goal of the paper is to explain the differences in entrepreneurial preferences between young men and women in Tuzla Canton, and whether and how different dimensions of entrepreneurial preferences and overall entrepreneurial preferences are interrelated.

Accordingly, three research hypotheses were set:

- H1: There is a statistically significant difference in the level of entrepreneurial preferences between young women and men.
- H2: There is a statistically significant correlation between different dimensions of entrepreneurial preferences and the overall entrepreneurial preferences of young women and men.
- H3: There is a statistically significant positive association between different dimensions of entrepreneurial preferences of young women and men.

This paper has a total of five units. In addition to the introduction, conclusion and references, it contains three central parts. The first part discusses the theoretical framework of the research and an overview of previous research on the problems of entrepreneurship and entrepreneurial preferences. The second part contains the methodology of empirical research, which includes variables and indicators, a sample and instrument for collecting primary data and testing the internal consistency of the measurement scales used. The analysis of the results and discussions are presented in the third and most important part of the paper, and including the results of the descriptive and correlation analysis of the collected data.

2. Theoretical framework

The global context and the changing market environment in recent decades have positioned entrepreneurship and entrepreneurial mind-set at a key place in the economic and overall development of the country. Various authors point out that entrepreneurship encourages creativity and presenting one's own ideas in an innovative way with the aim of creating new elements and

adapting to continuous changes in the market characterized by global competition. Global trends show that start-ups create a significant number of jobs and drive and shape innovation and flexibility within the economy thanks to their ability to adapt easily to change.

A turning point in understanding the meaning of entrepreneurship, not only on a conceptual level but also beyond, is the work of the famous American economist TW Schultz, who points out that entrepreneurial ability is not an exclusive privilege of man, related to business ventures, but it can be manifested in most people. Through education an individual can develop the ability to perceive and react in situations characterized by insecurity, which are typical of enterprising action. The term entrepreneurial competence is therefore most closely related to the development of certain personality traits and skills and abilities that enable entrepreneurial action, creating personal development and realizing opportunities in a changing social environment. Conceptually, other terms with similar or the same meaning have been developed that are attached to the term entrepreneurial competence such as entrepreneurial intention, entrepreneurial orientation and entrepreneurial inclination (Luketić, 2011, p. 50).

A review of recent literature in this area indicates that research pays special attention to the development of entrepreneurial preference depending on demographic variables such as age, gender, socioeconomic status, work experience, and parent education. However, there are not many studies that have considered gender differences in entrepreneurial preferences, and those that have addressed the same have come to different results. Thus, for example, in a study that addressed gender differences in labour market outcomes, a large and ubiquitous gap was identified, and the explanation for this is the disparity in personality traits between men and women. Entrepreneurship and self-employment are among the areas in the labour market where the gender gap is the largest. From a policy perspective, understanding the roots of this gender gap is important because entrepreneurship brings significant social benefits - entrepreneurs innovate, launch products, create jobs and contribute to economic growth (Bengtsson, Sanandaji & Johannesson, 2012, p. 2).

Within the research Gender differences in the import of communal and agentic characteristics for entrepreneurs' subjective well-being and performance, it was stated men and women in the area of entrepreneurship are benefitted by different characteristics. The findings of the authors suggest that a gendered perspective may provide new and important insights regarding the role of individual characteristics in the entrepreneurial process. Specifically, in terms of entrepreneurs' personality characteristics, they found creativity to be particularly important for women and teamwork to be especially valuable for men (Hmieleskia K.M. & Sheppard L.D. 2019., p.726).

Other research has confirmed that women are more prone to risk than men, and in this context aversion and fear of risk may explain gender differences when it comes to the transition to self-employment (Fossen & Kritikos, 2014, p. 6). However, several studies show that the propensity for entrepreneurship is an important factor for self-employment and that women prefer self-employment to permanent employment over men. Accordingly, entrepreneurial propensity can influence gender differences in the context of self-employment (Verheul, Thurik, Grilo & Van der Zwan, 2012, p. 327).

While one study analyses men's and women's leadership abilities and concludes that women may be better entrepreneurs because of more managerial competencies than men, another provides statistical evidence that both sexes have equal entrepreneurial potential. For example, a study by the American consulting company Boston Consulting Group showed that women's start-ups in the early stages receive significantly less funding for development from investors compared to start-ups run by men. Still, women-driven entrepreneurial ventures seem to ultimately generate higher returns - more than double the dollar invested - making women entrepreneurial ventures a more profitable investment than male-run start-ups. Because it is shown that women can positively contribute to the

success of entrepreneurial ventures because they possess specific characteristics such as problem solving or emotional intelligence, more women's entrepreneurial ventures can result in positive effects on the economy as a whole (Klindžić *et al.*, 2020, p. 54).

3. Empirical research

This is a quantitative study, whose general goal was to compare the entrepreneurial preferences of young people in Tuzla Canton according to different genders. The research was conducted during the COVID-19 pandemic, and for the purpose of its implementation, primary and secondary research methods were used. Primary data was collected by a survey questionnaire method. Using a deliberate sampling technique, young respondents residing in Tuzla Canton in Bosnia and Herzegovina were selected. Care was taken to represent people of both sexes and different professional orientations. A total of 103 people were interviewed, who had previously accepted to participate in the survey. Data was collected using an online questionnaire consisting of questions examining the socio-demographic characteristics of respondents, and assessments of entrepreneurial preferences measured by a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Secondary methods refer to the analysis of research done so far in this area and are presented in the second chapter.

Consistent with the hypothesis setting, entrepreneurial preference was set as a dependent variable, and gender was set as an independent variable. Entrepreneurial preference is presented as the sum of scores of five subscales covering five different dimensions of entrepreneurial preference, while the mean value was done as an average of values by different dimensions and in total for all statements covered by the entrepreneurial preference questionnaire. Higher scores indicate a higher degree of entrepreneurial preference.

The Questionnaire of Entrepreneurial Preferences was used to assess the entrepreneurial preferences of respondents, which was primarily used in the research "Evaluation of youth entrepreneurship development programs: Creative-educational school for young entrepreneurs" (Gračanin & Čoso, 2013, p. 407). This Questionnaire is based on the work of Irena Miljković Krečar who, based on existing questionnaires and findings from the literature, constructed a new Questionnaire of Entrepreneurial Preferences, the first of its kind in the Croatian language (Miljković Krečar, 2008, p. 61). Her questionnaire was upgraded based on theoretical assumptions arising from learning and teaching strategies for the development of entrepreneurial competence in non-formal education and based on a broad review of scientific literature in the field of entrepreneurship psychology and psychology personality. Accordingly, in addition to the questions from the Entrepreneurship Preferences Questionnaire, additional questions related to assertiveness and communicativeness are included, which were created based on a review of an existing questionnaire that includes measures of assertiveness and sociability, NEO-PI-R (Naklada Slap, 2019). Also included are questions related to the need for achievement conceived within McClelland's theory of needs, questions from the Locus of Control Scale, questions from the Creativity Scale, questions relating to propensity and attitudes towards risk, and interest in and attitudes towards entrepreneurship and entrepreneurs (Miljković Krečar, 2008, p. 62).

According to this, the questionnaire contains randomly ranked statements from five dimensions of entrepreneurial preferences, classified into the following five subscales:

1. Subscale 1 - unconventionalality and creativity which refers to the tendency towards unusual and new ways of solving problems, which include taking risks, and the perception of one's own creativity, *i.e.* self-confidence regarding these characteristics;
2. Subscale 2 - focus on achieving and accepting challenges which refers to the desire of an individual to try to solve more difficult tasks, *i.e.* to accept challenges and get involved in activities that may or may not lead to success;

3. Subscale 3 - entrepreneurial self-efficiency which is the largest and most important scale in the questionnaire, and which refers to trust in one's entrepreneurial characteristics, to the persistence of an individual in general, to entrepreneurial preferences and to leadership characteristics;
4. Subscale 4 - assertiveness and communicativeness which refers to two characteristics that can be very useful in entrepreneurial activity;
5. Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship refers to the positivity of attitudes, *i.e.* a good opinion of entrepreneurs and entrepreneurship, and to one's own readiness to become an entrepreneur.

SPSS 21 software package was used for statistical data processing, within which the following analyses were performed:

1. Descriptive analysis for demographic data on respondents;
2. Reliability analysis of the subscales using the Cronbach's alpha coefficient;
3. Examining the differences of individual groups of respondents using the T-test;
4. Correlation analysis of correlation using Pearson's coefficient.

Since already developed and tested scales were used in this study, Cronbach's alpha was used to analyse the internal reliability of the scales in the context of this study. For the scale as a whole (54 statements) its value is 0,796, which confirms that the measurement scale as a whole is reliable. The internal consistency of the subscales was also tested, and the values of the Cronbach's alpha for all subscales were higher than 0.7, except for the first subscale. Accordingly, it can be concluded that most individual subscales meet the requirements of internal consistency.

4. Analysis and discussion of research results

The total number of respondents who completed the questionnaire was 103, of which 62 (60.2%) were female and 41 respondents (39.8%) were male. Respondents are aged 18 to 35 and most have completed graduate studies (56.3%). Approximately the same percentage of respondents are of economic (49.5%) and non-economic orientation (50.5%), and most of them (62.1%) expressed interest in starting their own business venture. The reliability analysis of the questionnaire for this group of respondents showed that most of the used subscales have good internal consistency, and the values of Cronbach's alpha for all, except for the first subscale "Unconventionality and Creativity", are greater than 0.7. The total reliability is 0.796, which confirms that the measurement scale as a whole is reliable, and the values of the Cronbach's alpha for the individual subscales are presented in Table 1.

Table 1. Cronbach's reliability coefficient for subscales

| Scale | Reliability (α) | Number of questions |
|--|--------------------------|---------------------|
| Subscale 1 - unconventionality and creativity | 0.657 | 6 |
| Subscale 2 - focus on achieving and accepting challenges | 0.731 | 13 |
| Subscale 3 - entrepreneurial self-efficacy | 0.928 | 22 |
| Subscale 4 - assertiveness and communicativeness | 0.855 | 4 |
| Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 0.770 | 9 |

Source: Authors' research

4.1 Comparison of entrepreneurial preference levels between women and men

Analysing the averages values of all measurement scales used to assess the entrepreneurial preferences of women and men, we can find that women achieved higher results in all observed dimensions, but also in the overall level of entrepreneurial preference (Figure 1).

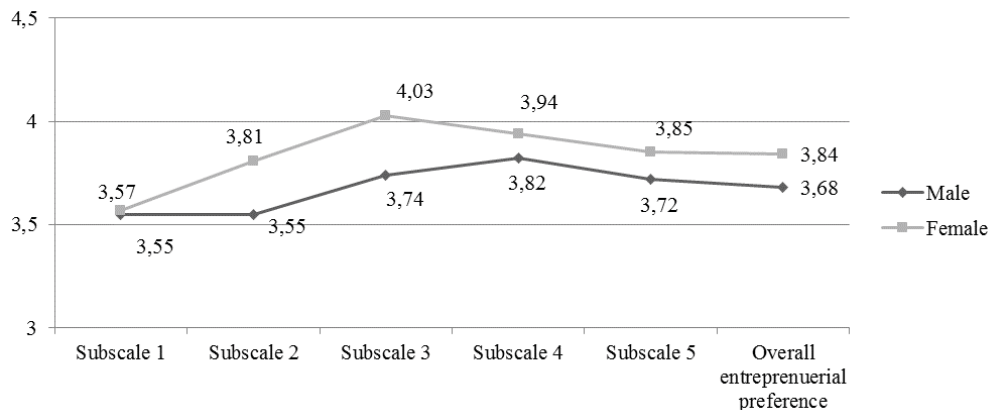


Figure 1. Average value of entrepreneurial preference measurement scales for women and men
Source: Authors' research

Examination of differences in entrepreneurial preferences of different groups of respondents was performed by T-test of independent samples, which is presented in Table 2. When it comes to examining a statistically significant difference in entrepreneurial preferences by gender, in two of the five subscales, focus on achieving and accepting challenges, and entrepreneurial self-efficacy, a statistically significant difference was found between women and men.

Also, a statistically significant difference in the overall level of entrepreneurial propensity between women and men was found. Consistent with all of the above, we can confirm the first hypothesis that there is a statistically significant difference in entrepreneurial preferences between women and men.

Table 2. Entrepreneurial preferences by gender

| Scale | Gender | N | T | Sig. (2-tailed) |
|--|--------|----|--------|-----------------|
| Subscale 1 - unconventionality and creativity | Male | 41 | -.158 | .874 |
| | Female | 62 | | |
| Subscale 2 - focus on achieving and accepting challenges | Male | 41 | -2.469 | .015 |
| | Female | 62 | | |
| Subscale 3 - entrepreneurial self-efficacy | Male | 41 | -2.355 | .020 |
| | Female | 62 | | |
| Subscale 4 - assertiveness and communicativeness | Male | 41 | -.638 | .525 |
| | Female | 62 | | |
| Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | Male | 41 | -.968 | .335 |
| | Female | 62 | | |
| Total entrepreneurial preference | Male | 41 | -2.003 | .048 |
| | Female | 62 | | |

Source: Authors' research

4.2 Dimensions of women's entrepreneurial preferences

The analysis of the correlation of women's entrepreneurial preferences, which was made by correlation analysis, indicates a statistically significant positive correlation of all observed dimensions.

Table 3. Correlation of entrepreneurial preference dimensions or women

| Dimensions of entrepreneurial preferences | | N | Pearson's coefficient | Sig |
|--|--|----|-----------------------|-------|
| Subscale 1 - unconventionality and creativity | Subscale 2 - focus on achieving and accepting challenges | 62 | 0.631 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 62 | 0.613 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 62 | 0.666 | 0.000 |
| | Total entrepreneurial preference | 62 | 0.738 | 0.000 |
| Subscale 2 - focus on achieving and accepting challenges | Subscale 1 - unconventionality and creativity | 62 | 0.631 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 62 | 0.799 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 62 | 0.470 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 62 | 0.630 | 0.000 |
| Subscale 3 - Entrepreneurial self-efficacy | Subscale 1 - unconventionality and creativity | 62 | 0.613 | 0.000 |
| | Subscale 2 - focus on achieving and accepting challenges | 62 | 0.799 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 62 | 0.615 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 62 | 0.666 | 0.000 |
| Subscale 4 - assertiveness and communicativeness | Total entrepreneurial preference | 62 | 0.953 | 0.000 |
| | Subscale 2 - focus on achieving and accepting challenges | 62 | 0.470 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 62 | 0.615 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 62 | 0.398 | 0.001 |
| Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | Total entrepreneurial preference | 62 | 0.624 | 0.000 |
| | Subscale 1 - unconventionality and creativity | 62 | 0.666 | 0.000 |
| | Subscale 2 - focus on achieving and accepting challenges | 62 | 0.630 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 62 | 0.666 | 0.000 |
| Total entrepreneurial preference | Subscale 4 - assertiveness and communicativeness | 62 | 0.398 | 0.001 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 62 | 0.807 | 0.000 |
| | Subscale 1 - unconventionality and creativity | 62 | 0.738 | 0.000 |
| | Subscale 2 - focus on achieving and accepting challenges | 62 | 0.885 | 0.000 |
| Total entrepreneurial preference | Subscale 3 - entrepreneurial self-efficacy | 62 | 0.953 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 62 | 0.824 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 62 | 0.807 | 0.000 |
| | Total entrepreneurial preference | 62 | 0.807 | 0.000 |

Source: Authors' research

According to the analysis, the results of the connection indicate a strong positive relationship between the overall entrepreneurial preferences from all five dimensions of a total of five subscales. The most related is the subscale of entrepreneurial self-efficacy with the entrepreneurial preference of women, whose value of Pearson's coefficient is 0.953 at statistical significance of 0.000, and the

subscale of focus on achieving and accepting challenges, whose value of Pearson's coefficient is 0.885 at statistical significance of 0.000. An overview of all values of the Pearson correlation coefficients is shown in Table 3. Subscale 1 - unconventionality and creativity has the weakest correlation, whose value of Pearson's coefficient is 0.738 with a statistical significance of 0.000. We point out that all the established correlations between different dimensions of entrepreneurial preferences in women are positive, which means that an increase in the level of one dimension affects the increase in the level of another dimension.

4.3 Dimensions of men's entrepreneurial preferences

The analysis of the connection between men's entrepreneurial preferences indicates a statistically significant positive correlation of all observed dimensions, but also certain similarities between men and women in the context of individual dimensions of entrepreneurial preferences.

Table 4. Correlation of entrepreneurial preference dimensions for men

| Dimensions of entrepreneurial preferences | | N | Pearson's coefficient | Sig |
|--|--|----|-----------------------|-------|
| Subscale 1 - unconventionality and creativity | Subscale 2 - focus on achieving and accepting challenges | 41 | 0.524 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 41 | 0.446 | 0.003 |
| | Subscale 4 - assertiveness and communicativeness | 41 | 0.319 | 0.042 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 41 | 0.539 | 0.000 |
| | Total entrepreneurial preference | 41 | 0.624 | 0.000 |
| Subscale 2 - focus on achieving and accepting challenges | Subscale 1 - unconventionality and creativity | 41 | 0.524 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 41 | 0.699 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 41 | 0.647 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 41 | 0.461 | 0.002 |
| | Total entrepreneurial preference | 41 | 0.829 | 0.000 |
| Subscale 3 - Entrepreneurial self-efficacy | Subscale 1 - unconventionality and creativity | 41 | 0.446 | 0.003 |
| | Subscale 2 - focus on achieving and accepting challenges | 41 | 0.699 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 41 | 0.804 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 41 | 0.539 | 0.000 |
| | Total entrepreneurial preference | 41 | 0.941 | 0.000 |
| Subscale 4 - assertiveness and communicativeness | Subscale 1 - unconventionality and creativity | 41 | 0.319 | 0.042 |
| | Subscale 2 - focus on achieving and accepting challenges | 41 | 0.647 | 0.000 |
| | Subscale 3 - entrepreneurial self-efficacy | 41 | 0.804 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 41 | 0.361 | 0.020 |
| | Total entrepreneurial preference | 41 | 0.803 | 0.000 |
| Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | Subscale 1 - unconventionality and creativity | 41 | 0.539 | 0.000 |
| | Subscale 2 - focus on achieving and accepting challenges | 41 | 0.461 | 0.002 |
| | Subscale 3 - entrepreneurial self-efficacy | 41 | 0.539 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 41 | 0.361 | 0.020 |
| | Total entrepreneurial preference | 41 | 0.710 | 0.000 |
| Total entrepreneurial preference | Subscale 1 - unconventionality and creativity | 41 | 0.624 | 0.000 |
| | Subscale 2 - focus on achieving and accepting challenges | 41 | 0.829 | 0.000 |

| | | | | |
|--|--|----|-------|-------|
| | Subscale 3 - entrepreneurial self-efficacy | 41 | 0.941 | 0.000 |
| | Subscale 4 - assertiveness and communicativeness | 41 | 0.803 | 0.000 |
| | Subscale 5 - positive attitudes towards entrepreneurs and interest in entrepreneurship | 41 | 0.710 | 0.000 |

Source: Authors' research

The results indicate a strong positive connection of the overall entrepreneurial preference with all the observed dimensions. As with women, the greatest correlation was found between the entrepreneurial self-efficacy subscale and men's overall entrepreneurial preference, whose Pearson's coefficient is 0.941 at a statistical significance of 0.000, as well as the challenge-achievement subscale, whose Pearson's coefficient is 0.829 at statistical significance of 0.000. An overview of all values of the Pearson correlation coefficients is shown in Table 4. The subscale 1 - unconventionality and creativity has the weakest correlation, whose value of Pearson's coefficient is 0.624 with a statistical significance of 0.000. All established correlations between different dimensions of entrepreneurial preferences of men are positive, which means that an increase in the level of one dimension affects an increase in the level of another dimension.

We found that there is a statistically significant correlation between different dimensions of entrepreneurial preferences and the overall entrepreneurial preference of women and men and that there is a statistically significant positive correlation between different dimensions of entrepreneurial preferences in women and men. In view of all the above, we can accept the second and third hypotheses.

5. Conclusions

The purpose of this research is to examine gender differences in entrepreneurial preferences of young people in Tuzla Canton, and whether and in what way the different dimensions of entrepreneurial preferences are interrelated, as well as the overall level of entrepreneurial preferences of the observed sample. The obtained research results generally confirm that there is a gender gap in the entrepreneurial propensity of young people according to the observed dimensions, but also in the overall level of entrepreneurial preferences. It was found that women achieve higher results in all five observed dimensions of entrepreneurial preferences, but also in the overall level of entrepreneurial preference.

Although a statistically significant difference in entrepreneurial preferences between women and men was confirmed, the results of the research showed that both populations also have certain similarities. A positive correlation of strong intensity of all dimensions of entrepreneurial preferences was found in both genders, and it was confirmed in both men and women that entrepreneurial self-efficiency, as well as focus on achieving and accepting challenges contribute the most to their overall entrepreneurial preference, while unconventionality and creativity contribute at least to the overall level of entrepreneurial preference. Taking into account that entrepreneurship and entrepreneurial preference are determined by a number of factors, additional research is needed in the future to shed light on how key factors, individually and collectively, affect the emergence of gender differences in the context of entrepreneurial preferences, as well as how and in what way they can contribute to generating entrepreneurial behavior and encouraging entrepreneurial intentions in young people.

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DETERMINANTS OF FEMALE ENTREPRENEURSHIP DEVELOPMENT IN TUZLA CANTON

DETERMINANTE RAZVOJA ŽENSKOG PODUZETNIŠTVA U TUZLANSKOM KANTONU

Abstract

Long-term unemployment and high rate of female unemployment in Bosnia and Herzegovina has been one of the main economic problem for years. Female entrepreneurship and its development has been seen as one of the answers to this problem. Female entrepreneurs contribute significantly to economic growth, employment and poverty reduction. Studies on female entrepreneurship have witnessed a growth in the past decades, in Bosnia and Herzegovina as well. This research of female entrepreneurship in Tuzla Canton has been focusing on the challenges women encounter before starting a business and determining the main determinants of female entrepreneurship development in this region. The results presented in this paper indicate that there should be more support from the environment and the institutions for female entrepreneurs with business ideas, and that future development policies should focus more on specific needs of female entrepreneurs.

Keywords: entrepreneurship, female entrepreneurship, determinants, Tuzla canton

JEL: L26, O40, R11

Sažetak

Dugoročna nezaposlenost i visoka stopa nezaposlenosti žena u Bosni i Hercegovini su među najvažnijim ekonomskim problemima sa kojima se suočava godinama. Žensko poduzetništvo i razvoj ženskog poduzetništva smatra se jednim od načina rješavanja ovog problema. Žene poduzetnice značajno doprinose ekonomskom rastu, rastu zaposlenosti i smanjenju siromaštva. Studije o ženskom poduzetništvu sve su brojnije proteklih godina u svijetu, ali i u Bosni i Hercegovini. Ovo istraživanje ženskog poduzetništva u Tuzlanskom kantonu se fokusiralo na izazove sa kojima se žene suočavaju prilikom pokretanja biznisa i na utvrđivanje ključnih determinanti razvoja ženskog poduzetništva u ovoj regiji. Rezultati istraživanja koje je prezentirano u ovom radu ukazuju na potrebu razvijanja poticajnog okruženja i institucionalne podrške ženama poduzetnicama sa idejom za biznis, te da politike razvoja ženskog poduzetništva treba kreirati tako da odgovaraju na specifične potrebe žena poduzetnica.

Ključne riječi: poduzetništvo, žensko poduzetništvo, determinante, Tuzlanski kantona

JEL: L26, O40, R11

1. Introduction

Women bring an enormous value to societies worldwide and the importance and benefits of women's entrepreneurship have been recognized globally. Women entrepreneurs represent the fastest growing category of entrepreneurship worldwide (Cardella *et al.*, 2020, p. 1). According to GEM Report 2019, 231 million women launched a business in almost 60 economies world-wide. Academics and researchers stress out that recent literature indicates that women can make a significant contribution to entrepreneurial activity and economic development (Noguera *et al.*, 2013; Kelley *et al.*, 2017; Hechevarria *et al.*, 2019). Women are a significant but underutilized force in the economy of Bosnia and Herzegovina. Political, economic and social changes in the past have opened up the possibility for women to set up and run companies. At the same time, the unemployment rate of women in BiH is very high. Self-employment and fostering women's entrepreneurship is one of the solutions for this long-term problem. The subject of research presented in this paper are key determinants of female entrepreneurship development and key preconditions for affirmation of female entrepreneurship. Development of female entrepreneurship very much is related to the overall entrepreneurial environment, level of entrepreneurial skills and knowledge and entrepreneurial education. The research was conducted in Tuzla canton which is a well-populated area with high women unemployment rate and differences in levels of development between rural and urban areas. Therefore, the researchers have been looking for an answer to the question whether specific women entrepreneurship development policies can be one of the solutions to these problems. A research hypotheses was formulated based on the presumptions mentioned above: Improving entrepreneurial knowledge and creating a supportive environment for women can contribute to the development of women's entrepreneurship in Tuzla Canton.

2. Literature overview

Using data from the GEM Adult Population Survey and the National Expert Survey researchers analysed the effect of entrepreneurial ecosystems on 75 countries between 2001 and 2014 on the rates of entrepreneurship for men and women. Their results showed that several ecosystem factors had no influence on rates of female and male entrepreneurship, but they also discovered that the prevalence in entrepreneurship is highest for women when the entrepreneurial ecosystem features low barriers to entry, supportive government policy toward entrepreneurship, minimal commercial and legal infrastructure, and a normative culture that supports entrepreneurship (Hechevarria *et al.*, 2019, p. 136).

Studies on the impact of women's entrepreneurship on economic development have shown that women make a significant contribution to entrepreneurial activity, create new jobs and contribute to the increase of national GDP (Cardella *et al.*, 2020, p. 2). Women entrepreneurs significantly contribute to economic growth and poverty reduction globally, they invest in their communities, educate their children and provide help to others (Kelley *et al.*, 2015, p. 6). Various studies on micro, small and medium enterprises have shown that even though these businesses are struggling with lack of financing, restricted access to information and lack of institutional support they are still important for economic development and poverty reduction.

Economic and regulatory conditions are important for the entrepreneurial activity. Women mostly have limited access to economic resources needed for entrepreneurship due to the fact that informal networks entrepreneurs rely on are mostly dominated by men and that men are more effective in communication with government officials (Brush *et al.*, 2009; Aidis *et al.*, 2008; Bardasi *et al.*, 2011). Other studies were focused on access to diverse forms of capital and pointed out that women had difficulties in obtaining financial resources.

According to GEM Women's Entrepreneurship Report in BiH (GEM Report 2012, p. 36) women in BiH recognize good opportunities to start a business and claim to have capabilities and knowledge to do so. According to GEM Women's Entrepreneurship Report 2012 the rate of female entrepreneurs has increased 7% worldwide and the gap between male and female entrepreneurs has been reduced to 6%. According to OECD women have lower rates of participation in entrepreneurial activities mostly due to multiple social and cultural limitations. There are empirical evidence that a woman's decision to start a business depends on her socio-cultural background (Ahl, 2006, p. 596). This gap between men and women when it comes to entrepreneurial activity can be explained by the social roles and stereotypes which are related to women and a certain behaviour which is expected from women. Prior studies which identified these social and cultural obstacles, role-related obstacles as well as infrastructural, educational obstacles alongside with the entrepreneurial environment affect women's entrepreneurship (Bullough *et al.*, 2021, pp. 985-986).

However, literature shows that fear of failure is also gender related. Entrepreneurs are expected to be proactive, aggressive and prone to risk, a behaviour that is not typical for women. Fear of failure and an unfavourable entrepreneurial environment also significantly impact female entrepreneurial activity in BiH, as well. According to the mentioned GEM Report the rate of overall entrepreneurial activity for women entrepreneurs is 5% and it is twice as low as the rate for men entrepreneurs, the rate of women owners/managers of established businesses is 4% vs. 8% for men entrepreneurs. But there is also some other evidence which indicate that women are motivated to start a business due to considerable flexibility in term of working hours allowing them to balance between home and work (Cardella *et al.*, 2020, p.2; Thébaud, 2015, p. 672). Other studies focusing on factors that spurred women to leave employment and start a business shown that the main reasons were achieving personal growth, independence and economic pay off.

The countries of ex-Yugoslavia, according to Hofstede's research, belong to the group of countries with a lower level of individualism (Hofstede, 1991, 2001). GEM research shows that in BiH attitudes and perceptions are still characterized by a low rate of entrepreneurial activity and that in BiH the option of "being an employee" is more attractive, and accordingly entrepreneurship is perceived as a "necessity". This research shows that respondents assessed that national culture does not significantly support the success of individuals achieved through personal work and effort (2.25), nor that national culture does not emphasize significant autonomy, independence and personal initiative (2.25), which is consistent with the characteristics of collectivist cultures (Umihanić, Delić & Donlagić, 2010, pp. 38-48).

When it comes to access to finance, statistics show that a significantly higher number of men in BiH (67.2%), compared to the number of women (47.7%), have an open account in a formal financial institution, although no significant differences in numbers are noticeable. between men and women when it comes to the use of credit. However, women in BiH have a significantly more difficult access to credit, which is associated with the lack of real estate ownership or the lack of funds sought by the financial institution as collateral. Therefore, when securing the financial resources necessary to start a business, women often turn to family, friends, and use loans from private lenders instead of opting for the use of banking financial services (Mi-Bospo & IFC, 2008, p. 8). Women in BiH take out loans for direct consumption more often than for investment purposes, and the value of loans granted to women (BAM 2.702) is significantly lower than the value of loans granted to men (BAM 3.395) (Mi-Bospo & IFC, 2008, p. 8).

Despite the existence of various obstacles and limitations, there is an evident increase in interest in entrepreneurship among women in BiH. Unfavourable economic conditions, high unemployment rate and increasing poverty increase the motivation of women to start their own business, and this is confirmed by the results of the GEM survey, according to which almost half of women entrepreneurs in BiH (48.8%) entered entrepreneurship out of necessity. lack of other employment

opportunities (Umihanić, Omerović & Simić 2012, pp. 33-36). However, the results of the research show that women spend less time running their own business compared to men (women - 29.2% of the week, men - 46.9% of the week), which can be explained by the fact that women in BiH still spend a lot of time “playing“ other, traditional roles.

3. Research methodology

The results of the research presented in this paper are the result of empirical research conducted in the period 2019/2020 in the Tuzla Canton. The survey was conducted as a survey based on the written survey technique, using a survey questionnaire as a data collection instrument. For the needs of the research, an appropriate questionnaire was designed, which was structured to include questions about the profile of respondents, a set of questions about the motives for starting their own business, a set of questions about the perception of the environment in which they live and work, a set of questions about society and institutions for entrepreneurial venture and business focusing on both categories of respondents. The survey included women entrepreneurs, as well as unemployed women from the Tuzla Canton. The sample was designed in such a way that it included a total of 100 women from these two categories, so it is a suitable sample. The collected data were processed using adequate statistical methods, such as descriptive statistical analysis, and χ^2 -test. The statistical software package SPSS was used, based on quantified data obtained from the survey questionnaire.

4. Analysis and discussion of research results

The largest number of respondents comes from Tuzla (40%), which is logical given that it is the capital and largest city of the Canton, followed by Lukavac (10%), Gračanica (9%) and so on, while the least number of respondents from the municipality Banovići. The age structure of the respondents is divided into 4 groups: up to 30 years, from 31 to 40 years, from 41 to 50 years and over 50 years. higher education 31%, higher education 18%, with a master's degree 4%, unskilled workers 3%, while in the sample there were no respondents with a doctoral degree. Most of them 56% are married, 26% are unmarried, 11% are divorced and 7% are widows. Of the total number of respondents, 40% are employed, while 60% are unemployed. 49% of respondents are employed in their own business, while the remaining 51% are employed in both the public and private sectors.

According to the type of business started, most of the respondents focused their business activity on Craft trade (32%), followed by Catering services (26%), in third place is the Old traditional craft with (16%), then Agricultural production (11%), while the last three places with 5% each share Flower Growing, Organic Food Production and Bookkeeping Services. The largest number of women entrepreneurs started their own business more than 5 years ago, 32% of them. It is a symptomatic fact that 21% of respondents started entrepreneurship in less than a year. The rest of the entrepreneurs (49%) started their own business between 2 and 5 years ago. It could be concluded that the circumstances for starting women's entrepreneurship were much better more than 5 years ago, that then in the previous five-year period there was a decline in activity, and in the last two years a positive growing trend of expanding women's entrepreneurship.



Figure 1. *Level of information about starting a business*

Source: Authors' research

The part of the respondents who were not employed, and had positive attitudes about the idea of starting their own business, chose one or more of the seven offered reasons why they did not accept the entrepreneurial challenge. The most common reason for not starting your own business is stated as Lack of money as much as 32%, followed by Fear of business failure (21%), Insufficient aid and subsidies for business (15%), High level of competition in the market (13%), High operating costs (11%), Lack of Ideas (4%) and Lack of motivation (3%). These observations from the survey questionnaire are presented in Graph 1. As many as 98% of respondents share the opinion that the public and the media should pay more attention to unemployed women who have a desire to start their own business. Also, the same percentage of respondents believe that public and other institutions should provide more assistance to unemployed women to start their own business with the help of various benefits and financial subsidies (Graph 2).

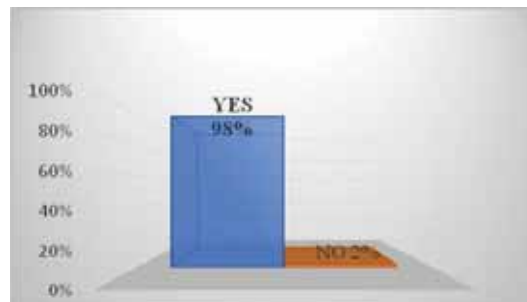


Figure 2. *Support for women's entrepreneurship from media, public and other institutions*

Source: Authors' research

The majority of respondents see as the basic preconditions for the development of women's entrepreneurship: Facilitating legal regulations regarding taxes and other state duties (31%), then Desire and motivation (30%), New ideas and innovations (18%), Demand for certain products (11%) and in last place with 5% are High purchasing power and Low product prices.

When setting the basic hypothesis, independent and dependent variables were defined, as well as the indicators that represent them. Examination of the interdependence of indicators of the dependent variable (number of businesses established by women entrepreneurs) and indicators of independent variables (entrepreneurial knowledge - education, financial resources - institutional assistance, attitudes towards risk, market knowledge, institutional conditions), which we obtained with the questionnaire will be conducted using the Chi square test - χ^2 .

Table 1. The influence of level of education on starting a business

| Are you self-employed? | Unqualified | High school | Higher school | University degree | Master's degree | Total |
|------------------------|-------------|-------------|---------------|-------------------|-----------------|-------|
| Yes | 0 | 7 | 2 | 9 | 1 | 19 |
| No | 0 | 6 | 3 | 9 | 2 | 20 |
| Total | 0 | 13 | 5 | 18 | 3 | 39 |

Source: Authors' research

The data gathered through the questionnaire was used for further analysis using the χ^2 -Chi square. $\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 0.585$. With $df = (m-1)(n-1) = 3$, the tabular value of χ^2 statistics for 3 degrees of freedom and the risk of error $p = 0.05$ is 7.815. Since $0.585 < 7.815$ it follows that there is no interdependence between education and established own business or, that the level of education is not a determinant for starting a business.

Examining the interdependence of marital status on starting your own business in women's entrepreneurship using the χ^2 test, we obtained the following results:

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 3.511$ With the number of degrees of freedom $df = 3$, the tabular value of χ^2 for 3 degrees of freedom, $p = 0.05$ is 7.815. Since $3.511 < 7.815$, it follows that we reject the assumption of the interdependence of marital status and the number of entrepreneurial activities among women in the Tuzla Canton. Therefore, marital status cannot be considered a determinant of starting a business or, it cannot be assumed that younger women without a family would be more inclined to start their own business.

Given that there is a significant difference in women's unemployment in urban and rural areas, we tried to investigate whether there is a difference in starting a business by women in these areas.

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 9.650$ With $df = 9$, the tabular value of χ^2 statistics for 9 degrees of freedom and error risk $p = 0.05$ is 16.919. Considering that $\chi^2 < \chi^2_{table}$ or $9.650 < 16.919$, we conclude that there is no interdependence between the place of residence of the respondents and the number of started their own businesses among the female population in the Tuzla Canton.

The interdependence of age and entrepreneurial initiative in women's entrepreneurship in Tuzla Canton is shown in the following testing:

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 0.637$ With the number of degrees of freedom $df = 3$, the tabular value of χ^2 statistics for 3 degrees of freedom and $p = 0.05$ is 7.815, and is $0.637 < 7.815$, resp. there is no statistically significant difference in the number of start-ups in terms of the age structure of the observed population. Thus, it cannot be said that younger women would be more inclined to start their own businesses.

Examining the relationship between the type of entrepreneurial activity initiated and the assistance of institutions in the course of business through the χ^2 test, we obtained the following results:

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 7.390$ The number of degrees of freedom $df = (m-1)(n-1) = (7-1)(2-1) = 6$, the tabular value of χ^2 statistics for 6 degrees of freedom and the risk of error $p = 0.05$ is 12.592. Given that $\chi^2 < \chi^2_{table}$ or $7.390 < 12.592$, we can conclude that there is no interdependence between the type of entrepreneurial activity and the assistance of institutions for women in the Tuzla Canton. In other words, institutional assistance to women entrepreneurship, although on a small scale, does not favour certain types of entrepreneurial activity. In other words, state institutions do not

implement programs aimed at supporting women's entrepreneurship, where crafts and small businesses are predominant.

In order to examine whether the availability of information on the possibility of self-employment affects the employment of respondents, we conducted a test of the interdependence of these two categories.

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 2.850$ The number of degrees of freedom $df = (m-1)(n-1) = (2-1)(2-1) = 1$, the tabular value of χ^2 statistics for 1 degree of freedom and the risk of error $p = 0.05$ is 3.841. Considering that $\chi^2 < \chi^2_{table}$ or $2.850 < 3.841$, we should reject the assumption of interdependence and state that information about the possibilities of self-employment, education, and vocational training does not significantly affect the employment of the female population of Tuzla Canton. The results of the research indicate that women entrepreneurs believe that they have enough knowledge to start a business, *i.e.* that additional education would not be crucial to start their own business.

The next test will examine whether there is an interdependence between information on self-employment, education and vocational training and obstacles to the development of their own business among the female population of Tuzla Canton.

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 5.940$ With the number of degrees of freedom $df = (m-1)(n-1) = (7-1)(2-1) = 6$, the tabular value of χ^2 statistics for 6 degrees of freedom and the risk of error $p = 0.05$ is 12.592. Considering that $\chi^2 < \chi^2_{table}$ or $5.940 < 12.592$, it follows that we reject the assumption of interdependence and state that information about the possibilities of self-employment, education and vocational training does not significantly affect the assumptions of the development of female entrepreneurship in Tuzla Canton.

Based on the attitudes of the respondents about the ideas for starting their own business during unemployment, which we compared with the level of information about self-employment and vocational training, we tested the existence of interconnectedness.

$\chi^2 = \sum_{n=1}^r \frac{(f_i - f_{i*})^2}{f_{i*}} = 22.880$ With the number of degrees of freedom $df = (m-1)(n-1) = (7-1)(2-1) = 6$; the tabular value of χ^2 statistics for 6 degrees of freedom and the risk of error $p = 0.05$ is 3.841. Given that $\chi^2 > \chi^2_{table}$ or $22.880 > 3.841$ it follows that we accept the assumption of interdependence and conclude that awareness of self-employment opportunities, education and vocational training significantly affect respondents' willingness to take risks and the existence of the idea of starting women's entrepreneurship in Tuzla Canton. The results of the survey showed that 62.16% of respondents who believe that they have enough information about opportunities for self-employment, education, and vocational training, at the time of unemployment had the idea of starting their own business.

5. Conclusions

Based on the conducted research, it is possible to draw a number of findings that may ultimately have a practical contribution when it comes to the field of women's entrepreneurship. Based on the results of the research, it was found that women in entrepreneurship are progressing, but to a much lesser extent than they should be. Women in Tuzla Canton significantly see good opportunities to start a business in the area where they live, and they also believe that they have the ability and knowledge needed to start a business. However, a fairly high level of fear of failure, and most often due to an unfavourable entrepreneurial environment, prevents them from entering entrepreneurial activity. The largest concentration of women's entrepreneurship is related to large urban centres, as evidenced by the fact that 63% of women employed in their own business come from Tuzla. Most

women entrepreneurs are married (68%), aged between 31 and 40 (42%). According to the level of education, the most represented are women entrepreneurs with a university degree (47%) and a secondary education degree (37%). However, based on statistically processed data, it cannot be said that place of residence, age and family status can be considered key to understanding the development of women's entrepreneurship in the Tuzla Canton. Based on the examined sample, it can be concluded that as many as 61% of respondents who are unemployed have been in this status for more than 5 years, which shows the great passivity of the female population in the observed area. The largest number of currently active entrepreneurs (32%) started their own business much more than 5 years ago, while in the last 5 years the number of started entrepreneurial activities is lower. The inclination of local, cantonal and federal government institutions towards entrepreneurial initiative is currently at a very low level, which is shown by the fact that only 16% of entrepreneurs answered in the affirmative that they received some kind of assistance from them during their business. Also, statistical data processing indicated that there is no statistically significant correlation between the development of women's entrepreneurship and institutional support, which actually indicates that women start their businesses independently out of necessity or a recognized opportunity.

The biggest obstacle to the development of the women's business initiative is the lack of money. Given that the banking and the entire financial sector currently has a large surplus of funds and that the price of money is at a multi-year low, it can be concluded that there are no quality financial arrangements designed, tailored and available to women entrepreneurs. Most potential entrepreneurs see their own business in the trade and small craft industry (42%), while very few are interested in manufacturing. The opinion is much expressed that the media and public institutions should pay much more attention and help to start, expand and improve women's entrepreneurship in the Tuzla Canton. This is exactly what the statistical data processing showed, that better information and an environment that supports women can significantly contribute to the development of women's entrepreneurship in Tuzla Canton. The most important preconditions for the development of women's business initiative include mitigating legal regulations regarding taxes, etc. In order to encourage other women to start their own business, active entrepreneurs should share their business experiences through joint workshops and seminars organized by the competent public institutions, good business practice, motivate and give incentives to potential women entrepreneurs.

The research presented in this paper, conducted in Tuzla Canton, was undertaken with the intention to investigate the problems faced by women entrepreneurs. The main obstacles faced by women entrepreneurs are liquidity and other financial problems, lack of information, and the combination of family and business life. The key to the development of women's entrepreneurship, according to this research, is a stimulating environment and better information of women about starting a business, educating women about making a business plan and more significant support from institutions.

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COVID-19 AND WOMEN IN THE LABOUR MARKET IN THE FEDERATION OF BOSNIA AND HERZEGOVINA

COVID-19 I ŽENE NA TRŽIŠTU RADA U FEDERACIJI BOSNE I HERCEGOVINE

Abstract

In this paper, authors present the results of a research study on the representation of women in the labour market within fifteen activities in the Federation of Bosnia and Herzegovina. In four of the fifteen industries, women are more represented than men. Authors investigated the resilience of companies to the challenges of the COVID-19 pandemic using a large sample of 1,232 companies operating in the Federation of BiH and focusing on determining the success of companies measured by financial performance and reducing the number of women and men employed in companies. The results of the research indicate that 50.1% of companies in which women are more represented reported a decline in financial performance, compared to 38.6% of companies in which men are more represented, and that 4.1% of women lost their jobs compared to 2.6% of men. The results of this study could be valuable in promoting the need to establish various measures to combat the low participation of women in the labour market.

Keywords: COVID-19, labour market, women

JEL: J21

Sažetak

U radu prezentiramo rezultate studije istraživanja zastupljenosti žena na tržištu rada u okviru petnaest djelatnosti u Federaciji Bosne i Hercegovine. U četiri od petnaest djelatnosti žene su zastupljenije od muškaraca. Istražili smo otpornost kompanija na izazove pandemije COVID-19 koristeći se velikim uzorkom od 1.232 kompanije koje posluju u Federaciji BiH a fokusirajući se na utvrđivanje uspješnosti kompanija mjerene finansijskim performansama i smanjenjem broja zaposlenih žena i muškaraca u kompanijama. Rezultati naših istraživanja pokazuju da je 50,1% kompanija u kojima su zastupljenije žene prijavilo pad finansijskih performansi, u poređenju sa 38,6% kompanija u kojima su zastupljeniji muškarci, te da je 4,1% žena izgubilo posao naspram 2,6% muškaraca. Rezultati ove studije mogli bi biti vrijedni u promicanju potreba za osmišljavanjem različitih mjera za borbu protiv niskog učešća žena na tržištu rada.

Ključne riječi: COVID-19, tržište rada, žene

JEL: J21

1. Introduction

All labour market figures are showing that there is a significant gender gap: women are less active, fewer employees and more women are outside of the labour market. As of August 2021 (Labour and Employment Agency of Bosnia and Herzegovina, 2021), the number of employed persons in BiH was 818,459 out of which there were 354,360 women in August 2021. During the same month, the number of registered unemployed in BiH amounted to 392 551, out of which there were 226,537 women. In addition to that, 57.7% of the total number of job seekers were women. In the total number of persons outside the labour force, 578 thousand (38,1%) persons are men, and 939 thousand (61,9%) persons are women.

Out of those employed, women are highly present in sectors that have been considered vital throughout the pandemic – *i.e.*, education, healthcare, caregiving, cashiering, and retail. The paradox is that although women have been at the frontline of the pandemic, they have still lacked decision-making power, and are more exposed to insecure jobs (De Paz, Muller, Muñoz Boudet & Isis Gaddis, 2020, p. 14). Women are generally underrepresented in management positions in public enterprises of companies owned by the Federation of Bosnia and Herzegovina (Selimović *et al.*, 2021, p. 17). Women spend a lot of time on household chores that are not properly valued in society (MEASURE-BiH, 2019). The purpose of the research is aimed at assessing the representation of employed women in certain industries and the resilience of companies, measured by financial performance and the percentage of job losses, in which women are more represented in the challenges of the COVID-19 pandemic. The aim of this paper is to further understand the effects of COVID-19 on women employment across different sectors of economies, as “there are good reasons to be concerned about the impact of the pandemic on women’s jobs” (Queisser, 2021, p. 249). We examined whether women were more affected by the COVID-19 crisis in the Federation of Bosnia and Herzegovina. The data used in this research are data collected by the Federal Employment Agency as part of the labour market survey in the Federation of BiH 2020/2021. The random stratified sample consists of 1,232 employers registered in the Federation of BiH.

2. Literature Review

O'Donnell (1984) has summarized four major theoretical schools that explain the lower participation of female employees in particular industries, including neoclassical economists in the human capital school; dual labour market theorists; labour market segmentation theorists; and feminists who use the term 'reserve army'. Based on these theories, women might be under-represented because of making different kinds of labour market choices and their characteristics being major determinants of the labour market (neo-classical theorists); because women are secondary workers with most problems arising from the demand-side of the labour market (dual labour market theory); because market consists of many separate groups of employees resulting in segmentation of jobs according to different criteria (race, age and sex); or because married women constitute what is called “a reserve army of labour”. Klasen (2019) has noted that even though some positive trends are evident (strong expansion of female education and favourable economic conditions), the effect of these trends varies across countries and regions within countries. According to Klasen (2019), differences in levels of employment are affected by “historical differences in economic structure that circumscribe women’s economics opportunities still today.” Theory named “Feminization U theory” provides another explanation of what female labour participation varies, *i.e.* the “women’s labour force participation drops during the initial phase of industrialization and rises once a certain level of development is reached” (Roncolato, 2016, p. 1). Roncolato’s (2016) findings show a U-shaped relationship exists between the share of nonagricultural employment and women’s probability of being in the labour force, but it is not found between the share of households with electricity and women’s probability of being in the workforce.

The burden of COVID-19 falls disproportionately on women, older employees, migrants and workers with lower levels of education (Hogarth, 2021, p. 12). As noted by Queisser (2021), the COVID-19 pandemic differently affected men and women. As women represent two-thirds of the health workforce worldwide, they are at greater risk of infection, with the additional disadvantage of not participating in decision-making processes since they are typically under-represented in leadership.

Doley & Padhan (2021) concluded that the impact of COVID-19 on women's participation in the labour market in the North-eastern states are significant, indicating that women suffer more than men regarding layoffs. Analysis of effects by Gassen & Penje (2021) also found that some female-dominated sectors (health care or elderly care) experienced stable or even increased labour demand during the pandemic, with other sectors (hospitality, retail sectors) being harder hit by the COVID-19 pandemic as they employ more women than men. In addition to that difference by gender, women are more likely to work on a temporary contract, making this group in the labour market more vulnerable. Gassen & Penje (2021) also report that women are more likely to become inactive during the pandemic because of the need to take care of children or sick family members.

Some researchers found that, during 2020, women were more likely to increase their load of housework (Del Boca *et al.*, 2020, p. 1001), lose their jobs (Farré *et al.*, 2021, p.4), and reduce their working hours more than men did (Collins *et al.*, 2020, p. 110). The study from Germany (Hipp & Bünning, 2020, p. 670) shows that women with small children are particularly vulnerable. According to ILO Monitor the decline in employment in most countries has led to a substantial increase in inactivity. At the same time changes in unemployment for men and women are broadly similar, but women are more at risk of inactivity.

The government employed different measures to fight COVID-19 consequences, such as Ferreira (2021): reduction of workers' exposure to COVID-19 in the workplace, income support, helping firms to adjust working time and preserve jobs, financial support to the affected firms, and tackling the risk of credit defaults by households and business. However, as noted by Eichhorst, Marx & Rinne (2000), unemployment benefits' changes made because of COVID-19 varied across countries, with some countries being more generous than others. As different measures have been implemented across countries, studies that address the problem of female labour participation might be valuable in promoting the need to design different measures to fight low women labour market participation.

3. Methods

The data used in this research are data collected by the Federal Employment Agency as part of the labour market survey in the Federation of BiH 2020/2021, based on a master sample of about 10.000 employers obtained from the Tax Administration of the Federation of BiH by stratified random sampling. The sample consists of 1.232 employers registered in the Federation of BiH who had five (5) or more employees, sorted into small, medium and large employers by activities and who regularly pay mandatory taxes and contributions. According to the size, most firms belong to the category of small and micro companies (81.41%) that employ up to 50 workers, followed by medium-sized companies (13.39%), while large employers, which employ over 250 workers, account for 5.19%. By activity, the largest percentage of employers is in the manufacturing industry (26.1%), followed by wholesale and retail trade; repair of motor vehicles and motorcycles (24.7%). However, firms across different sectors have been included in the sample.

4. Results and discussion

Overall, 41.8% of firms in the sample reported a decline in their financial results in 2020 in which most operations of businesses were disrupted by COVID-19 (see Table 1). However, when we compare female-dominant firms (more than 50% of workers are female), the distribution of firms that reported decline, growth and stagnation vary. Among 341 firms that are female-dominant, 50.1% reported a decline, in comparison to 38.6% of male-dominant firms.

Table 5. *The number and percentage of firms by reported financial impact, by gender*

| Financial effects in 2020 | Male-dominant firms | | Female-dominant firms* | | Total | |
|---------------------------|---------------------|---------------|------------------------|---------------|-------------|---------------|
| | Number | Percentage | Number | Percentage | Number | Percentage |
| Decline | 344 | 38.6% | 171 | 50.1% | 515 | 41.8% |
| Growth | 216 | 24.2% | 71 | 20.8% | 287 | 23.3% |
| Stagnation | 310 | 34.8% | 95 | 27.9% | 405 | 32.9% |
| No response | 21 | 2.4% | 4 | 1.2% | 25 | 2.0% |
| Total | 891 | 100.0% | 341 | 100.0% | 1232 | 100.0% |

* Firms with more than 50% of female workers

Source: Authors' research

Women dominate in only four out of 15 economic activities: accommodation and food service activities (52.4%), wholesale and retail trade; repair of motor vehicles and motorcycles (58.8%), Arts, entertainment, and recreation (71.3%) and other service activities (76.6%). These results are also in line with the women employment across OECD countries – women make up 53% of employment in food and beverage services, 60% in accommodation services and 62% in the retail sector (Queisser, 2021, p. 249). Overall, women in Bosnia and Herzegovina represent 40.7% workforce in the sampled NACE sections. Table 2 shows the proportion of employed women in total employment by included NACE sections, with three additional statistics: percent of newly employed women, percent of laid-off women and percent of retired women. In these four broad categories of economic activities, women were also mostly affected by layoffs, but also benefited by new employment.

Table 6. *The women's participation in the market*

| NACE section | % of employed women ¹ | % of newly employed women ² | % of laid off women ³ | % of retired women ⁴ |
|--|----------------------------------|--|----------------------------------|---------------------------------|
| B (Mining and quarrying) | 8.6% | 11% | 4.8% | 16.4% |
| C (Manufacturing) | 37.9% | 40% | 44.5% | 38.4% |
| D (Electricity, gas, steam and air conditioning supply) | 26.3% | 23% | 33.3% | 0.0% |
| E (Water supply; sewerage, waste management and remediation activities) | 14.8% | 4% | 4.3% | 26.7% |
| F (Construction) | 9.3% | 0% | 1.4% | 22.2% |
| G (Wholesale and retail trade; repair of motor vehicles and motorcycles) | 58.8% | 57% | 50.7% | 35.4% |
| H (Transportation and storage) | 13.5% | 15% | 1.5% | 0.0% |
| I (Accommodation and food service activities) | 52.4% | 70% | 59.6% | 56.0% |
| J (Information and communication) | 42.6% | 36% | 28.8% | 0.0% |
| K (Financial and insurance activities) | 30.4% | - | 43.3% | - |
| L (Real estate activities) | 38.5% | 0% | 21.7% | - |
| M (Professional, scientific and technical activities) | 41.0% | 45% | 30.6% | 55.6% |
| N (Administrative and support service activities) | 12.0% | 13% | 11.7% | 5.9% |
| R (Arts, entertainment and recreation) | 71.3% | 51% | 59.4% | 0.0% |

| | | | | |
|------------------------------|--------------|------------|-------|-------|
| S (Other service activities) | 76.6% | 73% | 37.0% | - |
| Total | 40.7% | 37% | 41.3% | 30.8% |

¹In relation to total employed persons in observed NACE section

²In relation to total number of employed persons in observed NACE section

³In relation to total number of laid of persons in observed NACE section

⁴In relation to total number of retired persons in observed NACE section

Source: Authors' research

Women employment were the most affected in the accommodation and food service activities, where the percentage of change is -28.9%, indicating that a larger number of women were laid off than employed in the observed NACE section. A significant decrease can also be observed in the trading economic activities (G), with a 5.8% decrease of women workers, and in financial and insurance activities (K), with a 5.7% decrease.

Table 7. *The change of number of female employees*

| NACE section | Employed women in the sample | Change in the number of employed women | Percentage change |
|--|------------------------------|--|-------------------|
| B (Mining and quarrying) | 259 | 1 | 0.4% |
| C (Manufacturing) | 11,863 | -271 | -2.3% |
| D (Electricity, gas, steam and air conditioning supply) | 26 | 1 | 3.8% |
| E (Water supply; sewerage, waste management and remediation activities) | 149 | 1 | 0.7% |
| F (Construction) | 439 | -3 | -0.7% |
| G (Wholesale and retail trade; repair of motor vehicles and motorcycles) | 12,869 | -744 | -5.8% |
| H (Transportation and storage) | 210 | 16 | 7.6% |
| I (Accommodation and food service activities) | 755 | -218 | -28.9% |
| J (Information and communication) | 1385 | 43 | 3.1% |
| K (Financial and insurance activities) | 229 | -13 | -5.7% |
| L (Real estate activities) | 116 | -5 | -4.3% |
| M (Professional, scientific and technical activities) | 558 | -1 | -0.2% |
| N (Administrative and support service activities) | 315 | 3 | 1.0% |
| R (Arts, entertainment and recreation) | 1243 | -59 | -4.7% |
| S (Other service activities) | 259 | 1 | 0.4% |
| Total | 30,675 | -1248 | -4.1% |

Source: Authors' research

When compared the percentage change of men and women employed, women were more affected in 2020. Overall, the number of women employed was reduced by 4.1% while men were 2.6%. Women were affected more than men in seven NACE economic activities (see Table 4). However, since women dominate in only four economic activities, this misbalance indicates that women were affected more than men across different activities.

Table 8. *The percentage change of men and women employment by NACE economic activities*

| NACE section | % change in the number of women employed | % change in the number of men employed | More affected |
|--------------|--|--|---------------|
| B | 0.4% | -0.1% | Men (0.5%) |
| C | -2.3% | -0.5% | Women (1.8%) |
| D | 3.8% | 8.2% | Men (4.4%) |
| E | 0.7% | 3.3% | Women (2.6%) |
| F | -0.7% | 2.6% | Women (3.3%) |

| | | | |
|-------|--------|--------|--------------|
| G | -5.8% | -9.3% | Men (3.5%) |
| H | 7.6% | -6.3% | Men (13.9%) |
| I | -28.9% | -25.4% | Women (3.5%) |
| J | 3.1% | 2.8% | Men (0.3%) |
| K | -5.7% | -3.2% | Women (2.4%) |
| L | -4.3% | -6.5% | Men (2.2%) |
| M | -0.2% | -4.0% | Men (3.8%) |
| N | 1.0% | -2.5% | Men (3.4%) |
| R | -4.7% | -2.2% | Women (2.6%) |
| S | 0.4% | -16.5% | Men (16.8%) |
| Total | -4.1% | -2.6% | Women (1.5%) |

Source: Authors' research

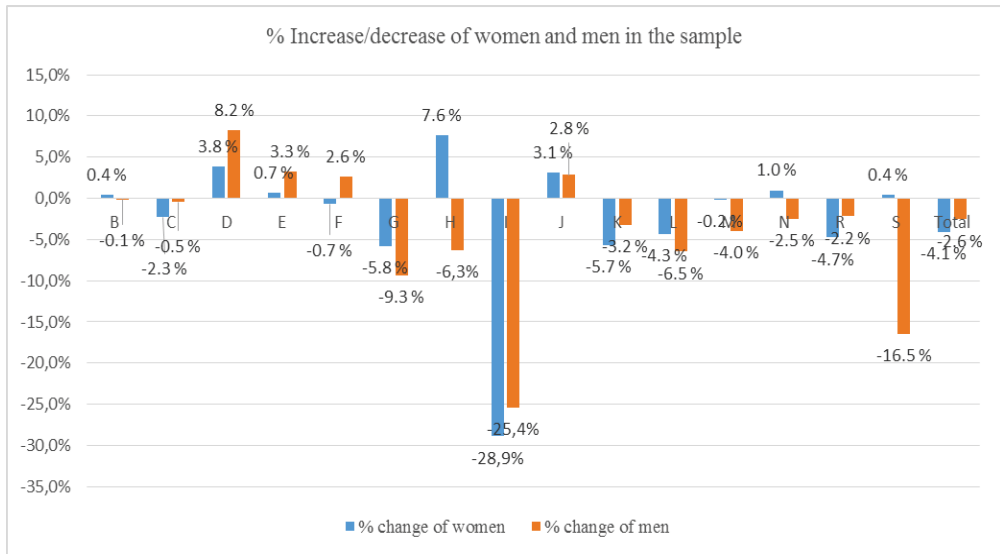


Figure 1. The percentage change of men and women employment by NACE economic activities

Source: Authors' research

In Table 5, we present coefficients and their significance values in a logistic regression model in order to determine whether enterprises with a larger proportion of women in their total number of employees are more likely to report a decline in their financial reports. The dependent variable represents a dummy variable, indicating whether an enterprise has reported a decline in its financial results. The independent variables, besides variables of interest, include multiple dummy variables: the size of an enterprise, age, and economic activities according to NACE classification. The variable of interest is women participation, measured as a proportion of female workers in a company. Our results show a one percent increase in the proportion of female employment in an enterprise, we expect to see about 0.04% decrease in the odds of being an enterprise with declining financial results. These results might indicate that enterprises with a higher proportion of female workers are less likely to experience a decline in their financial reports. However, the odds for enterprises in R and S to report a decline, which mostly employ female workers, are about 668% higher than in other economic activities.

Table 9. Logistic regression results

| Predictors | Description | Coefficient (B) | Std. Err. | Exp (B) |
|---|--|-----------------|-----------|---------|
| Women participation | Proportion of female workers in a company | -0.043*** | 0.011 | 0.96 |
| Small enterprise | =1 if a small enterprise | 1.43 | 1.03 | 4.17 |
| Age (older than 10) | =1 if older than 10 years | 0.56 | 0.57 | 1.73 |
| Economic activity (Reference category: Other sectors) | | | | |
| F | Construction | -0.80 | 1.13 | 0.45 |
| G, H and I | Trade; transportation and storage; Accommodation and food service activities | 0.72 | 0.61 | 2.05 |
| J | Information and communication | 1.09 | 1.15 | 2.99 |
| M and N | Professional, scientific and technical activities; Administrative and support service activities | 1.72** | 0.67 | 5.59 |
| R and S | Arts, entertainment and recreation; Other service activities | 2.87*** | 0.85 | 17.68 |
| Constant | | -5.32 | 1.21 | 0.01 |

Dependent variable: Financial results (=1 if decline), (Pseudo) R² = 0.1443 (14.43%), N = 1.214, mean VIF 1.18

*** Significant at 0.01 level, ** Significant at 0.05 level, *Significant at 0.10 level.

Source: Authors' research

5. Conclusions

The paper contributes to a better understanding of the effects of COVID-19 on women employment across different sectors of economies. We examined whether women were more affected by the COVID-19 crisis in the Federation of Bosnia and Herzegovina. Women have been traditionally underrepresented in the labour market as a consequence of the lower participation of female employees in particular industries. Several theories emerged to explain the differences between male and female employment, including neoclassical economists in the human capital school; dual labour market theorists; labour market segmentation theorists; and feminists who use the term 'reserve army'. We examined whether women were more affected by the COVID-19 crisis in the Federation of Bosnia and Herzegovina. Our results show that 50.1% of female-dominant firms reported a decline, in comparison to 38.6% of male-dominant firms. Women dominates in only four out of 15 economic activities and yet they were affected more than men in seven out of 15 economic activities. The results could be explained by the traditional role women have in society, such as taking care of children and elderly. When compared the percentage change of men and women employed, women were more affected in 2020. Overall, the number of women employed was reduced by 4.1% while men were 2.6%. The results of this study might be valuable in promoting the need to design different measures to fight low women labour market participation. Women should be better supported when designing measures to protect workers from unexpected events such as COVID-19, including higher income support, helping firms to adjust working time or introducing flexible working hours.

There is a risk that working women who became inactive during the crises can have adverse effects on progress towards gender equality, as was the case during the 2008 economic crisis. This might be a reason for widening the gender gap by interrupting female working careers to a greater extent than men and reducing their pension funds, which were already lower than men's before the crisis. It could widen gender-based poverty. All these aspects should be further analysed, especially as an

input for social programs to cope with the recent economic crisis to ensure gender equality and support for women.

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TWO SIDES OF HEAVY WORK INVESTMENT: WORK ENGAGEMENT AND WORKAHOLISM

DVIJE STRANE SNAŽNOG ULAGANJA U RAD: RADNA ANGAŽIRANOST I RADOHOLIZAM

Abstract

This study aims to investigate two aspects of heavy work investment: work engagement and workaholism. While work engagement refers to a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption, workaholism is often observed as a negative form of heavy work investment described by excessive and compulsive work. Regardless of the different drivers and different individual and organizational outcomes, conceptual and empirical distinctions between the two remain insufficiently clarified. As measurement instruments, we used UWES-17 work engagement and DUWAS workaholism scales. In order to empirically examine the difference between the observed constructs, two models were tested using structural equation modeling. In the end, implications of the study's findings are discussed.

Keywords: work engagement, workaholism, heavy work investment

JEL: D23

Sažetak

Ovaj rad istražuje dva aspekta snažnog ulaganja u rad: radnu angažiranost i radoholizam. Dok se radna angažiranost definiše kao pozitivno stanje uma određeno vigorom, posvećenošću i apsorpcijom, radoholizam predstavlja negativni oblik intenzivnog rada kojeg odlikuju težak i kompulzivni rad. Bez obzira na različite prediktore kao i individualne i organizacijske ishode, još uvijek ne postoji jasna konceptualna i empirijska distinkcija ova dva oblika snažnog ulaganja u rad. Tokom istraživanja, dvije skale su korištene kao mjerni instrumenti: UWES 17 (radna angažiranost) i DUWAS (radoholizam). Kako bi se empirijski ispitala razlika između posmatranih konstrukata, upotrebom SEM-a testirana su dva modela. Na kraju, svi rezultati sprovedenog istraživanja su detaljno diskutovani.

Gljučne riječi: radna angažiranost, radoholizam, snažno ulaganje u rad

JEL: D23

1. Introduction

The main aim of this study was to examine two different profiles of heavy work investment: work engagement and workaholism. According to the two-dimensional view of work-related subjective well-being suggested by Bakker and Oerlemans (2011), work engagement and workaholism are dimensions of subjective well-being related to the pleasant (work engagement) and unpleasant (workaholism) high activation during work. Consequently, their outcomes are different on both individual and organizational levels.

Based on the meta-analysis results, Di Stefano and Gaudiino (2019) suggest that further research is needed to expand our knowledge on work engagement and workaholism and the relationship between the two. Although literature depicts the relationship between two forms of heavy work involvement (Di Stefano & Gaudiino, 2018; Birkeland & Buch, 2015; del Libano *et al.*, 2012; Schaufeli *et al.*, 2008; Schaufeli *et al.*, 2006), the conceptual and empirical distinctions between the two remain insufficiently clarified (Di Stefano & Gaudiino, 2019; Burke *et al.*, 2006) thus calling for additional research. Relying on the so far conducted studies and conceptual approach proposed by Schaufeli *et al.* (2008; 2006), the present research seeks to explore the empirical distinction between the two different aspects of heavy work investment. Hence, two models are tested. Model 1 assumes that both constructs of heavy work investment load on the same factor named general heavy work investment. Model 2 suggests that the two observed constructs load on two correlated factors. Changes from the uncertain environment cause change at the workplace as well. While some changes are planned (*i.e.*, technological advancement), part of them are caused by so-called wild cards events such as the Covid-19 pandemic. Altogether, these occurrences lead to changes in the workplace and the behavior of employees that might result in employees' intense work.

2. Theoretical framework

Schaufeli *et al.* (2002, p. 74) conceptualize engagement as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. Vigor refers to high energy levels, mental resilience, willingness to invest effort, and endurance during work difficulties. Dedication is described as the sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption refers to the state of being entirely concentrated and engrossed in one's work so that time passes quickly, and one has difficulties with detaching from work (Schaufeli *et al.*, 2002). Employees who score high on vigor usually have much energy and zest, while those who score low have less energy, zest, and stamina during work. A high score on dedication means strong identification with one's work because it is experienced as meaningful, inspiring, and challenging. In addition, dedicated employees feel enthusiastic and proud of their work. A low score means the opposite: there is no identification with work, work is not perceived as meaningful, inspiring, and challenging. Less dedicated employees do not feel enthusiastic or proud about their job. As a consequence of high absorption, one is engrossed in work and feels like time flies. Low scores on absorption mean that one is not entirely concentrated to work and has no difficulties detaching from work tasks (Schaufeli & Bakker, 2003).

Even literature offers rich discussion on the subject, there is no generally accepted definition of workaholism to date. In the broadest sense, workaholism refers to hard work. The present study's culture makes it not rare to perceive workaholics as diligent employees. Workaholics are compelled to work not because of external factors or pleasure but because of inner pressures that make them feel distressed or guilty if not working (Spence & Robbins, 1992, p. 161). According to Schaufeli *et al.* (2009, p. 322), workaholism is one's tendency to work excessively hard and be obsessed with work, which is manifested through compulsive work. This approach places workaholism as a negative entity characterized by compulsiveness and rigidity. Schaufeli *et al.* (2006) introduce a model that considers two dimensions: working excessively and working compulsively. Working excessively refers to hard work, which is spending too much time on work-related activities. Working compulsively relates to the underlying irresistible push to intense work and a sense of guilt experienced when a workaholic is not working. This characteristic describes the addictive side of workaholism (Schaufeli *et al.*, 2006). While working excessively is a behavioral dimension of the concept, working compulsively reflects its cognitive side. This conceptualization confirms that workaholics place more job-related effort than is expected and ignore non-job-related aspects of life. They behave in this way due to inner compulsion and drivers that are not related to external rewards. In the short term, organizations might have an interest in promoting hard work among employees. Still, in the long-term, lower levels of health reported by workaholics more often

compared to other workers (Andreassen, 2014), lack of behavioral control, and trust issues with co-workers (Schaufeli *et al.*, 2008; Porter, 1996) can cause harmful effects of workaholism for an organization.

Engaged and addicted workers might share some common behaviors. They work with high intensity, and they are highly immersed in work. However, their drivers, nature of underlying emotions, and outcomes differ. While engaged employees work for fun and joy, workaholics work in excess, even when they face negative repercussions (Schaufeli *et al.*, 2008; Ng *et al.*, 2007). Relying upon introjected regulation and Higgins's regulatory focus theory (RFT; Higgins, 1997), van Beek *et al.* (2014) argue that workaholics have higher levels of prevention focus, meaning they react to absence/presence of negative outcomes and use avoidance strategies. They work hard to avoid negative feelings (*e.g.*, guilt, shame, irritability, and anxiety) or enhance pride. Regarding engaged employees, van Beek *et al.* (2014) discuss that work engagement is related to a promotion focus. However, work-engaged employees react to the absence/presence of positive outcomes and use approach strategies, meaning that their attitude to work supports their goals based on hopes, wishes, and aspirations (van Beek *et al.*, 2014). Schaufeli *et al.* (2006) found a correlation between work engagement and working excessively dimension of workaholism, which is not surprising since conceptually, both absorption and working excessively involve intense work. Since there is no correlation between work engagement and working compulsively, compulsion might be the key distinctive point between work engagement and workaholism. Bearing in mind the above discussion, we can conclude that two constructs of heavy work investment can be distinguished based on their underlying dimensions and their outcomes (Di Stefano & Gaudiino, 2018). This study relies on the work engagement and workaholism conceptualization offered by Schaufeli *et al.* (2002; 2009), where work engagement is related to positive and workaholism to negative side of heavy work investment.

3. Present study

For the purpose of this study, two models are proposed. The first model (Model 1) tests if scales that assess work engagement and workaholism load on one common factor named general heavy work investment. The second model (Model 2) tests if measures that assess work engagement and workaholism load on two correlated factors. Model 2 assumes that work engagement is a positive aspect of heavy work investment, while workaholism is not. Prior to model testing, confirmatory factor analysis was conducted to determine if items of the proposed measurement instruments confirm three (vigor, dedication, and absorption) and two (working excessively and working compulsively) factor structures for work engagement and workaholism, respectively.

4. Research methodology

4.1 Sample and procedures

Due to the Covid-19 pandemic, an online survey was conducted among the employees of the private sector companies in Bosnia and Herzegovina (B&H), using a snowballing technique. Participants were informed about the purpose of the study. At the beginning of the questionnaire, it was emphasized that responses were anonymous, and confidentiality was guaranteed. After the data cleaning protocol, in total, 122 responses were left in the final sample. Gender distribution within the observed sample (N=122) is balanced since 50.8% of respondents are females, and 49.2% are males. Most of the respondents hold high school diplomas (40.2%), undergraduate (36.1%), and master's degrees (19.7%), while only 2.5% and 1.5% of respondents hold Ph.D. degrees or have elementary school diplomas, respectively. The average age of respondents is 41 (ranging from 21 to 66). The average number of work experience in the observed sample is 14.2 years. Most respondents work at non-managerial positions (76.2%), while less than a quarter of participants

come from managerial positions (23.8%). The size of the companies was observed by the number of companies' total full-time employees. Most respondents come from small (10-49 employees) and middle-size companies (50-249 employees), 32% and 27.9%, respectively. In addition, 20.5% of respondents belong to large (250 and more employees) and 19.6% to micro (1-9 employees) companies.

4.2 Measures

In addition to demographics, the questionnaire contained scales in line with our conceptualization of work engagement and workaholism. Work engagement was assessed with Utrecht Work Engagement Scale, a 17 items version (UWES 17; Schaufeli *et al.*, 2002). The UWES 17 comprises three subscales that reflect three dimensions of work engagement: vigor (6 items), dedication (5 items), and absorption (6 items). Example items are: "At my work, I feel bursting with energy" (vigor); "I find the work that I do full of meaning and purpose" (dedication); "Time flies when I am working" (absorption). The UWES employs a seven-point scale where zero is never, and six is always. Besides standard scale descriptions like "never-almost never-rare...-always," the UWES scale offers additional explanations such as 1-few times per year or even less, 2-once per month or even less, 3-few times per month, 4-once per week, 5-few times per week, 6-everyday. The UWES has been validated in several countries, including China, Finland, Greece, South Africa, Spain, and The Netherlands. The confirmatory factor analysis confirmed that the fit of the hypothesized three-factor structure to the data was superior to that of any other alternative factor structure. Additionally, the internal consistencies of the three subscales proved to be sufficient in each study. However, Sonnentag (2003) could not find the three-factor structure of work engagement and thus used the total score on the UWES to measure work engagement. Translation problems regarding metaphors may cause this issue (*e.g.*, Time flies when I am working). Also, Schaufeli and Bakker (2003) argue that the total score for work engagement sometimes may be more useful in empirical research because of the moderate to high correlations between the dimensions.

Workaholism was measured with Dutch Work Addiction Scale (DUWAS; Schaufeli *et al.*, 2009). DUWAS includes two subscales reflecting two dimensions of workaholism: working excessively (5 items) and working compulsively (5 items). For example: "I seem to be in a hurry and racing against the clock" (working excessively) and "It is important to me to work hard, even when I do not enjoy what I am doing" (working compulsively). Each item is scored on a four-point scale ranging from one (totally disagree) to four (totally agree). According to Schaufeli *et al.* (2009), DUWAS has good convergent and discriminant validity. However, Andreassen *et al.* (2013) argue for further investigations of the two-factor solution of DUWAS in order to provide more insights into its factor structure, explaining that we lack knowledge on DUWAS structure being investigated by other researchers than its constructors. In a study conducted on a sample of Italian nurses by Nonnis *et al.* (2017), two workaholism subscales (working excessively and working compulsively) appear to have a low internal consistency. The study results conducted by Balducci *et al.* (2017) confirmed the equivalent two-factor solution of the DUWAS across the Italian and Dutch samples observed by the survey. In this study, the Italian version of the DUWAS showed adequate validity and reliability. In Omar *et al.*'s (2018) research, both factors showed good internal consistency and composite reliability, thus confirming the validity of DUWAS in Argentina. In Portugal, Borges *et al.* (2021) confirmed the factorial structure of two dimensions grounded on the theoretical model of workaholism, and reliability values were considered adequate.

Both UWES 17 and DUWAS scales were translated and adapted to the Bosnian language following back translation process recommended by Brislin (1970).

5. Research findings

Using Structural Equation Modeling (SEM), two proposed models (Model 1 and Model 2) were tested. The model fit was analyzed in accordance with the indices and respective reference values. Since goodness of fit is inversely related to sample size and the number of variables in the model, we followed thresholds recommended by Hair *et al.* (2010) and Kline (2016). Before SEM analysis was conducted, we performed Confirmatory Factor Analysis (CFA) with the Maximum Likelihood Estimation (MLE) method to examine the measurement model fit and construct validity. The analysis was performed using SPSS AMOS 22 software.

The confirmatory factor analysis was performed with subscales, including all items of both observed constructs in the same model. Thus, 17 items were related to vigor (VI; 6), dedication (DED; 5), and absorption (ABS; 6), while ten items were related to working excessively (WEx; 5) and working compulsively (WC; 5). All items loaded to their respective factors. The analysis confirmed a three-factor structure for work engagement. All standardized factor loadings were significant and high above recommended threshold of 0.50 (Hair *et al.*, 2010), with the lowest factor loading for item ABS6 (st. loading = 0.82, $p < 0.001$) and highest factor loading for item VI2 (st. loading = 0.95, $p < 0.001$). The bifactorial factor structure of workaholism was confirmed as well, and all standardized factor loadings were significant. However, an inspection of factor loadings showed values lower or equal to 0.50 for WEx3 item (st. loading = 0.36, $p < 0.001$) within working excessively subscale and WC4 item (st. loading = 0.50, $p < 0.001$) belonging to working compulsively subscale. Respective factor loadings for the rest of the workaholism items were between WEx4 st. loading = 0.58 ($p < 0.001$) and WEx5 st.loading = 0.72 ($p < 0.001$), implying acceptable, still low to moderate values of factor loading. According to Hair *et al.* (2010), individual standardized factor loadings should be at least 0.50 and preferably 0.70. Fit indices of conducted CFA were as follows: $\chi^2 = 513.028$, $df = 314$, $p = 0.000$, $\chi^2/df = 1.634$; TLI = 0.934, CFI = 0.941, SRMR = 0.0844, RMSEA = 0.071, P close = 0.001.

We first inspected so-called modification indices related to error terms only of the same factor to improve model fit. Second, we inspected standardized residual covariances (SRCs) since significant SCR decreases model fit. As a significant SCR, we consider one with an absolute value greater than 2.58. Modification indices, SRCs, and low standardized factor loadings (less than 0.50) indicated that items WEx3 (I stay busy and keep many irons in the fire) and WC4 (I feel guilty when I take time off work) should be removed from the model. The re-specified model included all 17 items loaded to respective factors of vigor (6), dedication (5), and absorption (6), and eight items loaded to respective factors of working excessively (4) and working compulsively (4). The goodness-of-fit indices for the CFA in the re-specified model were within an acceptable range. Measures of absolute fit ($\chi^2 = 440.680$, $df = 263$, $p = 0.000$, $\chi^2/df = 1.676$), the root mean square of error of approximation (RMSEA = 0.075, P close = 0.001), the standardized root mean square residual (SRMR = 0.0671) indicated a good fit. Also, incremental fit indices comparative fit index (CFI = 0.947) and Tucker-Lewis index (TLI = 0.939) were within traditional thresholds. In the next step, reliability and validity were examined. The results of confirmatory factor analysis for the re-specified model are presented in Table 1.

Table 1. *The results of CFA*

| Constructs and items | St. loadings | T -value | CR | AVE |
|---|--------------|----------|--------------|--------------|
| Vigor (VI) | | | 0.966 | 0.827 |
| At my work, I feel bursting with energy (VI1) | 0.92 | Fixed | | |
| At my job, I feel strong and vigorous (VI2) | 0.95 | 20.206 | | |
| When I get up in the morning, I feel like going to work (VI3) | 0.89 | 16.173 | | |
| I can continue working for very long periods at a time (VI4) | 0.90 | 16.643 | | |
| At my job, I am very resilient, mentally (VI5) | 0.89 | 16.442 | | |

| | | | | |
|---|------|--------|--------------|--------------|
| At my work, I always persevere, even when things do not go well (VI6) | 0.90 | 17.028 | | |
| Dedication (DED) | | | 0.967 | 0.853 |
| I find the work that I do full of meaning and purpose (DED1) | 0.93 | Fixed | | |
| I am enthusiastic about my job (DED2) | 0.91 | 18.356 | | |
| My job inspires me (DED3) | 0.91 | 18.227 | | |
| I am proud of the work that I do (DED4) | 0.94 | 20.086 | | |
| To me, my job is challenging (DED5) | 0.92 | 18.722 | | |
| Absorption (ABS) | | | 0.957 | 0.789 |
| Time flies when I am working (ABS1) | 0.93 | Fixed | | |
| When I am working, I forget everything else around me (ABS2) | 0.88 | 16.403 | | |
| I feel happy when I am working intensely (ABS3) | 0.92 | 19.181 | | |
| I am immersed in my work (ABS4) | 0.90 | 17.639 | | |
| I get carried away when I am working (ABS5) | 0.86 | 15.430 | | |
| It is difficult to detach myself from my job (ABS6) | 0.82 | 13.638 | | |
| Working Excessively (WEx) | | | 0.784 | 0.477 |
| I seem to be in a hurry and racing against the clock (WEx1) | 0.68 | Fixed | | |
| I find myself still working after my co-workers have called it quits (WEx2) | 0.67 | 6.374 | | |
| I spend more time working than on socializing with friends, on hobbies or on leisure activities (WEx4) | 0.66 | 5.785 | | |
| I find myself doing two or three things at one time, such as eating lunch and writing a memo, while talking on the telephone (WEx5) | 0.75 | 6.458 | | |
| Working Compulsively (WC) | | | 0.753 | 0.434 |
| It is important to me to work hard, even when I do not enjoy what I am doing (WC1) | 0.63 | Fixed | | |
| I often feel there is something inside me that drives me to work hard (WC2) | 0.74 | 5.237 | | |
| I feel obliged to work hard, even when it is not enjoyable (WC3) | 0.62 | 5.125 | | |
| It is hard for me to relax when I am not working (WC5) | 0.63 | 5.169 | | |

Note: $\chi^2 = 440.680$, $df = 263$, $p = 0.000$, $\chi^2/df = 1.676$; RMSEA = 0.075, P close = 0.001; SRMR = 0.0671; CFI = 0.947; TLI = 0.939; CR = composite reliability; AVE = average variance extracted
 Source: Authors' research

All constructs were considered consistent and reliable as their composite reliability (CR) scores were above the recommended threshold of 0.7 (Bagozzi & Yi, 2012). In addition, the average variance extracted (AVE) was above the recommended cut-off of 0.5 (Fornell & Larcker, 1981) for vigor, dedication, and absorption, indicating good convergent validity. However, AVE values for working excessively and compulsively were higher than 0.4 but below the critical limit of 0.5. For this reason, we acknowledge them as problematic spots. After CFA, structural equation modeling was implemented to test the fit of the proposed models. As mentioned before, with SEM, we tested Model 1 and Model 2, where Model 1 assumes one general heavy work investment (GHWI) factor, implying that vigor, dedication, absorption, working excessively, and working compulsively load on GHWI. Model 2 tests if positive (vigor, dedication, and absorption) and negative (working excessively and working compulsively) aspects of heavy work investments load on two different correlated factors. Table 2 brings the results of the performed SEM analyses for both models. The goodness-of-fit of models was estimated using the χ^2 goodness-of-fit, root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) absolute fit indices scaled as a badness-of-fit statistic where zero indicates the best results. Recommended thresholds for χ^2/df are values < 3 , for RMSEA < 0.08 , SRMR < 0.09 , p-value for the model > 0.05 . In addition, two relative fit indices were computed: comparative fit index (CFI) and Tucker-Lewis index. CFI ranges from 0 to 1, where 1 is the best result; NNFI values can exceed 1.0. TLI is also called the non-normed fit index (NNFI). Traditionally acceptable cut-off for CFI > 0.90 whereas CFI > 0.95 is considered as great. As a rule of thumb, the same thresholds apply to TLI/NNFI.

Table 2. Fit indices of models that specify the relationship between positive and negative aspects of heavy work investments: work engagement and workaholism

| Models | χ^2 | df | χ^2/df | RMSEA | SRMR | TLI | CFI |
|---------|----------|----|-------------|-------|-------|-------|-------|
| Model 1 | 61.119 | 5 | 12.224 | 0.305 | 0.157 | 0.795 | 0.897 |
| Model 2 | 4.514 | 4 | 1.129 | 0.033 | 0.013 | 0.998 | 0.999 |

Note: Model 1: χ^2 , p = 0.000; RMSEA = 0.305, P close = 0.000 ; Model 2: χ^2 , p = 0.341; RMSEA = 0.033, P close 0.490

Source: Authors' research

The first model (Model 1) showed a poor fit to the data since none of the fit statistics met their respective cut-offs for acceptable fit. Model 2 implied a better fit to the data since fit indices met their respective criteria. In addition, there was no significant correlation between work engagement and workaholism ($r=-0.08$).

Table 3 brings Means, SD, and Cronbach's alpha values calculated for vigor, dedication, absorption, and total score for work engagement. Also, the table contains the same data for workaholism with corresponding subscales (working excessively and working compulsively). Compared with available norms (Table 4) proposed for work engagement (Schaufeli & Bakker, 2003; p. 40), mean scores of work engagement and respective subdimensions (VI, DED, ABS) fall into the average range. To the best of our knowledge, so far, available norms for the total score of workaholism are as follows: very low – 1.65; low – 2.18; high – 2.69 and very high – 3.21 (N=338, M=2.42, SD=0.42, Alpha=0.87). These norms are conducted based on the data available for middle and higher managers with high education levels (Schaufeli & Taris, 2004; p. 3). The participants we observed within the study were mainly employed in non-managerial positions with high education levels (ratio workers – managers within the sample is 76.2% : 23.8%).

Table 3. Levels of work engagement and workaholism

| (N = 122) | Work engagement | | | | Workaholism | | |
|--------------|-----------------|-------|-------|-------|-------------|-------|-------|
| | VI | DED | ABS | Total | WEx | WC | Total |
| M | 3.755 | 3.939 | 3.844 | 3.846 | 2.086 | 2.172 | 2.129 |
| SD | 1.721 | 1.672 | 1.613 | 1.625 | 0.651 | 0.633 | 0.576 |
| Alpha | 0.964 | 0.967 | 0.957 | 0.973 | 0.759 | 0.731 | 0.759 |

Note: M = mean, SD = standard deviation, Alpha = Cronbach's alpha

Source: Authors' research

Furthermore, the percentages of participants belonging to different levels of work engagement scores (very low, low, average, high, very high) for UWES17 were computed (Table 4) and compared with available norms.

Table 4. Distribution of participants according to VI, DED, and ABS scores compared to proposed norms

| | WE (total) | VI norms | N | % | DED norms | N | % | ABS norms | N | % |
|---------------------|---------------|----------------|----|------|----------------|----|------|---------------|----|------|
| Very low | ≤ 1.93 | ≤ 2.17 | 32 | 26.3 | ≤ 1.60 | 16 | 13.1 | ≤ 1.60 | 15 | 12.3 |
| Low | 1.94-3.06 | 2.18-3.20 | 14 | 11.5 | 1.61-3.00 | 24 | 19.7 | 1.61- 2.75 | 21 | 17.2 |
| Average | 3.07-4.66 | 3.21-4.80 | 19 | 15.6 | 3.01-4.90 | 26 | 21.4 | 2.76- 4.40 | 26 | 21.3 |
| High | 4.67-5.53 | 4.81-5.60 | 45 | 36.8 | 4.91-5.79 | 44 | 36 | 4.41- 5.35 | 39 | 31.9 |
| Very high | ≥ 5.54 | ≥ 5.61 | 12 | 9.8 | ≥ 5.80 | 12 | 9.8 | ≥ 5.36 | 21 | 17.3 |
| Norms | 3.82 (+/-1.1) | 3.99 (+/-1.08) | | | 3.81 (+/-1.31) | | | 3.56 (+/-1.1) | | |
| Range = 0.00 – 6.00 | | | | | | | | | | |

Note: Norms UWES17 scores proposed by Schaufeli and Bakker (2003)

Source: Authors' research

When it comes to the DUWAS 4-point scale, the sample was classified into five following levels: very low (1.00-1.60), low (1.60-2.20), average (2.20-2.80), high (2.80-3.40), and very high (3.40-4.00). These levels help us understand what percentage of participants might suffer from excessive

or compulsive work (Table 5). Cut-offs for different levels (very low, low, average, high, very high) were computed following Omar *et al.* (2018).

Table 5. Distribution of participants according to workaholism scores (WEx, WC)

| Scores | Working excessively | | Working compulsively | |
|-------------------------|---------------------|------|----------------------|------|
| | N | % | N | % |
| Very low (1.00 – 1.60) | 35 | 28.7 | 28 | 18.9 |
| Low (1.61 – 2.20) | 37 | 30.3 | 45 | 36.9 |
| Average (2.21 – 2.80) | 36 | 29.5 | 35 | 28.7 |
| High (2.81 – 3.40) | 8 | 6.6 | 14 | 11.5 |
| Very high (3.41 – 4.00) | 6 | 4.9 | 5 | 4 |

Source: Authors' research

6. Discussion

We start the discussion with an overview of the study's results. In the beginning, it is essential to notice that this is probably the first study of this kind conducted in B&H. To the best of our knowledge, the relation between work engagement and workaholism has not been researched in the present cultural context. In general, empirical research on work engagement and workaholism has exposed different results. For instance, some studies have found a negative correlation between the two observed constructs (*e.g.*, Hakanen *et al.*, 2012); others have discussed zero correlation (*e.g.*, Clark *et al.*, 2016), while some have reported positive correlations (*e.g.*, Birkeland & Buch, 2015). Studies with different results come from different cultural contexts. Addiction to work might be perceived as a positive in cultures where high power distance, high uncertainty avoidance, masculinity, and individualism prevail (Baruch, 2011). Thus, national cultures could play an interesting role (Di Stefano & Gaudiino, 2019). The CFA revealed good composite reliability for all observed measures. However, the validity emerged as a problematic spot. A similar concern regarding validity was reported by Andreassen *et al.* (2013) when convergent validity for three workaholism measures (WART, Robinson, 1989; WorkBAT, Spence & Robbins, 1992; DUWAS, Schaufeli *et al.*, 2009) was not confirmed. We discuss three possible reasons for the lack of validity in the present study. Firstly, cultural context. According to Lonner and Ibrahim (1996), culture can influence questionnaire data differently when there is a lack of substantial equivalence, functional equivalence, conceptual equivalence, linguistic equivalence, and scalar equivalence. Substantial equivalence refers to cultural differences in the assessed phenomena. Functional equivalence explains willingness or motivation to report attitudes, feelings, and behaviors. While conceptual equivalence relates to the meaning attached to the items, linguistic equivalence refers to cultural differences in the meaning conveyed by some words. In the end, scalar equivalence explains cultural differences in how scales are perceived. As stated earlier, for both measurement scales (UWES17 and DUWAS) we applied the back translation method recognized in the business literature (Brislin, 1970). The third item of working excessively that was removed due to the low st. loading (WEx3 "I stay busy and keep many irons in the fire") contains the phrase ("many irons in the fire") that is not so common in the Bosnian language. Even though we did our best through the translation process, we will again discuss this issue in future works. Nevertheless, we assume that the workaholism issues we faced in the present study are more related to the lack of substantial and functional equivalence in the present cultural context. Second, even literature reveals valuable discussion on observed constructs, yet there is no clear distinction between the two (Douglas & Morris, 2006). Moreover, the lack of consensus on a definition of workaholism might affect respondents' perception of the phenomena, thus affecting answers. To avoid possible misunderstandings of the observed constructs, we accepted the conceptualization of work engagement as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. Similarly, we accept that workaholism is a negative profile of heavy work investment related to excessive and compulsive work. We proceeded with the operationalization of constructs in this manner.

In the end, observation of factor loadings for workaholism subscales showed acceptable yet not preferred levels. Compared to st. loadings of work engagement items, st. loadings of workaholism items were lower. Their values go from WC3 item st. loading = 0.62 to WEx5 item st. loading = 0.75. On the other side, all st. loadings for respective work engagement items were between ABS6 item st. loading = 0.82 and VI2 item st. loading = 0.95. In addition, fit indices for performed CFA were acceptable. The results of two tested models (Model 1 and Model 2) imply that two observed constructs empirically differ and confirmed that work engagement and workaholism are two facets of heavy work investments. The absence of significant correlation between observed constructs supports the conceptual distinction we applied in the study. Additional data exploration suggests that respondents reflect average levels of vigor, dedication, absorption, and subsequently average level of work engagement in total. Going into more detail, we observed the percentage of respondents who fail into (very) low or (very) high levels of vigor, dedication, and absorption. Results on the observed sample suggest that more than a third of respondents express very low and low levels of vigor, dedication, and absorption. On the other side, almost half of the participants have high and very high levels of work engagement. Regarding workaholism, based on the average score of workaholism seems like respondents are not workaholics. However, 6.6% and 4.9% of respondents have high and very high scores on working excessively, meaning that they suffer from hard work. In addition, 11.5% and 4% of participants present high and very high scores on working compulsively, meaning that they endure compulsive work. In total, between 11.5% and 15.5% of respondents go through some form of workaholism.

6.1 Managerial implications

This study contributes to managerial practice in a few ways. The results of the study raise awareness of hard work. Firstly, hard work is not always praiseworthy. Managers should accept the distinction between engaged employees and workaholics since the former work for pleasure with a positive feeling towards work while the latter work driven by inner compulsive push. Next, engagement is related to positive individual and organizational outcomes in the short and long term. On the opposite, workaholism is related to negative individual and organizational outcomes. Even workaholism might look attractive in the short term; in the long term, workaholism causes a decline in organizational results. Third, studies related to engagement and workaholism bring light to employees' subjective well-being. Low scores on work engagement and high scores on workaholism might signal serious deficiencies within an organization. In sum, insights into work engagement and workaholism are essential inputs for managerial decision-making and organizational policies planning.

6.2 Limitations and directions for further studies

The study presented here is not without limitation, and we consider them as directions for future research. This study was conducted online with a self-report questionnaire. Coming research might benefit from including more objectively measured variables. The validity of the workaholism measurement instrument emerged as a problematic spot, and we have already discussed the possible roots of this issue. As a remedy, we suggest using measurement scales that have been the subject of psychometric assessments in a particular cultural context. Moreover, further research should be conducted among different cultural contexts, different industries, including comprehensive profiles of respondents.

7. Conclusion

The present study investigated pleasant and unpleasant aspects of heavy work investment. Models testing showed a distinction between observed constructs since Model 2 showed great fit indices. To recall, Model 2 tested if work engagement and workaholism load on the different factors. Work

engagement and workaholism with respective subscales correlate too low to reflect the same construct. Three factors structure and two-factor structure were confirmed for work engagement and workaholism, respectively.

To improve business results and prevent side effects that might occur due to low work engagement and high workaholism, organizations should nourish the subjective well-being of their employees. Moreover, the results on levels of work engagement and workaholism might be a good indicator for strategic human resources planning.

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**ECONOMIC THEORY AND POLICY /
EKONOMSKA TEORIJA I POLITIKA**

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THE COMPETITIVENESS OF THE WOOD PROCESSING INDUSTRY IN BOSNIA AND HERZEGOVINA AT THE TIME OF COVID-19

KONKURENTNOST DRVO-PRERAĐIVAČKE INDUSTRIJE U BOSNI I HERCEGOVINI U VRIJEME COVIDA-19

Abstract

Industrial competitiveness is an extremely contemporary topic in the discussion of experts and researchers in economics, with a special focus on competitiveness factors that contribute to greater or lesser competitiveness at the time of Covid-19. Competitiveness in this research paper is positive as a theoretical concept, it was published through three different factors - productivity, innovation and profitability, which, through a review of the literature, are determined as optimal factors for observing industrial competitiveness. The general goal of this research paper is to review and analyse the relationship between forestry and wood processing in the BiH, identify the most significant problems and find proposals for measures to improve relations or increase the economic activities as a whole. Also, the aim of this papers to demonstrate the fastest factors for the competitiveness of the wood processing industry, as well as the furniture industry in Bosnia and Herzegovina. This topic is extremely important and interesting, it is special because the wood industry is one of the top three industries in Bosnia and Herzegovina, with a great tendency to become the strongest industry in Bosnia and Herzegovina. Precisely because of this, it is very important to know the factors that take advantage of the competitiveness of the wood-processing industry and industrial furniture. Using factor analysis to reduce factors, it was demonstrated that the factors of innovation, productivity and profitability have a tremendous pact on the competitiveness of the wood processing industry in Bosnia and Herzegovina, and the central hypothesis was confirmed through research. Therefore, the improvement in the factors demonstrates a positive effect on strengthening competitiveness in the wood processing industry, as well as the furniture industry, and at the individual level of firm sand companies in BiH.

Keywords: wood processing industry, competitiveness, competitiveness factors, productivity

JEL: A11, D22, L68

Sažetak

Industrijska konkurentnost izuzetno je suvremena tema u raspravi stručnjaka i istraživača u ekonomiji, s posebnim naglaskom na faktore konkurentnosti koji doprinose većoj ili manjoj konkurentnosti u vrijeme Covida -19. Konkurentnost u ovom istraživačkom radu je pozitivna kao teorijski koncept, objavljen je kroz tri različita faktora - produktivnost, inovativnost i isplativost, koji su se, pregledom literature, utvrdili kao optimalni faktori za promatranje industrijske konkurentnosti. Opći cilj ovog istraživačkog rada je pregledati i analizirati odnos između šumarstva i prerade drveta u BiH, identificirati najznačajnije probleme i pronaći prijedloge mjera za poboljšanje odnosa ili povećanje ekonomskih aktivnosti u cjelini. Također, cilj ovog paperisa je pokazati najbrže faktore za konkurentnost drvno -prerađivačke industrije, kao i industrije namještaja u Bosni i Hercegovini. Ova tema je izuzetno važna i zanimljiva, a posebno zato što je drvna industrija jedna od tri vodeće industrije u Bosni i Hercegovini, sa velikom tendencijom da postane najjača industrija u Bosni i Hercegovini. Upravo zbog toga, vrlo je važno znati faktore koji iskorištavaju konkurentnost drvoprerađivačke industrije i industrijskog namještaja. Koristeći faktorsku analizu za smanjenje faktora, pokazano je da faktori inovativnosti, produktivnosti i

profitabilnosti imaju ogroman pakt o konkurentnosti drvno -prerađivačke industrije u Bosni i Hercegovini, a središnja hipoteza potvrđena je istraživanjem. Stoga poboljšanje faktora pokazuje pozitivan učinak na jačanje konkurentnosti u drvno -prerađivačkoj industriji, industriji namještaja, te na pojedinačnom nivou firmi za pijesak u BiH.

Ključne riječi: drvoprerađivačka industrija, konkurentnost, faktori konkurentnosti, produktivnost

JEL: A11, D22, L68

1. Introduction

In the economy, industry appears as one of the most important sectors of the economy, and it is the largest carrier of economic activities in the country, and also represents the most competitive sector. The growth and development of the industry is related to the country's ability to place processed products on international markets. In order to place products on international markets, and especially on the most developed markets such as the European Union market, the company must have such a product offer that will be competitive compared to the rest of the offer on the market. Analyzing the previous two decades, it is clear that the industry has taken a whole new place in the overall economy. In principle, industry is still the most important generator for economic development. Since the 70's, some countries are characterized by deindustrialization, *i.e.* relative reduction in the share of industry in employment and GDP. Such results by no means imply that the importance of the industry is less in the overall economic development (Džafić & Šišić - Topalović, 2018, p. 63).

When it comes to Bosnia and Herzegovina, discussions related to which sector in the future in the development of the economy needs to be given priority is more focused on academic forms. The reason for this is the fact that the development of the primary sector is limited by the existing natural elements, but also by a significant level of production protection in developed markets such as the European Union market (Džafić, 2015, p. 483). Nevertheless, it is clear that industrial production is still the most significant alternative, however it is based on specific foundations in relation to industrialization in the previous fifty years. The problem of the research is to show that the strategic goals of the wood industry cannot be achieved without cooperation and coordinated action with forestry, and vice versa. Therefore, it is necessary to constantly work on raising awareness of the importance of forestry and wood industry for sustainable development of the Federation of BiH (promotion in schools, media, associations, relevant ministries, *etc.*), as well as for the perspective of furniture production development. The subject of the research is to investigate and determine all relevant theoretical, methodological and empirical characteristics of the competitiveness of the development of the wood processing industry, with special reference to the production of furniture in Bosnia and Herzegovina. Namely, the wood industry is one of the three industries in BiH that have a positive trade balance. In the medium-term development strategy of BiH 2004-2007, as well as later strategies, the wood processing industry is defined as one of the strategic industries, in addition to food, textile, leather and footwear, metal, energy, tourism and ICT. In 2010 the timber industry in BiH achieved exports of over 580 million and import / export ratio was 291 percent, while exports of furniture amounted to 227 million and increased by 8.8 percent. The most exported was seats and wood parts, wood, furniture for dining rooms, bedrooms and other wooden furniture. Forestry products (mostly lumber) were mostly exported to: Italy, Slovenia, Serbia, Croatia, Austria, Germany and Egypt (FIPA, Bosnia and Herzegovina, Forestry and Wood Industry Sarajevo, 2011, p. 9)

Before the outbreak of Covid-19 in 2018, Bosnia and Herzegovina achieved a total export of 7,182,096.32 in thousands of USD and a total import of 11,629,555.03 in thousands of USD, which led to a negative trade balance of -4,447,458,71 in thousands of USD. Trade growth is 6.74%

compared to world growth of 3.50%. Bosnia and Herzegovina's GDP was 20,161,865,419 in current USD. Exports of goods and services in Bosnia and Herzegovina as a percentage of GDP amounted to 40.59%, and imports of goods and services as a percentage of GDP amounted to 55.78%. Therefore, we see that the export of the Bosnian-Herzegovinian economy is at an extremely low level. In order to argue the above, in comparison with other countries in the region, and according to the World Bank for 2018, the share of exports in relation to GDP exports, while in Croatia 56.3%, Serbia 51.8%, Montenegro 45.1%, and Macedonia 49.5%. Total production of forest assortments in Bosnia and Herzegovina in 2020 has been decreased for 1.01% compared to the same period in 2019. Production of coniferous (softwood) assortments is for 2.92% higher while the production of broadleaf (hardwood) assortments decreases for 5.33% (Agency for Statistics, 2020).

The manufacturing industry in BiH in 2018 amounted to 14.4% of GDP, and it is the industry that, after trade, has the most significant share in the country's GDP. Finally, exports in the manufacturing industry in 2018 accounted for 90.82% of total BiH exports. In 1991, the wood industry of BiH participated with 10% in the gross national income (about 3 billion USD), and with 11% in the export of BiH. The capacities of the wood industry consisted of 220 different medium and large companies, mostly organized within ŠIPAD (83%), and KRIVAJA (17%). Of all the natural resources of Bosnia and Herzegovina, its timber is best known. 53% of the country is covered in forests that can serve both the furniture and the construction industry. Growing stock of forests is estimated at about 340 million m³, of which conifers around 135 million m³, and sawmills around 205 million m³. The annual increment is about 9 million m³, of which 4 million m³ Softwood and Hardwood 5 million m³. Beech, oak, ash, pine and fir, as well as more specialized woods such as walnut, apple and cherry, are exported as raw material, half fabricates and finished products. The share of wood processing sector in 2010 year in GDP is 3, 08%. This industry is still export-oriented, and exports account for about 11% of total exports of Bosnia and Herzegovina. (Džafić & Terzić, 2011, p. 61). As an inevitable step in the further development of the sector is certainly the investment in revitalization and modernization of technology and stronger connections with supporting industries.(FIPA, Bosnia and Herzegovina, Forestry and Wood Industry Sarajevo, 2011, p. 6). Now, Bosnia and Herzegovina mainly exports machinery and transport equipment (17 percent of total exports), chemical products (8 percent), inedible raw materials except fuels (8 percent), mineral fuels, lubricants and similar products (7 percent) and food and live animals (6 percent). Bosnia and Herzegovina's main export partners are Germany, Italy, Croatia, Slovenia, Serbia, Austria and Turkey (<https://tradingeconomics.com/bosnia-and-herzegovina/exports>, February 2022 Data - 2000-2021 Historical).

This primarily refers to the production of parquet and furniture components (facades, frames, glued panels, parts for frames, disassembled chairs and tables) with different degrees of finalization for confection and finishing of the upper surface for individual foreign markets using foreign distribution channels. It is a constant search for excellence, and the role of the state is to support these processes with adequate industrial policy. The aim of this paper is to review and analyze the relationship between forestry and wood processing in the Federation of BiH, identify the most significant problems and find proposals for measures to improve their relations and to improve the state of these economic activities as a whole. Based on previous research, it can be concluded that this issue is not sufficiently researched in Bosnia and Herzegovina, and therefore there is a theoretical and practical justification, or the need for such research.

2. Literature review

Competitiveness has been described by various authors as a theoretical, multidimensional and relative concept related to the market mechanism. In this analysis of the definition of competitiveness, the concept can refer to different levels: supranational, national, regional, local, industrial, sectoral, as well as to individual enterprises. In general, these segments can be described

as objects of competitiveness. The definitions, however, usually apply to the best entities that can successfully face market competition. Furthermore, competitiveness is revealed as a confusing term that is often used almost interchangeably with other terms such as productivity, innovation, or market share (Porter, 2004, pp. 29-56). The wood industry in Bosnia and Herzegovina is one of the strongest in our country. We can boast of the fact that we were one of the major exporters until the outbreak of the crisis. Only in the first nine months of 2018, the wood industry realized exports worth 872 million KM, which is 11.2 percent more than in the same period last year, while the coverage of imports by exports is 358 percent (Đorđević, Obradović & Lojanica, 2016, p. 61).

The wood industry is one of the strategic branches of the economy of Bosnia and Herzegovina and is one of the sectors that has a positive trade balance. Wood industry in BiH has a long tradition of producing wide range of products. In the interwar period (The First World War) Bosnia and Herzegovina had 129 mining and wood processing industrial companies. By 1992, BiH wood industry accounted for 10% of gross national income (about \$ 3 billion), 11% in BiH exports and employed about 61 000 workers or 13% of the total number of workers in industry and mining. Today, we have separated enterprises, mostly privatized, or brand new privately-owned enterprises, which have their own export departments (FIPA, Bosnia and Herzegovina, 2011, p. 7). In 2014, these companies together managed € 52 billion in assets, generated € 28 billion in revenue and € 1.4 billion in profits. The average return on equity (ROE) was 6.1%. Given the number of companies, the wood industry with a 2.3% share does not belong to the most important sectors in BiH. economy. On the contrary, due to modern achievements in scientific and technological processes, and a significant difference in labor productivity in industry, falling energy consumption, raw materials and living human labor, there is a reduction in prices in sectors and employees, which ultimately affects the relative share of industry in GDP and employment in the country (Iličić, 2011, p. 38). Investment in the production capacities of this segment of the production program, especially glued solid wood panels is current, because there is interest from foreign investors, and many manufacturers have purchased modern equipment and created conditions for the production of good quality solid wood panels (Music, *et al.*, 2010, p. 72). Since Porter and van der Linde (1995), "sophisticated" consumers are seen as drivers for firms to generate new and better products, thus providing first-mover advantages. Indicators on citizens' ecological preferences and the incentives faced by firms and consumers (e.g. taxes) in this regard are enablers of energy and resource efficiency and of the supply of ecological products (Porter & van der Linde, 1995, pp. 98-104).

Veneer and plywood producers cannot provide a sufficient amount of quality logs for cutting and peeling, so they are oriented towards the import of veneer logs from neighboring countries, in competition with domestic sawmills (Musić, *et al.*, 2013, p. 68). The main goal of competitiveness is to increase the level of prosperity of the nation and individuals. At the national level, the source of competitiveness is represented by companies operating in its territory, stating that it is a place where economic added value takes place. In general, the level of well-being of nations is the result of the interaction of three forces: the competitiveness of firms, the competitiveness of individuals and the competitiveness of the nation (Tkalec & Vizek, 2009, p. 16).

Historically, the term competitiveness has been used primarily to draw attention to the cost position of firms or countries. It is still often used today when an economy (or a firm or industry) is challenged by new low-cost competitors. It is this narrow focus on costs that was criticised by Krugman (1994) as "elusive and meaningless" at the conceptual level and as "misleading or even dangerous" at the policy level, since this narrow interpretation implies that cost reduction is the only effective policy response (Krugman, 1994, pp. 28-29). More competitive economies are those that are able to ensure a high and growing standard of living for their citizens, allowing all levels of society to contribute and benefit from that level of well-being. Porter's diamond has 4 interrelated components (Porter, 1990, p. 123): factor conditions (land, labor, and capital), demand conditions, related and ancillary industries, and enterprise strategy, structure, and rivalry. He developed a nine-

factor model that encompasses four physical determinants of international competitiveness: resource endowment, business environment, related and ancillary industries, and domestic demand, and four human factors: workers, politicians and bureaucrats, entrepreneurs, managers, and engineers. The ninth factor is external possibilities and events. Buckley, Pass and Prescott (1992, p. 45) conceptualize a firm competitiveness model that consists of three interrelated dimensions (competitiveness measures), namely competitive performance, competitive potential, and the competitive process. Ajitabh and Momaya (2004, p. 49) focus on the main sources of competitiveness at the company level and classify the literature related to competitiveness within the means-process-performance. Competitiveness processes include those that help identify the importance and performance of core processes, such as strategic management processes, human resources, operations management processes, and technology management processes. Competitive performance is reflected in productivity, quality, cost, and financial, technological, and international performance (Ajitabh & Momaya, 2004, p. 32). In the last few decades, a fourth industrial revolution has emerged, known as Industry 4.0. It puts the emphasis on digital technology from recent decades to a whole new level with the help of Internet of Things (IoT) interconnection, real-time data access, and the introduction of cyber-physical systems (Bezić, Cerović & Galović, 2011, p. 59).

3. Research methodology

The research was conducted in a way that the research instrument was specifically designed and segmented. The survey questionnaire was forwarded to the contacts of 50 companies within Bosnia and Herzegovina, of which 30 companies responded to the questionnaire. Given that over 50% of the planned sample answered questions, the sample can be considered as a relevant overview of the situation in Bosnia and Herzegovina in terms of competitiveness factors and the extent to which they affect the competitiveness of the furniture industry in Bosnia and Herzegovina. The survey questionnaire consists of five sections, the first of which refers to the demographics of the sample and has 7 questions. The next three sections refer to the main independent variables - innovation, productivity and profitability, and each section has 10 questions. In accordance with the subject, research questions and research goals, it is possible to formulate a central research hypothesis: Improving the competitiveness factor has a positive effect on strengthening competitiveness in the furniture manufacturing sector, both as a whole and for individual companies.

Also, working hypotheses were formed:

H1: There is a statistically significant impact of innovation on the competitiveness of the wood processing industry.

H2: There is a statistically significant impact of productivity on the competitiveness of the wood processing industry.

H3: There is a statistically significant impact of profitability on the competitiveness of the wood processing industry.

When testing the hypothesis, factor analysis will be used, as a source of data for research, various data sources of the Agency for Statistics of BiH, which contain data on the factors of competitiveness of all companies in BiH. The sample is 5% of companies from the wood processing industry sector for the period from 2010 to 2017. In order to confirm or reject the earlier hypothesis, we conducted an empirical study using a questionnaire. The empirical research questionnaire targets companies operating in the wood processing sector with a special focus on furniture companies. The last section deals with the elements of SWOT analysis, and respondents were required to write down one strength, weakness, opportunity and threat that they considered applicable to their company. The survey questionnaire was adjusted according to the Likert scale.

4. Results and discussion

Factor analysis is a method of data reduction that makes the search for basic imperceptible (latent) variables that are reflected in the observed variables (manifest variables). The Kaiser-Meyer-Olkin measure ranges between 0 and 1, and values closer to 1 are better. A value of 0.6 is the suggested minimum. The Barlett sphericity test tests the null hypothesis that the correlation matrix is an identity. The identity matrix is a matrix in which all diagonal elements are 1 and all diagonal elements are 0. Done together, these tests provide the minimum standard for the sample before factor analysis (or principal components analysis) is performed. Since the KMO test is 0.614, this implies that the sample is good enough for factor analysis, which is further confirmed by the Barlett sphericity test (Table 1). This implies that it is possible to proceed with factor analysis.

Table 1. Descriptive statistics of innovation

| | N | Minimum | Maximum | Mean value | Standard deviation |
|--------------------------|----|---------|---------|------------|--------------------|
| Research and R&D | 30 | 3 | 5 | 4.13 | .507 |
| Investing funds | 30 | 2 | 5 | 4.43 | .728 |
| The level of innovation | 30 | 3 | 5 | 4.37 | .556 |
| Employee ideas | 30 | 3 | 5 | 4.33 | .661 |
| Transparency | 30 | 3 | 5 | 4.20 | .714 |
| Vision and mission | 30 | 2 | 5 | 4.17 | .791 |
| Strategy and orientation | 30 | 2 | 5 | 4.43 | .728 |
| Quality manager | 30 | 3 | 5 | 4.57 | .568 |
| Number of variables | 30 | | | | |

Source: Author's research

For our working first hypothesis which read: H1: There is a statistically significant impact of innovation on the competitiveness of the wood processing industry, research has shown that innovation has a statistically significant effect on the competitiveness of the wood processing industry. In relation to the factor analysis, we see that the highest value have Research and R&D (0.967), Quality of managers (0.871), as well as Strategy and Orientation with 0.839. In factor 2, the largest value has the investment of funds (0.869). Therefore, it is possible to conclude that research and R&D, managerial quality, strategy and orientation, investment have the greatest impact on innovation within the company. It is important to point out that research and R&D have the strongest impact, through the innovation factor, on the competitiveness of the wood processing industry. The matrix of rotated components contains rotated factor loads, which represent how variables are weighed for each factor, but also the correlation between variables and factors. Since these are correlations, possible values range from -1 to +1.

Table 2. Descriptive productivity factor statistics

| | N | Minimum | Maximum | Mean value | Standard deviation |
|---|----|---------|---------|------------|--------------------|
| Number of highly educated staff | 30 | 2 | 5 | 4.03 | .718 |
| Infrastructure and hierarchy | 30 | 3 | 5 | 4.07 | .640 |
| Quality of communication channels | 30 | 3 | 5 | 4.30 | .651 |
| Efficiency of decision making | 30 | 3 | 5 | 4.53 | .571 |
| Planning within the company | 30 | 3 | 5 | 4.50 | .630 |
| Technological level of production process | 30 | 4 | 5 | 4.43 | .504 |
| Diversification of marketing channels | 30 | 1 | 5 | 3.90 | .803 |
| Employee quality | 30 | 4 | 5 | 4.40 | .498 |
| Number of variables | 30 | | | | |

Source: Author's research

For our second working hypothesis which read: H2: There is a statistically significant impact of productivity on the competitiveness of the wood processing industry. The research showed that there is a statistically significant impact of productivity on the competitiveness of the wood

processing industry. In relation to factor analysis, it is possible to note that the most important factors for productivity are actually decision-making efficiency (0.813), in-house planning (0.810), employee quality (0.746) and technological process level (0.730). Therefore, the factor of decision-making efficiency was highlighted as the strongest, within the impact of productivity on the competitiveness of the wood processing industry. In relation to the matrix of rotated components, we see that the most important factors for productivity are actually the efficiency of decision making (0.813), planning within the company (0.810), quality of employees (0.746) and technological level of the process (0.730).

Table 3. *Profitability factors - descriptive statistics of profitability factors*

| | N | Minimum | Maximum | Mean value | Standard deviation |
|--|----|---------|---------|------------|--------------------|
| Growth of market share | 30 | 4 | 5 | 4.47 | .507 |
| Return on investment | 30 | 4 | 5 | 4.63 | .490 |
| Brand value | 30 | 3 | 5 | 4.33 | .547 |
| Orientation to reduce input costs | 30 | 4 | 5 | 4.43 | .504 |
| Orientation to reduce labour costs in production | 30 | 2 | 5 | 4.00 | .830 |
| Orientation to price differentiation | 30 | 2 | 5 | 4.03 | .669 |
| Market size | 30 | 3 | 5 | 4.17 | .531 |
| Access to funding opportunities | 30 | 3 | 5 | 4.33 | .606 |
| Number of variables | 30 | | | | |

Source: Author's research

For our working third hypothesis which read: H3: There is a statistically significant impact of profitability on the competitiveness of the wood processing industry. The research showed that there is a statistically significant impact of profitability on the competitiveness of the wood processing industry. In relation to the results of the factor analysis, it is possible to conclude that the factors of return on investment (0.917), growth of market share (0.775), orientation towards reduction of labor costs (0.827), orientation towards price differentiation (0.845), market size (0.888) and access to financing opportunities (0.817) are the most important factors for the company's profitability. As the strongest factor, it is possible to point out the return on investment and conclude that it has the greatest effect on the competitiveness of the wood processing industry. Based on eigenvalue, three components were selected that overall describe 76.355% of the variance of all 8 components. In relation to the results of rotation, we can see that the factors of return on investment (0.917), growth of market share (0.775), orientation to reduce labor costs (0.827), orientation to price differentiation (0.845), market size (0.888) and approach financing opportunities (0.817) the most important factors for the company's profitability.

The central research hypothesis was: H0: Improving the competitiveness factor has a positive effect on strengthening competitiveness in the furniture manufacturing sector, both as a whole and for individual companies. Research has shown that improving competitiveness factors has a positive effect on strengthening competitiveness in the furniture manufacturing sector. Given that the research required answers to an online questionnaire that specifically targeted managers from the wood processing industry, specifically with a focus on the furniture industry, it is possible to assume that all responses were relevant to this industry. The central research hypothesis in this case is demonstrated through a factor analysis of three framework factors that have an impact on the competitiveness of the furniture industry. Thus, it was demonstrated that three factors - innovation, productivity and profitability have a significant effect on competitiveness. Therefore, by strengthening and improving the factors of innovation, competitiveness and profitability, and especially their internal elements that were examined through factor analysis, it is possible to expect growth in competitiveness in relation to external wood processing industries.

5. Conclusions and recommendations

This paper is based on all relevant theoretical, methodological and empirical characteristics of the competitiveness of the development of the wood processing industry, with special reference to the production of furniture in Bosnia and Herzegovina. The competitiveness of the industry is extremely important, because it implies the extent to which it is possible to export products to foreign countries. Companies and industries that have a built competitive advantage grow faster, generate more revenue, adequately manage costs and create a base for investment and innovation that will enable them to survive and further expand in competitive markets. These factors were examined through a quantitative analysis based on the collection of data from the wood processing industry in Bosnia and Herzegovina through an online questionnaire adapted to the Likert scale. The collected data were processed through Excel and IBM SPSS 25 software. All three auxiliary hypotheses were confirmed. The main research hypothesis was also confirmed. The results of this paper should contribute to the understanding of competitiveness factors within the wood processing industry. Examining the factors of profitability, innovation and productivity through statistical analysis provides insight into the relationship between these factors and competitiveness. Therefore, it is possible to conclude that these three comprehensive factors have a significant impact on the competitiveness of the wood processing industry, with a focus on the furniture industry in Bosnia and Herzegovina.

In future works, it is possible to further improve by increasing the number of respondents, which was relatively minimal in the case of this research. It is also possible to include several factors, which is of course recommended, to make the research as detailed as possible, but also more exact in the results - mostly because innovation, productivity and profitability are not the only factors affecting the competitiveness of the industry. It is recommended to include investments, automation, *etc.* as competitiveness factors in addition to the above, for the sake of even more precise analysis of competitiveness factors.

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**CHANGES IN HOUSEHOLD AND GENERAL GOVERNMENT
CONSUMPTION AND SAVINGS DURING COVID-19 PANDEMIC IN
EUROPEAN UNION****PROMJENE POTROŠNJE I ŠTEDNJE KUĆANSTVA I DRŽAVE U
EUROPSKOJ UNIJI TIJEKOM COVID-19 PANDEMIJE****Abstract**

In March 2020, the COVID-19 pandemic caused a significant economic shock in countries worldwide, negatively affecting every aspect of the world economy. Due to the situation with the COVID-19 pandemic, governments imposed a blockade on households to slow the spread of the pandemic. It was unknown how long the lock could last and how much impact it would have on households and the general government. Household consumption is a specific component of final GDP consumption and generally represents about 60% of GDP. Crises most often affect the individual and manifest in unplanned and unnecessary costs that affect household consumption and savings, and thus growth and development. Eurostat states that the household savings rate of the European Union (EU) decreased in the third quarter of 2020 but was 4.5% higher than in 2019. This paper aims to analyse the differences in household consumption expenditure and net savings across the EU from 2018 until 2021 and general government consumption expenditure and net savings. In addition, it will compare the differences in household and general government consumption and savings in 2019 and 2020. This paper uses univariate statistical methods to define the differences between the EU Member States and their private and public consumption expenditure and net savings. The authors will suggest further research on the topic mentioned above and provide evidence on how households should react to future pandemic situations.

Keywords: COVID-19, household consumption, household savings, general government, European Union

JEL: A10, D10, D14

Sažetak

U ožujku 2020. pandemija COVID-19 izazvala je značajan ekonomski šok u zemljama širom svijeta, negativno utječući na svaki aspekt svjetske ekonomije. Zbog situacije s pandemijom COVID-19, vlade su nametnule „lockdown“ kućanstvima kako bi usporile širenje pandemije. Nije bilo poznato koliko dugo brava može trajati i koliki će utjecaj imati na kućanstva i državu. Potrošnja kućanstava specifična je sastavnica konačne potrošnje BDP-a i općenito predstavlja oko 60% BDP-a. Krize najčešće pogađaju pojedinca i očituju se u neplaniranim i nepotrebnim troškovima koji utječu na potrošnju i štednju kućanstva, a time i na rast i razvoj. Eurostat navodi da se stopa štednje kućanstava Europske unije (EU) smanjila u trećem tromjesečju 2020. godine, ali je bila 4,5% viša u odnosu na 2019. Cilj ovog rada je analizirati razlike u potrošnji kućanstava i štednji u cijeloj Europskoj uniji od 2018. do 2021. godine., kao i analizirati razlike u

državnoj potrošnji i štednji. Također, usporedit će se razlike u potrošnji i štednji kućanstava i države u 2019. i 2020. Ovaj rad koristi metode univarijatne statistike za definiranje razlika između država članica EU-a i njihove privatne i javne potrošnje i štednje. Autori će dati preporuke za daljnja istraživanja na gore spomenutu temu i pružiti dokaze o tome kako bi kućanstva trebala reagirati u budućim pandemijskim situacijama.

Ključne riječi: COVID-19, potrošnja kućanstva, štednja kućanstva, BDP, Europska unija

JEL: A10, D10, D14

1. Introduction

In December 2019, a new form of the disease known as COVID-19 was discovered in the Chinese city of Wuhan. The condition began as a big unknown and quickly spread over the globe. Countries had to protect themselves and look after their populations. Therefore, they began to shut down and restrict population movements, resulting in a reduction in economic trends and activity. The World Health Organization (WHO) proclaimed a global pandemic on 11 March 2020, and an epidemic was declared throughout the European Union and Croatia. In the Republic of Croatia, the first case of infection was confirmed on 25 February 2020, and by the end of March 2020, all EU Member States had reported cases of COVID-19. With the increased number of infected people in the Republic of Croatia, measures to protect citizens were implemented. The so-called "lockdown" was established, which had economic consequences like the rest of the European Union.

During the first few months of COVID-19 in Europe, many countries reported insufficient necessities such as toilet paper, food, and more. People feared new situation that never happened before, and due to uncertainty, they bought more supplies than they needed. Moreover, they started to spend more until they realised that the employment rate could decrease and that they can lose jobs, leading to poverty. COVID-19 pandemic has negative consequences on people as countries record increased panic, anxiety, and depression levels in both young and adult people and changed food consumption preferences. In addition, people's unemployment concerns are higher than those during the Great Recession (van der Wielen and Barrios, 2021).

Since the COVID-19 pandemic is still present, many countries adapted to new living standards where some countries have restrictions in everyday life, while others do not. The authors analysed consumption expenditure and net savings of households and general government in the twenty-seven Member States of the European Union, excluding the United Kingdom.

2. Theoretical background

Unlike previous economic crises, the COVID-19 crisis has four shocks: (1) supply shock; (2) demand shock; (3) falling expectations and rising uncertainty; and (4) the shock of rapid inadequate measures (Čavrak, 2020, p. 8). An initial shock is a health shock that leads to a supply shock because healthcare policies disrupt local and global production and supply chains. Inventory is being depleted, but it is the end of the line, so there is a supply breakdown. Fear, panic, and uncertainty emerge as a result of a large number of deaths, leading to a drop in consumption and a halt in investment. A decrease in demand reduces a company's cash flow, increasing the likelihood of bankruptcy. Companies are initially protected from potential bankruptcy by laying off employees, resulting in increased unemployment. This reduces the income of unemployed households while also expanding the scope of "bad loans" and the inability to repay the loan. This puts the financial system in jeopardy, exposing it to higher risk, and reduces consumer purchasing power, leading to a further drop in demand. As a result, we enter a new, deeper negative cycle: a further reduction in consumption, a decrease in output and employment, a drop in enterprise and household income, and the negative loop grows (Čavrak, 2020).

All of these shocks had the most significant impact on consumers, specifically households. The situation that households are in is challenging and uncertain. As a result of the loss of income, households found themselves in financial difficulty, reduced their consumption, and thus had a significant impact on the inflow of money to the state and businesses. "Household spending is the amount of final consumption expenditure made by resident households to meet their daily needs, such as food, clothing, housing (rent), energy, transportation, durable goods (particularly automobiles), health costs, leisure, and miscellaneous services. It accounts for roughly 60% of gross domestic product (GDP) and is thus an important variable in economic demand analysis. Household spending, including government transfers (referred to in national accounts as "actual individual consumption"), is equal to household consumption expenditure plus general government and non-profit institutions serving households (NPISHs) expenditures that directly benefit households such as health care and education" (OECD, 2021).

The structure of consumption expenditures is observed according to the international classification COICOP-HBS, by which expenditures are classified into 12 major groups: food and non-alcoholic drinks, alcoholic drinks and tobacco, clothing and footwear, housing, furniture, equipment for house and regular maintenance, health, transport, communications, recreation and culture, education, hotels and restaurants, other goods and services (DZS, 2006, p. 180). The economic effects of the COVID-19 pandemic have prompted many global economists to estimate and forecast the economic effects of this unpredictable virus, with a particular emphasis on macroeconomic effects. Drivers of households' behaviour were investigated in Italy (Guglielminetti and Rondinelli, 2020) from a macro and microeconomic perspective. Several authors (Chronopoulos *et al.*, 2020; Hacıoglu *et al.* 2020) examined the impact of the coronavirus (COVID-19) on consumer spending in Great Britain (GB). Consumer expenditure in the United Kingdom remained generally stable in the early stages of the COVID-19 crisis (Chronopoulos *et al.*, 2020), but subsequently spending significantly declined. In addition, transaction data was used (Hacıoglu *et al.*, 2020) to show that during the COVID-19 crisis, British households spent 40-50%, especially on services such as retail, restaurants, and transportation. In the US, public database was built (Chetty *et al.* 2020) that measures spending, business revenues, employment rates, and other indicators used to obtain insights into the effect of the pandemic COVID-19. They found that GDP fell in the second quarter of 2020 because of a reduction in consumer spending. Authors (Baker *et al.*, 2020) also studied how individual spending reacts in an epidemic, a scenario with anticipated income shocks, the threat of supply chain disruption, and significant uncertainty, and economic impact of COVID-19 pandemic on income and poverty of US families (Han, Meyer, and Sullivan, 2020)

In Denmark, bank account transactions were used (Andersen *et al.*, 2020) to study the dynamics of consumer spending through the COVID-19 crisis. They concluded that total card spending fell by 25% during the early stages of the crisis. Another article also analysed consumer behaviour in Denmark and Sweden since both countries were similarly affected by the pandemic (Shediran *et al.*, 2020). In China, the influence of COVID-19 on consumption was analysed (Chen *et al.*, 2020) after the epidemic in China in late January 2020 using daily transaction data from 214 cities over a 12-week timeframe. In Spain, 2.1 billion transactions were considered in Spain's second-largest bank (Carvalho *et al.*, 2020), as an alternate source of information for calculating consumption, a crucial component of GDP. A strong effect of financial concerns due to COVID-19 on non-durables spending based on the Consumer Expectations Survey (CES) conducted in the six largest euro-area economies, consistent with an important role of precautionary motives during the first peak of the pandemic and its immediate aftermath (Christelis *et al.*, 2020).

Several Croatian researchers also investigated the main macroeconomic consequences of the COVID-19 pandemic on Croatia and other EU member states (Rogić Dumančić *et al.*, 2020), as well as the impact of COVID-19 pandemic on respondents and their personal consumption (Roška and Draganović, 2020). Researchers also examined changes in behaviour and lifestyle (Đogaš *et*

al., 2020), more than 3,000 respondents during the "lockdown" period in 2020., while others (Topolko Herceg, 2021) demonstrate consumer behaviour in online shopping in the Republic of Croatia. Panic buying is a typical response to the COVID-19 pandemic, and it stems from people's fears of scarcity, loss of control, and anxiety exacerbation. Individuals deal with dangers in this situation by purchasing specific types of products, such as necessities (Arafat, 2020, in Jin *et al.*, 2020). Individuals may also reserve resources and enhance saving behaviour to deal better with future uncertainties (Jin *et al.*, 2020). On the other hand, the COVID-19 pandemic forced all levels of government to act in a situation of great uncertainty and severe economic, fiscal and social pressures. With the appearance of variants and the onset of new waves of infection in many countries since mid-2020, governments are faced with a limited ability to sequence policy action. To manage, escape, and recover from the crisis, national, regional, and municipal governments have discovered that they cannot rely on a straight or linear route of policy action (OECD, 2021, p. 2). Since 2020, governments have provided financial support to protect businesses, households, and vulnerable people. On a global scale, since March 2020, total fiscal support amounts to USD 13.8 trillion. Many countries, including the EU, are allocating new funding and reallocating existing public funds to crisis priorities, including health care, SMEs, vulnerable populations, and crisis-affected regions.

3. Research methodology

Due to the recent researched topic, authors used different online sources to retrieve data needed to conduct the analysis. To analyse household and general government consumption expenditure, the authors used CEIC data available online. CEIC was founded in 1992 by a team of expert economists and analysts. Until today, CEIC data provide accurate data insights for more than 200 countries (CEIC, 2021a). The authors analysed available quarterly data in a million Euros. The time series includes data from January 2019 until April 2021, and that is ten observations. To analyse household and general government net saving, authors used the AMECO database available online. The AMECO database is the annual macro-economic database of the European Commission's Directorate-General for Economic and Financial Affairs (European Commission, 2021a). The database includes data for the EU Member States and countries in the Eurozone, EU candidate countries, and other OECD countries. The authors analysed available annual data in a million Euros. The time series includes data from 2018, until 2021 and that is four observations. The authors used Excel to analyse the data. Authors calculated changes in consumption expenditure based on retrieved data. In the original database, consumption expenditure was in a million USD, and authors calculated percentage changes. Furthermore, net savings are savings after deducting consumption of fixed capital, and they are measured in a million Euros.

4. Results

The following figures illustrate changes in consumption expenditure and net savings in households and general government before and during the COVID-19.

Figure 1 shows changes in private consumption expenditure during the observed time in the European Union (excluding the United Kingdom) and Croatia.

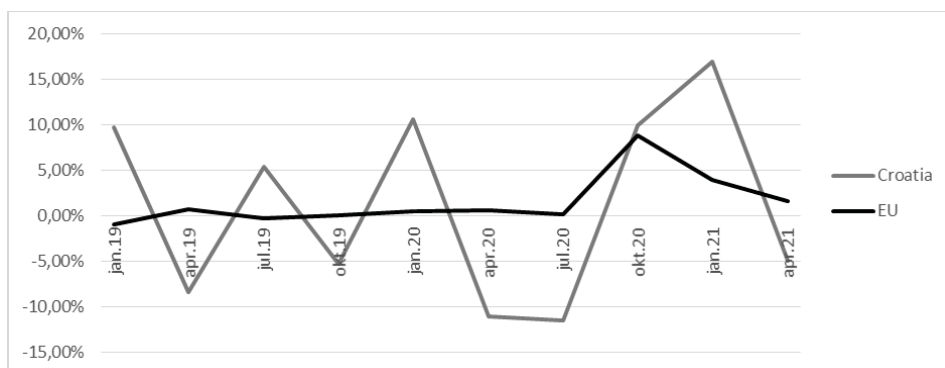


Figure 1. Changes in private consumption expenditure in the EU and Croatia

Source: Authors' research based on data available at CEIC data (2021b)

As Figure 1 shows, changes in private consumption expenditure in the EU were stable before the COVID-19, in other words, during 2019 and at the beginning of COVID-19, from January 2020 until July 2020. After July 2020, private consumption expenditure started to increase until October 2020. From October 2020 until April 2021, private consumption expenditure started to decrease. In the case of Croatia, private consumption expenditure was more volatile. It was at the highest levels in January 2021 and at the lowest in July 2020. As Figure 1 shows, from one to another quarter, Croatian changes in private consumption expenditure shift in the opposite direction – in one quarter it is at highest levels, and in the next quarter is at the lowest level. Even though Croatia is a Member State of the EU, it deals with more uncertainty than the EU does. Those changes in Croatian private consumption expenditure are shifting from one observation to another. Also, they change a for more than 5% in comparison. When the changes in general government consumption are analysed, a similar situation is observed, as Figure 2 shows.

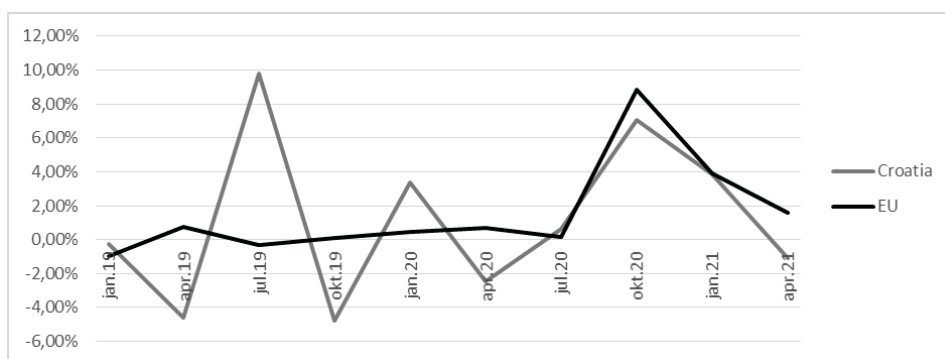


Figure 2. Changes in general government expenditure in the EU and Croatia

Source: Authors' research based on data available at CEIC data (2021c)

Following the data shown in Figure 2, changes in general government expenditure in the EU were stable before the COVID-19, in other words, during 2019 as well as at the beginning of COVID-19, from January 2020 until July 2020. After July 2020, changes in general government expenditure started to rise until October 2020. From October 2020 until April 2021, changes in general government expenditure started to decline. In the case of Croatia, changes in general government expenditure were unstable. Those changes were at the highest levels in July 2019 and at the lowest in October 2019. More volatile changes were before COVID-19 in Croatia, even though they remained unstable during 2020 and 2021, but with less dramatic changes.

Figure 3 shows changes in the net savings of the households during the observed time in the European Union (excluding the United Kingdom).

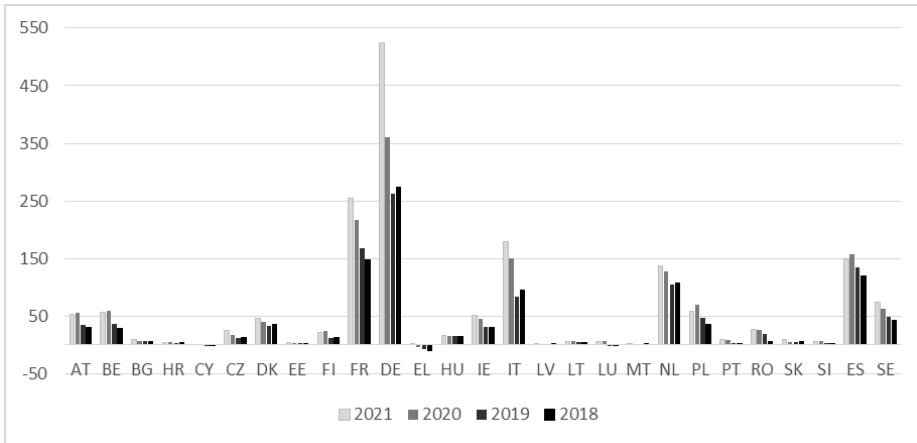


Figure 3. Net saving of the households in the EU

Source: Authors’ research based on data available at European Commission (2021b)

As Figure 3 shows, net savings of households before and during the COVID-19 differs from one Member State to another. There are only five countries with net savings of households greater than 50 million Euros per year during the observed time. Countries with households’ net savings greater than 50 million Euros per year are France, Germany, Italy, Netherlands, Poland, and Spain. All other twenty-two countries have at least one year of net savings of less than 50 million Euros. Greece has negative household net saving three years in a row, from 2018 until 2020. Since the COVID-19 started at the beginning of 2020, all countries except Greece recorded positive household net savings. There are even eleven countries that record households net saving less than 10 million Euros, and they are Bulgaria, Croatia, Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Malta, Portugal, Slovakia, and Slovenia. When the general government net savings are analysed, a different situation is observed, as Figure 4 shows.

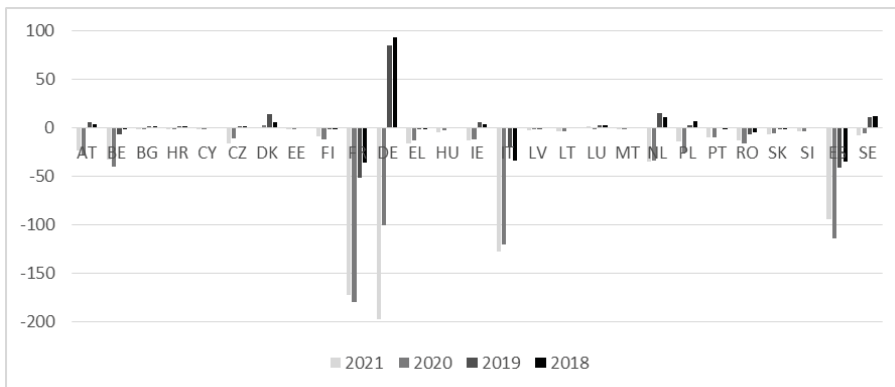


Figure 4. Net saving of the general government in the EU

Source: Authors’ research based on data available at European Commission (2021b)

Following the data shown in Figure 4, general government net savings in the EU have negative values in most countries. In addition, only one country recorded positive general government net savings values during the observed time, and it is Denmark. Sixteen countries have positive values

in two following years, in all cases during 2018 and 2019. Eight countries recorded negative general government net savings in 2019, while twenty-six countries recorded negative general government net savings in 2020. The negative trend in general government net savings during 2020 can be described as a consequence of COVID-19 because government's had greater expenditures to help their citizens employed during "lockdown". Germany and France have decreased their general government net savings in 2020 and 2021 more than other countries.

5. Conclusions

COVID-19 pandemic outbreak has inflicted economic hardship in the world. It has changed the world, and new approaches to save jobs as well as to adapt to new lifestyles emerged. There are negative consequences such as lost jobs, worse health conditions, more dissatisfied people, and more. On the other hand, COVID-19 positively influenced online market development, flexible job hours, online education, *etc.* Even though many jobs were lost, people who kept their jobs started to adapt to work from home, and many firms are thinking of offering their employees to choose between working from the office or from home. The EU recorded a significant decrease in general government net savings, while general government consumption expenditure remains stable. Regarding household consumer expenditure and net savings, consumer expenditure was steady during the COVID-19 outbreak, while household net savings remained positive. Based on the results, households performed better during the COVID-19 than the general government because they managed to spend and save at the same time.

The authors recommend researching in detail decisions why did households increase their net savings during the pandemic situation. The decision to increase net savings can mean that households are trying to save money for the future, which is unstable, but on the other hand, it can mean that they are sceptical about today and that they do not want to spend money now if they can save it for future.

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**ECONOMIC CONSEQUENCES OF THE COVID-19 PANDEMIC ON THE
EXPORT SECTOR OF BOSNIA AND HERZEGOVINA - CURRENT
SITUATION AND PERSPECTIVE****EKONOMSKE POSLJEDICE PANDEMIJE COVID-19 NA IZVOZNI
SEKTOR BOSNE I HERCEGOVINE - TRENUTNA SITUACIJA I
PERSPEKTIVE****Abstract**

The economic crisis caused by the COVID-19 has had negative effects on the economy of Bosnia and Herzegovina according to all macroeconomic indicators. Observing the decline in economic activity, the loss of jobs, the decline in industrial production, and the volume of foreign trade, the economic crisis has turned the economy of Bosnia and Herzegovina back to the level achieved a few years ago. In addition to the negative aspects of the economic crisis, this crisis also offered an opportunity for export companies from Bosnia and Herzegovina to better position themselves in the markets of the European Union. When it comes to exports, the consequences of the COVID-19 pandemic are reflected in changes in the distribution chains of raw materials from East Asia, primarily China, increased distribution costs and raw materials for companies in the EU, new sources of supply are being found in Europe and demand in the EU market, which was well used by companies from Bosnia and Herzegovina, through increased production, which led to an increase in exports. Exports are very important for the growth of GDP in our country, especially in the context of globalization and relatively low demand in the domestic market. In order to show the importance of exports and industrial production, two linear regression models were created, which tested the relationship between 84 quarterly values of exports of goods and GDP, and the movement of 49 monthly percentage changes in values between exports and industrial production since 2017, and analyse data on foreign trade and industrial production of Bosnia and Herzegovina in the period of the first half of 2021.

Keywords: exports, industrial production, COVID-19, GDP**JEL:** F10, F47

Sažetak

Ekonomska kriza uzrokovana COVID-19 pandemijom negativno je utjecala na ekonomiju Bosne i Hercegovine prema svim makroekonomskim pokazateljima. Promatrajući pad privredne aktivnosti, gubitak radnih mjesta, pad industrijske proizvodnje i obima vanjskotrgovinske razmjene, ekonomska kriza vratila je bosanskohercegovačko gospodarstvo na nivo prije nekoliko godina. Osim negativnih aspekata ekonomske krize, ova kriza je ponudila i priliku izvoznim preduzećima iz Bosne i Hercegovine da se bolje pozicioniraju na tržištu Europske unije. Kada je riječ o izvozu, posljedice pandemije COVID-19 ogledaju se u promjenama u distribucijskim lancima sirovina iz istočne Azije, prvenstveno Kine, povećanju troškova distribucije i sirovina za preduzeća u EU, kao i otvaranju novih lanaca snabdijevanja (ponude i potražnje na tržištu EU), što su bosanskohercegovačka preduzeća dobro iskoristile i to kroz povećanje proizvodnje, što je dovelo do povećanja izvoza. Izvoz je vrlo važan za rast BDP-a u našoj zemlji, posebice u kontekstu globalizacije i relativno niske potražnje na domaćem tržištu. Kako bi se prikazala važnost izvoza i industrijske proizvodnje, predstavljena su dva modela linearne regresije koji su testirali odnos između 84 kvartalne vrijednosti izvoza robe i BDP-a, te kretanja 49 mjesečnih relativnih promjena vrijednosti između izvoza i industrijske proizvodnje od 2017., te analizirali podaci o vanjskotrgovinskoj razmjeni i industrijskoj proizvodnji Bosne i Hercegovine u razdoblju prve polovine 2021. godine.

Ključne riječi: izvoz, industrijska proizvodnja, COVID-19, GDP

JEL: F10, F47

1. Introduction

The economy of Bosnia and Herzegovina has experienced all the negative consequences of the Covid-19 pandemic with the recession that followed it. There has been a restructuring of global supply chains and a general paradigm shift in foreign trade. The closure of states and economies evoked the spirit of policies of isolation and protectionism. However, the global economy recovered very quickly, entering a "new normality". Bosnia and Herzegovina's export sector has had particular challenges in this crisis, but now it has a chance, in terms of greater export potential. This will be proven later in the paper.

2. Literature review

The economic crisis caused by the Covid-19 is unique in the current economic history in terms of the manner and speed of its occurrence, global coverage, and consequences (Čavrak, 2020, p. 1; Buterin, 2020, p. 128). The crisis has particularly affected international trade (import and export activities), especially in the first months of the pandemic. Specifically, there has been a reduction in global supply and demand (Barlow *et al.* 2021, p. 102). The consequences of the Covid-19 crisis on international trade are short-term and long-term, with extreme unpredictability (Karajović *et al.* 2021, p. 315). The short-term consequences relate to the closure of economies and states. This is the result of measures by states, which disrupted supply chains (Hoekman *et al.*, 2020, p. 1). Restrictions because of the above lead to an increase in the time and cost of international trade (Karajović *et al.*, 2021, p. 318).

The long-term consequences relate to the macroeconomic component of the crisis, primarily in terms of the relationship between supply and demand, or the level of transport costs, especially the cost of shipping (UNCTAD, 2021, p. 1). The pandemic had heterogeneous effects across industries (Hayakawa & Mukunoki, 2021., p 1; Karajović *et al.*, 2021, p. 323). Not all economic activities are affected in the same way. The negative consequences of the crisis also last longer for certain products than for others (such as medical devices). In 2021, we are witnessing an overall recovery. According to the OECD (2020, p. 2), foreign trade activities and their recovery from the pandemic are crucial for ensuring the flow of basic products, but also as a signal for strengthening confidence in the global economy.

Trade with the countries of the European Union (EU) and China was particularly damaged during the first months of the pandemic, during February and March, while in April the foreign trade activities of these two blocs began to recover (European Commission, 2020, p. 1). Any disruption to Chinese production is expected to have consequences elsewhere through regional and global value chains. Over the last two decades, China has become crucial to the global economy (Kovač, 2020, p. 380). The pandemic was not a driver of change, but a catalyst for earlier trends, which emphasizes the importance of "open strategic autonomy" to be established by the EU (Gruebler, 2021, p. 10). In doing so, the Western Balkans was previously cited as a place to shift business processes (nearshoring) (Gaber, 2020, p. 1). External economic shocks, which in the small open economies of the Western Balkans necessarily have a great impact on economic results and development prospects, largely determine the position of these countries and the potentials of their economic growth. This necessity stems from the fact that these economies are highly dependent on changes in aggregate demand in the markets of European Union countries, which are their largest trading partners and most important export markets (Čaušević, 2020, p. 120). This is exactly what is happening during the changing trade relations between the EU and China.

The Stabilization and Association Agreement between the European Communities and their Member States, of the one part, and Bosnia and Herzegovina, of the other part, was signed in Luxembourg on 16 June 2008 and entered into force on 1 June 2015. It replaced the Interim Agreement on Trade and Trade-Related Matters, which had been in force since 1 July 2008 (DEI, 2021, p. 1). The agreement creates conditions for intensifying foreign trade. According to the data available from the Agency for Statistics of Bosnia and Herzegovina, since 2008, exports from BiH to the EU have more than doubled, from 3.7 billion KM in 2008 to 8.4 billion KM in 2019. This implies a greater negative impact due to the reduction of economic activities in EU countries, which was primarily reflected in the employment rate (Zec, 2020, p. 33). The economy of Bosnia and Herzegovina is certainly very affected by the Covid-19 crisis (Raković, 2020, p. 27). In the first months of the Covid-19 pandemic, a drastic decline in Bosnia and Herzegovina's foreign trade activities was recorded. In the trade of Bosnia and Herzegovina with foreign countries in the period January-May 2020, exports amounted to 4 billion and 61 million KM, which is 16% less than in the same period last year, while imports amounted to 6 billion and 604 million KM, which is 19.2% less than in the same period last year (Kahrović, 2020, p. 15). The most important sectors that export to the EU are the metal and electrical sectors and within it the automotive industry, the furniture industry, as well as the textile, leather, and footwear industries.

3. Research methodology

Secondary data based on available reports from reliable agencies were used in the research. Data on export trends and coverage in 2021 were collected. Annual data on 84 quarterly values of exports of goods and GDP in Bosnia and Herzegovina for the period Q1 2000 - Q1 2021, in chain-linked values in 2015 prices according to the expenditure principle. In addition, data were collected on 49 values of the monthly level of industrial production and the movement of exports from Bosnia and Herzegovina for the period July 2017 - July 2021. These time series are essential for creating two models of regression analysis, through which a direct relationship between the variables will be shown, to prove the hypothesis. In the first model of regression analysis, the independent variable "Export of goods" is defined, while the dependent variable is "GDP". In the second model of regression analysis, the independent variable "Monthly index of industrial production" is defined, while the dependent variable is "Export", with the adjustment of absolute to relative values.

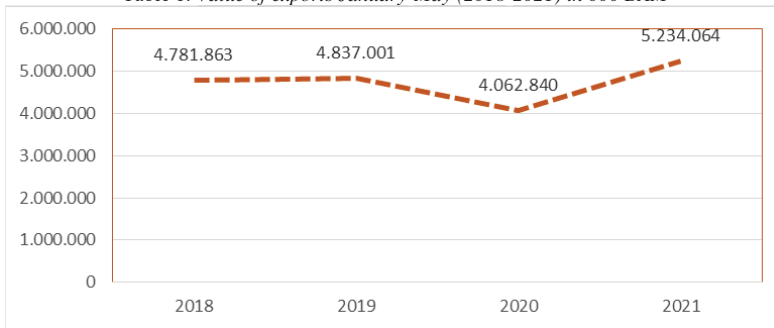
Seasonally adjusted series remove quarterly seasonal fluctuations and calendar effects from the original data, and these are adjusted using Demetra + software and the TRAMO-SEATS method. Gross domestic product (GDP) according to the expenditure approach is defined as total domestic final consumption adjusted by the external balance of goods and services with the rest of the world.

Data on exports and imports of goods and services are based on the balance of payments of the Central Bank of Bosnia and Herzegovina. The value of exported goods is calculated at FOB parity, and the value of imported goods at CIF parity (Agency for Statistics of Bosnia and Herzegovina, 2021a, p.1). The monthly index of industrial production is calculated based on data collected by the monthly industry survey (M KPS IND - 1) conducted on the territory of Bosnia and Herzegovina, entity laws on statistics, and annual work plans of all three statistical institutions in BiH. In the territory of the Federation of Bosnia and Herzegovina, data are collected and processed by the Federal Bureau of Statistics of the Federation of Bosnia and Herzegovina, and in the territory of the Republic of Srpska by the Republic Bureau of Statistics of the Republic of Srpska, in the calculation for the entire territory of Bosnia and Herzegovina (Agency for Statistics of Bosnia and Herzegovina, 2021b, p.2). The collected data were first refined and prepared for statistical processing and analysis. Python and Excel software support were used to analyse the collected data. Tableau and Excel software solutions were used to visualize and present the obtained results.

4. Research results

Table 1 shows the value of exports from companies for the first five months of 2021 compared to exports in the same period of previous years. The starting year is 2018, where we can see that in the period January-May 2021, the value of exports exceeded all previously observed years, and only in 2021, it exceeds the value of 5 billion BAM. Compared to the same period in 2020, exports increased by 29%, and compared to pre-pandemic 2019, this growth is 8.2%.

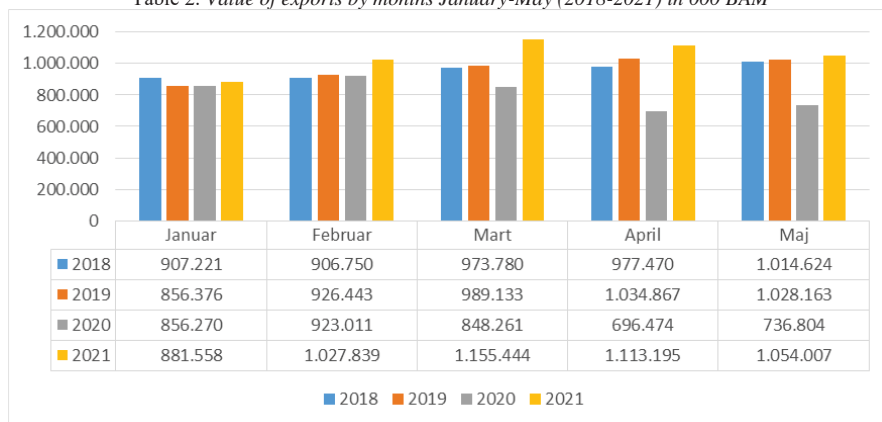
Table 1. Value of exports January-May (2018-2021) in 000 BAM



Source: Agency for Statistics of Bosnia and Herzegovina

Table 2 presents data on exports by months for the period January - May, and by years from 2018 to 2021. Except in January, in all other months, the export from companies was higher in 2021 compared to the corresponding months in the pre-pandemic years. This confirms the current dependence of economic trends on the fight against the pandemic because in January most countries have not even started the vaccination process, remember the problems in the EU with the procurement and distribution of vaccines, so the effects of opening and thus growing market optimism could feel only from the second month of 2021.

Table 2. Value of exports by months January-May (2018-2021) in 000 BAM



Source: Agency for Statistics of Bosnia and Herzegovina

From the aspect of calculation and GDP as a basic indicator of the development of a country's economy, it is important to observe data on the difference between exports and imports. The coverage of imports by exports by months from January to May is given in Table 3. We see that viewed by months in each month of 2021, the percentage of coverage of imports by exports is higher compared to the corresponding months in the years before the pandemic. The coverage of imports by exports in the first five months of 2021 amounted to 67.2%, while the foreign trade deficit amounted to 2 billion 555 million BAM (Agency for Statistics of Bosnia and Herzegovina, 2021, p. 2).

Table 3. Coverage of imports by exports January - May (2018-2021) in %

| Import-export coverage rate in % | | | | |
|----------------------------------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 |
| January | 72,3 | 66,2 | 69,2 | 75,6 |
| February | 63,9 | 59,8 | 58,9 | 70,3 |
| March | 56,4 | 55,8 | 57,2 | 65,1 |
| April | 63 | 59,1 | 61,4 | 65,5 |
| May | 58,5 | 56,8 | 62,3 | 62,5 |

Source: Agency for Statistics of Bosnia and Herzegovina

Based on the presented statistical data, we can clearly see that in 2021 there was a recovery of exports from our country, *i.e.* that the value of exports in this period exceeded the pre-pandemic years, while at the same time the coverage of imports by exports is higher than in the time before the pandemic. The EU market remained the most important export market for companies. Exports to EU countries in the first five months of 2021 amounted to 3 billion 906 million BAM. The coverage of imports by exports in relation to the EU market amounted to 82.4%. Exports to the EU market showed a growth of 31% compared to the same period in 2020.

To show the impact of exports on GDP, a linear regression model was created that included 84 quarterly values of exports of goods and GDP in Bosnia and Herzegovina for the period Q1 2000 - Q1 2021. The model defines "Exports of goods" as an independent variable, while "GDP" is defined as a dependent variable. The results of descriptive statistics show that the coefficient for R2 is 0.87, which indicates a very strong relationship between the defined variables. Value $p < 0.0001$, which shows that the results are statistically significant. The test results of the regression analysis model are shown in Table 4 and graphically in Figure 1.

Table 4. Summary output of regression model

| Regression Statistics | |
|-----------------------|------------|
| Multiple R | 0,9353249 |
| R Square | 0,87483266 |
| Adjusted R Sq | 0,87332462 |
| Standard Error | 401096,45 |
| Observations | 85 |

| ANOVA | | | | | |
|------------|----|------------|------------|-----------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 9,3328E+13 | 9,3328E+13 | 580,11228 | 3,2755E-39 |
| Residual | 83 | 1,3353E+13 | 1,6088E+11 | | |
| Total | 84 | 1,0668E+14 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95,0% | Upper 95,0% |
|--------------|--------------|----------------|------------|------------|------------|------------|-------------|-------------|
| Intercept | 4958848,96 | 91837,3186 | 53,996012 | 1,9808E-66 | 4776188,23 | 5141509,7 | 4776188,23 | 5141509,7 |
| X Variable 1 | 1,48170807 | 0,06151862 | 24,0855201 | 3,2755E-39 | 1,35935 | 1,60406614 | 1,35935 | 1,60406614 |

Source: Authors' research

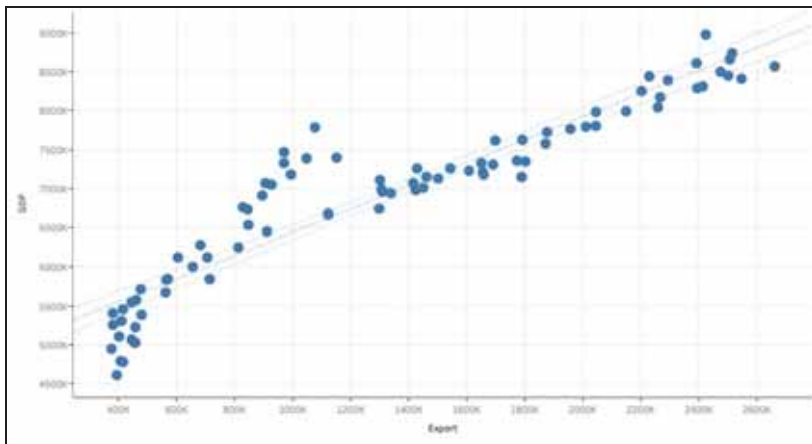


Figure 1. A linear trend model computed for GDP given Export

Source: Authors' research

Through the performed analysis, a model of regression analysis has been defined, which can be used to forecast with high reliability the movement of quarterly GDP in relation to the movement of exports from Bosnia and Herzegovina: $GDP = 4.958.848,96 + 1,48170807 \times \text{"Export of goods"}$. This model is very important because it shows us that if there are changes in exports from Bosnia and Herzegovina, there are changes in GDP trends, which can directly help decision-makers to assess in time the level of trends within the economy, which can serve as a tool for early assessment of GDP trends, given that data on quarterly trends are published with a four-month delay, while data on export trends are published with a delay of 45 days.

In the second model of linear regression, 49 values of the movement of the monthly level of industrial production and the movement of exports from Bosnia and Herzegovina for the period July 2017 - July 2021. The "Monthly Index of Industrial Production" is defined as an independent variable in this model, while the dependent variable is defined as "Exports". The results of descriptive statistics show that the coefficient for R2 is 0.88, which indicates a strong relationship between the defined variables. Value $p < 0.0001$, which shows that the results are statistically significant. The test results of the regression analysis model are shown in Table 5 and graphically in Figure 2.

Table 5. Summary output of regression model

| Regression Statistics | |
|-----------------------|------------|
| Multiple R | 0,94059469 |
| R Square | 0,88471837 |
| Adjusted R S | 0,88226557 |
| Standard Err | 0,05961653 |
| Observations | 49 |

| ANOVA | | | | | |
|------------|----|------------|------------|------------|----------------|
| | df | SS | MS | F | Significance F |
| Regression | 1 | 1,28196491 | 1,28196491 | 360,697218 | 1,0975E-23 |
| Residual | 47 | 0,16704412 | 0,00355413 | | |
| Total | 48 | 1,44900904 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95,0% | Upper 95,0% |
|--------------|--------------|----------------|------------|------------|------------|------------|-------------|-------------|
| Intercept | 0,06322284 | 0,00851694 | 7,42318634 | 1,871E-09 | 0,04608896 | 0,08035672 | 0,04608896 | 0,08035672 |
| X Variable 1 | 1,99649107 | 0,10512257 | 18,9920304 | 1,0975E-23 | 1,78501173 | 2,20797041 | 1,78501173 | 2,20797041 |

Source: Authors' research

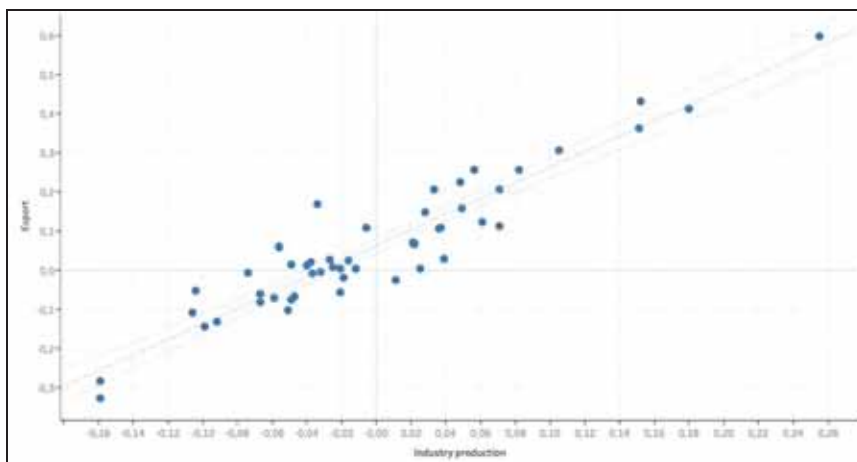


Figure 2. A linear trend model computed for Export given Industry production

Source: Authors' research

Through the performed analysis, a model of regression analysis has been defined, which can be used to forecast with high reliability the trends in the relative ratio of the monthly level of exports in relation to the trends of industrial production in Bosnia and Herzegovina:

$$\text{EXPORT} = 0,06322284 + 1,99649107 \times \text{"Industrial production"}$$

Through this model, it is possible to estimate the monthly level of export trends in relation to the growth of industrial production, as a result of the growth of foreign demand, which ultimately leads to an increase in GDP at the level of the economy. For this purpose, the movements of industrial production and exports for the observed period are shown, which indicates that the movement of these variables is pro-cyclical and that in almost the entire period the change in the movement of one variable followed the movements in the same direction of another variable. The details are shown graphically in Figure 3.

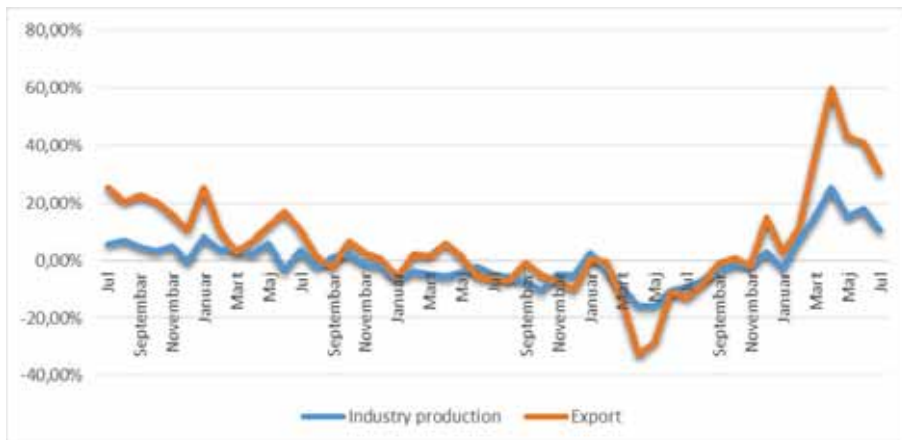


Figure 3. Relation between Industry production and Export

Source: Authors' research

The data are shown graphically in Figure 3, further indicating that since January 2021, there has been strong growth in exports and industrial production in Bosnia and Herzegovina. According to the BiH Agency for Statistics, exports from Bosnia and Herzegovina in the first seven months of 2021 increased by 33% compared to EU countries, which is higher than the overall average increase in exports from Bosnia and Herzegovina, because of strong foreign demand for products from Bosnia and Herzegovina (Agency for Statistics of Bosnia and Herzegovina, 2021c, p.2). If this level of foreign demand would be maintained until the end of the year, and if exports would move at the level of the average for the first seven months of this year, according to our created model, BiH GDP would grow to 38 billion BAM, which would be more by about 3.7 billion KM compared to 2019, which ultimately confirms the proven hypothesis that the level of foreign demand has led to an increase in industrial production, which led to an increase in exports from Bosnia and Herzegovina to EU markets and ultimately to GDP growth.

5. Conclusions and recommendations

What is encouraging is the fact that some private companies in the conditions of closure due to the Covid-19 pandemic, managed to maintain or regain their start-up spirit, and many of them introduced new products or improved existing ones, where they managed to place them on foreign markets. Foreign trade and industrial production had a significant increase during 2021, as a result of the growth of foreign demand, primarily in the markets of the European Union. In the first five months of this year, exports from Bosnia and Herzegovina increased by 28.8% compared to the same period in 2020. Observed by markets, only to the European Union market, exports increased by 31% compared to the first five months of last year. It is obvious that a large part of the economy in Europe has opened and started working after the appearance of the vaccine and significant vaccination. The effects of the expansionary monetary and fiscal policy pursued by the EU during 2020 are being felt. In the first five months of 2021, compared to the same period last year, industrial production in Bosnia and Herzegovina, with a time-adjusted series, grew by 12.2%. This increase can be explained by an increase of 14.5% in manufacturing products and an increase in electricity production by 16.6% compared to the same period last year. Strong growth in foreign demand in EU markets, caused by disruptions in distribution chains between the EU and Asia, led in 2021 to an increase in industrial production from Bosnia and Herzegovina, and an increase in exports by 33%. The created linear regression models show a strong relationship between the variables "Exports of goods" and "GDP", and "Industrial production" and "Exports of goods", which shows a direct link between the growth of industrial production, exports of goods, and GDP.

The created model indicates that if the trend of increasing exports continues until the end of 2021, the GDP in BiH may grow to the level of 38 billion BAM, which is 3.7 billion BAM more than in 2019.

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THE RELATIONSHIP BETWEEN TOURISM AND ECONOMIC GROWTH: THE CASE OF BOSNIA AND HERZEGOVINA

ODNOS TURIZMA I EKONOMSKOG RASTA: SLUČAJ BOSNE I HERCEGOVINE

Abstract

This paper analyses the role and the contribution of tourism to the economic growth of Bosnia and Herzegovina (BiH). By applying the vector autoregressive (VAR) model and Granger causality test over quarterly data for BiH in the period from the first quarter of 2007 to the second quarter of 2018, the relationship between tourist arrivals and overnight stays and gross domestic product (GDP) is analysed. The results of conducted analysis reveal the existence of a one-way causal relationship going from tourist arrivals to GDP and from tourist overnight stays to GDP. Also, there is a one-way causal relationship going from tourist arrivals to tourist overnight stays. The results of conducted analysis confirm the results of previous analyses and studies conducted in the world, and confirm the hypothesis of the existence of the relationship and contribution of tourism to the economic growth of a country. Furthermore, the obtained results show that the development and improvement of tourism should be one of the priority goals of the development policy of BiH in the coming period.

Keywords: BiH, economic growth, Granger causality test, tourism, VAR model

JEL: C01, C32, C53, C87

Sažetak

Ovaj rad analizira ulogu i doprinos turizma ekonomskom rastu Bosne i Hercegovine (BiH). Primjenom vektorskog autoregresionog (VAR) modela i Grangerovog testa uzročnosti na kvartalnim podacima za BiH u periodu od prvog kvartala 2007. do drugog kvartala 2018. godine analiziran je odnos između dolazaka turista, noćenja turista i bruto domaćeg proizvoda (BDP). Rezultati provedene analize otkrivaju postojanje jednosmjernje uzročno-posljedične veze koja ide od dolazaka turista prema BDP-u i od noćenja turista prema BDP-u. Također, postoji jednosmjerna uzročno-posljedična veza koja ide od dolazaka turista prema noćenju turista. Rezultati provedenih analiza potvrđuju rezultate prethodnih analiza i studija provedenih u svijetu, te potvrđuju hipotezu o postojanju odnosa i doprinosa turizma ekonomskom rastu jedne zemlje. Nadalje, dobiveni rezultati pokazuju da razvoj i unapređenje turizma treba biti jedan od prioritarnih ciljeva razvojnih politika BiH u narednom periodu.

Cljučne riječi: BiH, ekonomski rast, Granger test uzročnosti, turizam, VAR model

JEL: C01, C32, C53, C87

1. Introduction

In the recent years, numerous international and local institutions, organizations and agencies have been analysing various issues and problems related to tourism sector in BiH, often emphasizing the existence of great opportunities for its development and improvement. A large number of studies have concluded that BiH is very interesting tourist destination which has a natural diversity, rich historical and cultural heritage, and many different traditions that are in line with new and modern trends in tourist demand (EXCO, 2011, p. 3). Tourism is characterized as a promising sector and development opportunity for BiH. It is believed that tourism can ensure economic and social development, raising standards and quality of life of the residents, and creating a positive image of the country not only as a tourist destination but also as a country itself (Bejtović, 2008, p. 15).

However, there is a noticeable lack of quantitative research that analyses and shows the relationship and the contribution of tourism to the economic growth of BiH. This paper uses the VAR model for quantitative research and presentation of the relationship and the contribution of tourism to the economic growth of BiH, and through this analyse, tries to increase the awareness of the importance, role and potential of tourism in the economic growth of BiH. Based on all of the above, the hypotheses of this work are set as follows:

- **H:** There is relationship and contribution of tourism to the economic growth of BiH;
- **H₁:** There is causal relationship going from tourist arrivals to GDP;
- **H₂:** There is causal relationship going from tourist overnight stays to GDP.

The purpose and goal of this paper are to review relevant research in BiH and other countries on the role of tourism in the economy of one country and, based on available domestic databases for BiH, to empirically investigate the impact of tourism on GDP growth of one country. Based on the conducted research and the obtained results, and by comparing them with the results of research conducted in other countries, the goal is to increase awareness of the importance, role and potential of tourism in the economic growth of BiH. This paper can be used as basis for further research and for drawing of the attention of all relevant factors from the tourism sector and responsible institutions of BiH to the role and importance of tourism in economy of BiH, all for the purpose of use of the development opportunities provided by tourism in BiH in the best possible way.

In the first part of the paper, an overview of the empirical literature was provided. The second part describes the methodology and data which were used, while the third part presents the research results. Finally, concluding discussion of results was provided, which gives guidance for policy makers to improve the tourism sector which would ultimately contribute to the economic growth of the country.

2. Literature review

The economic role and importance of tourism, its contribution to the economic growth of BiH, is analysed in reports of the World Travel and Tourism Council (WTTC, 2020, p. 1) through their annual analysis of the economic impact of the tourism sector in BiH. Figure 1 shows that, when it comes to data for 2019, the contribution of tourism in the overall economy was 9.3%. The share of tourism in GDP growth recorded a positive growth of +6.9%, as opposed to the share of the real economy in GDP growth, which recorded a negative growth of -0.1%. It is important to point out that the contribution of tourism in total employment was 9.6%.

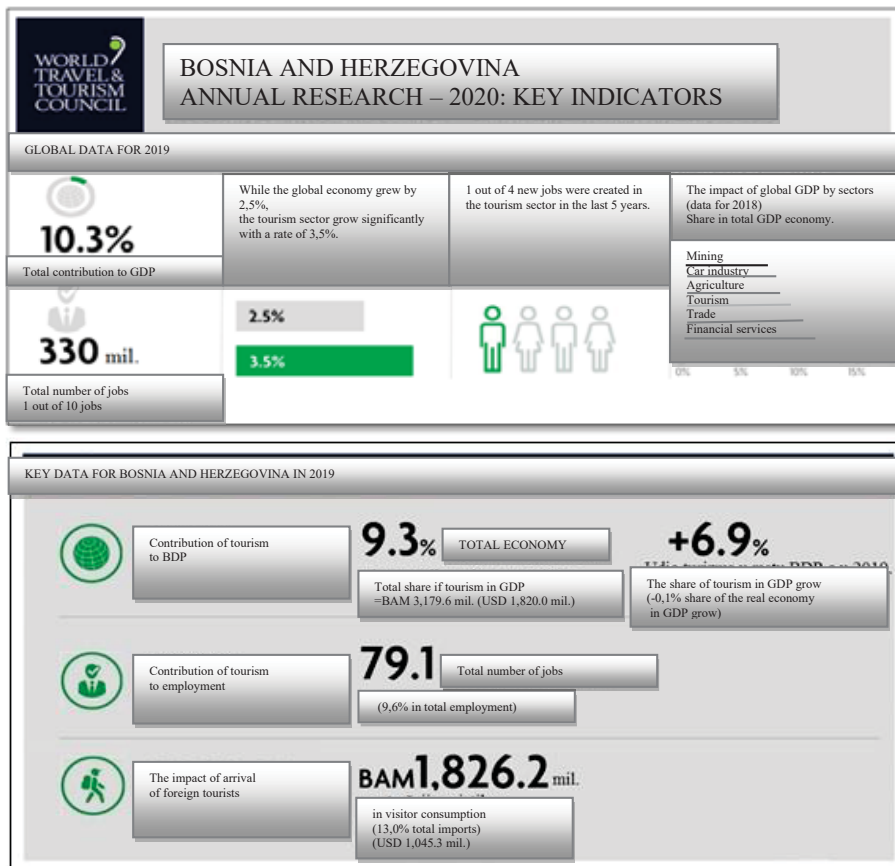


Figure 1. Annual research of key indicators of tourism sector for Bosnia and Herzegovina

Note: All values are in constant 2020 prices and exchange rates, as reported in March 2020
Source: WTTC, 2020, p. 2.

However, despite the positive conclusions of this research, there is a lack of research in BiH that quantitatively analyses and shows the relationship and contribution of tourism to the economic growth of BiH. A large number of researchers analysed various issues and problems related to the tourism sector, often emphasizing the existence of great opportunities for its further improvement, development and contribution to the development of BiH, and were based on situational analysis, SWOT analysis or other methodologies (Bejtović, 2008, p. 5; Mlinarević & Perić, 2008, p. 5; Dedić & Salkić, 2009, p. 343; Domazet & Peštek, 2009, p. 4; Arnaut & Fehrić, 2011, p. 14; EXCO, 2011, p. 23). In contrast to BiH, in other countries there was an increase in research in recent years on the impact of tourism activities on GDP and the role that tourism plays in economic growth in both developed and developing countries (Song, Dwyer, Li, & Cao, 2012, p. 1655). An overview of research conducted worldwide using the VAR model is given in Table 1.

Table 1. Overview of research conducted in the world (application of VAR model)

| 1 Authors (date) | 2 Journal | 3 Frequency (time span) | 4 Destination | 5 Methodology | 6 Variables | 7 Results |
|--------------------------------------|---|-------------------------------|---------------------|--------------------|--|----------------------------------|
| 8 Songling, Ishtiaq and Thanh (2019) | 10 Economics | 11 Annual 12 (1994 – 2015) | 13 Beijing | 14 VAR model | 15 GDP and tourism receipts | 16 T ↔ Y |
| 17 Terzi (2015) | 19 Dogus Universitesi Dergesi | 20 Annual 21 (1963 – 2013) | 22 Turkey | 23 VAR model | 24 GDP and tourism receipts | 25 T → Y |
| 26 Hajdinjak (2014) | 27 Enlightenment Tourism. Journal | 29 Annual 30 (1980 – 2002) | 31 Croatia | 32 VAR model | 33 GDP, real imports of capital goods and tourism expenditures | 34 35 T → Y 36 37 38 |
| 39 He and Zheng (2011) | 41 Journal of Agricultural Science | 42 Annual 43 (1990 – 2009) | 44 Sichuan Province | 45 VAR model | 46 GDP and tourism receipts | 47 T → Y |
| 48 Kaplan and Celik (2008) | 50 The International Journal of Applied Economics and Finance | 51 Annual 52 (1963 – 2006) | 53 Turkey | 54 VAR model 55 | 56 GDP, tourism receipts and real effective exchange rate | 57 T → Y |

Note: T → Y means a one-way causal relationship going from tourism to economic growth
 T ↔ Y means the two-way causal relationship between tourism and economic growth
 Source: Author's research

The results of research conducted using the VAR model by Hajdinjak (2014, p. 40) on the example of Croatia, and Terzi (2015, p. 169), Kaplan and Celik (2008, p. 15) on the example of Turkey, show that the hypothesis that tourism leads to economic growth is confirmed and that there is a one-way causal relationship in Granger's sense going from tourism to economic growth. In contrast to the above studies, Songling *et al.* (2019, p. 4) on the example of the Chinese capital Beijing, in addition to confirming the above hypothesis, show that there is a two-way causal relationship in Granger's sense between tourism and economic growth. The VAR model can also be applied in the analysis of certain areas, as it is the case of work of He and Zheng (2011, p. 214) on the example of Sichuan Province in China, where the hypothesis and one-way causal relationship from tourism to economic growth are once again confirmed. Table 2. provides an overview of research conducted worldwide using causality analysis.

Table 2. Overview of research conducted in the world (application of Granger's causality test)

| 58 Authors (date) | 60 Journal | 61 Frequency (time span) | 63 Destination | 64 Methodology | 65 Variables | 66 Results |
|------------------------------|---|---|----------------|---------------------------------|--|------------|
| 67 AbuAl-Foul (2016) | 68 The 15th International Conference of the Middle East Economic Association (MEEA) | 69 Quarterly 70 (Q1 2003 – 71 Q4 2011) | 72 Jordan | 73 Causality in Granger's sense | 74 GDP and tourism receipts | 75 T ↔ Y |
| 76 Bayramoglu and Ari (2015) | 77 Computational Methods in Social Sciences (CMSS) | 78 Annual 79 (1980 – 80 2013) | 81 Greece | 82 Causality in Granger's sense | 83 GDP and expenditure of foreign visitors | 84 T → Y |

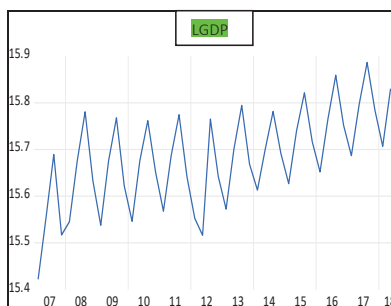
| | | | | | | |
|-------------------------------|--|--|--------------|----------------------------------|--|----------------------------|
| 85 Bento and Santos (2012) | 87 Revista Turismo and Desenvolvimento | 88 Quarterly 89 (Q1 1997 – 90 Q4 2010) | 91 Portugal | 92 Causality in Granger's sense | 93 GDP and tourism expenditures | 94 $T \rightarrow Y$ |
| 95 Lean and Tang (2010) | 97 International Journal of Tourism Research | 98 Monthly 99 (January 1989 – February 2009) | 100 Malaysia | 101 Causality in Granger's sense | 102 Tourist arrivals and industrial production index | 103 \leftrightarrow Y |
| 104 Lim, Chen and Jang (2006) | 107 Tourism Management | 108 Quarterly 109 (Q1 1971 – 110 Q2 2003) | 111 Taiwan | 112 Causality in Granger's sense | 113 GDP and tourist arrivals | 114 \leftrightarrow Y |

Note: $T \rightarrow Y$ means a one-way causal relationship going from tourism to economic growth
 $T \leftrightarrow Y$ means the two-way causal relationship between tourism and economic growth
 Source: Author's research

The results of research conducted using causality analysis by AbuAl-Foul (2016, p. 6) on the example of Jordan, Lean and Tang (2010, p. 377) on the example of Malaysia and Kim *et al.* (2006, p. 930) on the example of Taiwan, show that the hypothesis that tourism leads to economic growth is confirmed and that there is a two-way causal relationship in Granger's sense between tourism and economic growth. In contrast, Bayramoglu and Ari (2015, p. 92) on the example of Greece and Bento and Santos (2012, p. 1764) on the example of Portugal, in addition to confirming this hypothesis, show that there is a one-way causal relationship in Granger's sense going from tourism to economic growth. The conclusion of these studies is that by applying the VAR model and Granger's causality test, the economic role and importance of tourism can be analysed and the hypothesis that tourism contributes to the economic growth of a country can be proven.

3. Research methodology and data

For the empirical analysis of the contribution of tourism to the economic growth of BiH, three variables were used: GDP as an indicator of economic growth, and tourist arrivals and overnight stays as indicators of tourist traffic, and the data used are quarterly data covering the period from the first quarter of 2007 to the second quarter of 2018. The data were collected from the bulletin and announcements of the Agency for Statistics of Bosnia and Herzegovina (BHAS) available on the official website. The analysis was done in the statistical program EViews and conclusions were made at a significance of 5% and 10%. Figure 2. is a graphical representation of the variables, which are logarithmic to stabilize the variance and shown in levels.



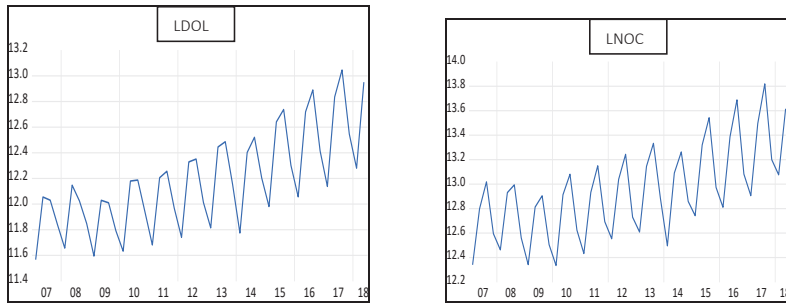


Figure 2. Graphical representation of LGDP, LDOL and LNOC series in levels

Source: Author's research (exported from the statistical program Eviews)

The graphs show that, in the observed period, the variances (standard deviations) of LGDP, LDOL and LNOC are not constant and that the variability of variance is more expressed at the end of the period. Also, the presence of seasonal variations is seen and it can be concluded that the series are not stationary. After graphical representations and the conclusion that there is seasonality and that the series are not stationary, a formal test of the stationary of the series included in the analysis is applied using the extended Dickey – Fuller unit root test (ADF test) (Dickey and Fuller, 1979, p. 430). By using the ADF test the null hypothesis that the series have a unit root, contrary to the alternative hypothesis that they do not have a unit root is tested. Once the stationary of the variables is ensured, further analysis can be done. There are three possible versions of the ADF test and the most commonly performed sequential testing procedure is:

- I: Constant (only a constant is included in the test);
- II: Constant and trend (constant and trend are included in the test);
- III: None (neither constant nor trend is included in the test).

Based on the graphic presentation of the series, the existence of seasonality was seen, so the first version of the test is used.

Table 3. ADF test results

| 115 variable | 116 DF test with included constant | | 117 stationary | 118 order of integration |
|-----------------|---------------------------------------|---------------|-------------------|-----------------------------|
| | 119 -test statistics | 120 -value | | |
| 123 GDP | 124 1.362 | 125 .591 | 126 o | 127 |
| 128 DOL | 129 .896 | 130 .999 | 131 o | 132 |
| 133 NOC | 134 .783 | 135 .999 | 136 o | 137 |
| 138 (LGDP) | 139 11.630 | 140 .000 | 141 es | 142 (1) |
| 143 (LDOL) | 144 1.834 | 145 .359 | 146 o | 147 |
| 148 (LNOC) | 149 4.040 | 150 .003 | 151 es | 152 (1) |
| 153 (LDOL,2) | 154 6.383 | 155 .000 | 156 es | 157 (2) |

Source: Author's research (using the statistical program Eviews)

The results of the ADF test show that the series are differentially stationary, that is when the variable LGDP and LNOC are differentiated once, and the variable LDOL twice with the included constant. Since the variables LGDP, LDOL and LNOC are not stationary of the same order, there is no cointegration between the three listed variables. Accordingly, a cointegration test to determine the long-run causal relationship between the variables was not conducted.

4. Methods and results

The next step of the analysis is the evaluation of the VAR model and the Granger causality test. However, for the evaluation of the VAR model, all variables must be integrated of order one, that is stationary after the first difference. The analysis shows that this is not the case, because the variables LGDP and LNOC $\sim I(1)$, but LDOL $\sim I(2)$. In accordance with the above, the application of the appropriate test is applied. When variables are integrated of order one and order two Toda – Yamamoto procedure of the Granger causality test is used (Toda and Yamamoto, 1995, p. 245). The following test involves the application of the following steps (Giles, 2011, p. 1):

1. Step – Determining the order of integration of the series;
2. Step – Determining maximum order of the integration of the series;
3. Step – Setting up a VAR model in the levels of the data;
4. Step – Determining the appropriate maximum lag length for the series in the VAR model;
5. Step – Checking the adequacy of the VAR model;
6. Step – Cointegration testing;
7. Step – Adding additional lags of the series into each of the equations of the VAR model;
8. Step - Causality testing.

The Granger causality test is performed on the series in levels and the variables: LGDP, LDOL and LNOC are included in the VAR model. The first step requires testing the series to determine the order of integration. This step has already been done using the ADF test in the previous analysis, and the results obtained show that LGDP and LNOC $\sim I(1)$, and LDOL $\sim I(2)$. The second step requires determining maximum order of integration of the series. From the previous analysis it can be seen that LGDP and LNOC $\sim I(1)$ and LDOL $\sim I(2)$, which means that the maximum integration order is two and it is written as $d_{max} = 2$. The third step requires that the VAR model is set up in the levels of the data, regardless of the order of integration in the series. In this step, it is important that the data is not differentiated, regardless of the results in the first step. In accordance with the above, an unrestricted VAR model is created where all three variables are viewed as endogenous variables, and their data are in levels. The VAR model contains three equations, with a constant included in each of the equations. The results of the VAR model are shown in Table 4.

Table 4. Results of the VAR model

| Vector Auto regression Estimates | | | |
|--|--------------------------------------|--------------------------------------|--------------------------------------|
| Sample (adjusted): 2007Q3 2018Q2 | | | |
| Included observations: 44 after adjustments | | | |
| Standard errors in () & t-statistics in [] | | | |
| | LNGDP | LNDOL | LNNOC |
| LNGDP(-1) | -0.038648 (0.21440) [-0.18026] | -2.357932 (0.89285) [-2.64092] | -2.249363 (0.86434) [-2.60240] |
| LNGDP(-2) | 0.163167 (0.20480) [0.79671] | 1.693975 (0.85287) [1.98621] | 0.989122 (0.82564) [1.19801] |
| LNDOL(-1) | 0.562397 | 1.400546 | 1.822611 |

| | | | |
|---|--------------------------------------|--------------------------------------|--------------------------------------|
| | (0.11866) [4.73960] | (0.49414) [2.83429] | (0.47837) [3.81007] |
| LNDOL(-2) | 0.523194 (0.10799) [4.84501] | 3.052242 (0.44970) [6.78732] | 2.586441 (0.43534) [5.94119] |
| LNNOC(-1) | -0.395448 (0.15117) [-2.61590] | -0.506932 (0.62954) [-0.80525] | -0.914502 (0.60944) [-1.50057] |
| LNNOC(-2) | -0.675969 (0.11515) [-5.87019] | -3.518950 (0.47954) [-7.33814] | -3.034521 (0.46423) [-6.53664] |
| | 14.37838 (2.83790) [5.06655] | 20.47924 (11.8182) [1.73286] | 30.12467 (11.4408) [2.63308] |
| R-squared | 0.754593 | 0.724891 | 0.733081 |
| Adj. R-squared | 0.714797 | 0.680279 | 0.689796 |
| Sum sq. resid | 0.095198 | 1.650939 | 1.547205 |
| S.E. equation | 0.050724 | 0.211234 | 0.204490 |
| F-statistic | 18.96166 | 16.24871 | 16.93645 |
| Log likelihood | 72.55846 | 9.789307 | 11.21698 |
| Akaike AIC | -2.979930 | -0.126787 | -0.191681 |
| Schwarz SC | -2.696082 | 0.157062 | 0.092168 |
| Mean dependent | 15.69039 | 12.19982 | 12.95903 |
| S.D. dependent | 0.094981 | 0.373576 | 0.367155 |
| Determinant resid covariance (dof adj.) | | 1.34E-07 | |
| Determinant resid covariance | | 7.95E-08 | |
| Log likelihood | | 172.3541 | |
| Akaike information criterion | | -6.879733 | |
| Schwarz criterion | | -6.028188 | |
| Number of coefficients | | 21 | |

Source: Author's research (exported from the statistical program Eviews)

The fourth step requires determining the appropriate maximum lag length for the series in the VAR model. This selection is based on minimizing the information criteria (Mladenović and Nojković, 2012, p. 304) and it can be seen that the lowest value is on the second lag using AIC and it is – 6.879. The optimal lag length in the VAR model is two and is written as $k = 2$. The fifth step requires checking the adequacy of the VAR model. The results of diagnostic tests are shown in Table 5.

Table 5. Results of diagnostic tests

| | | | | |
|--|----------------------------|--------------|------------|--|
| 158 | M test | | 159 | results |
| 160 | 161 | 162 | 163 | he series have no autocorrelation |
| | RE* test statistics | -value | | |
| 164 | 165 | 166 | | |
| here is no serial correlation | 6.725 | .053 | | |
| 167 | ormality test | | 168 | results |
| 169 | 170 | 171 | 172 | he residues are multivariate normal |
| | arque Bera test statistics | -value | | |
| 173 | 174 | 175 | | |
| Residuals are multivariate normal | .861 | .0562 | | |
| 176 | | | 179 | |

| | | |
|-----|--|---------------------------|
| 177 | tability analysis | 180 |
| 178 | ll parameters of a characteristic polynomial | |
| | re within the unit circle | |
| | | he VAR model satisfies |
| | | he stability requirements |

Note: *Edgeworth expansion corrected likelihood ratio statistic
Source: Author's research (using the statistical program Eviews)

The sixth step requires cointegration testing. In the previous part of the analysis, it was found that the variables were not integrated of the same order, which means that there is no cointegration and this test was not performed (Lütkepohl and Krätzig, 2004, p. 89). The seven step requires adding additional lags of series into each of the equations of the VAR model. Since $d_{max} = 2$, the VAR model is tested in levels with two additional lags in each equation. To test causality, the following procedure is applied: a unrestricted VAR model is created where all three variables are viewed as endogenous variables and their data are in levels; the VAR model contains three equations, with a constant included in each of the equations; instead of the lag length for the three endogenous variables is one to four ($k + d_{max}$), the original length of one to two is left, and as exogenous variables all three variables are added with two additional lags. In this way, the coefficients of these additional lags will not be included when Wald tests are performed (Giles, 2011, p. 1). If lag length was determined for all three endogenous variables from one to four, then the coefficients for all four lags would be included in the Wald test, which would be incorrect. In this case, the Wald test statistic would not have the usual asymptotic chi-square distribution. If you use the Wald test to test the linear constraints of the VAR model parameters, and (some of) the data is no stationary, then the Wald test statistic does not follow the usual asymptotic distribution of the chi-square below zero. The last, eighth step, requires the implementation of the Toda-Yamamoto procedure of the Granger causality test. The null hypothesis of the no causal relationship in Granger's sense is tested, as opposed to the alternative hypothesis that there is causal relationship in Granger's sense (Toda and Yamamoto, 1995, p. 226). After the value of the test statistic is calculated, it can be compared with the relative critical value of the test. If the value of the test statistic is greater than the critical value, then the null hypothesis cannot be rejected and there is no causality. If the value of the test statistic is less than the critical value, then the null hypothesis is rejected and there is causality in Granger's sense.

Table 6. Results of the Toda – Yamamoto procedure of the Granger causality test

| H ₀ | MWald test statistics | | The direction of causality |
|---|-----------------------|--------------|----------------------------|
| | Chi-square test test | p-value | |
| LNDOL does not cause LNGDP in Granger's sense | 5.088 | 0.078 | DOL → GDP |
| LNNOC does not cause LNGDP in Granger's sense | 4.776 | 0.091 | NOC → GDP |
| LNGDP does not cause LNDOL in Granger's sense | 2.431 | 0.296 | There is no causality |
| LNNOC does not cause LNDOL in the Granger sense | 4.061 | 0.131 | There is no causality |
| LNGDP does not cause LNNOC in Granger's sense | 3.779 | 0.151 | There is no causality |
| LNDOL does not cause LNNOC in Granger's sense | 4.975 | 0.083 | DOL → NOC |

Source: Author's research (using the statistical program Eviews)

Based on the conducted Toda – Yamamoto procedures of the Granger causality test, with a significance of 10%, it can be concluded:

- ✓ There is a one-way causal relationship in the short term going from tourist arrivals to gross domestic product, LNDOL → LNGDP;
- ✓ There is a one-way causal relationship in the short term going from tourist overnight stays to gross domestic product, LNNOC → LNGDP;
- ✓ There is a one-way causal relationship in the short term going from tourist arrivals to tourist overnight stays, LNDOL → LNNOC.

The results of the analysis confirm the results obtained by Bayramoglu and Ari (2015, p. 92) on the example of Greece, Hajdinjak (2014, p. 40) on the example of Croatia, Terzi (2015, p. 169) and Kaplan and Celik (2008, p. 15) on the example of Turkey, Bento and Santos (2012, p. 1764) on the example of Portugal and He and Zheng (2011, p. 214) on the example of Sichuan Province in China and show that the hypothesis that tourism leads to economic growth is confirmed and that there is a one-way causal relationship in Granger's sense going from tourism to economic growth. In contrast to the above studies, the results of this analysis do not confirm the results obtained by Songling *et al.* (2019, p. 4) on the example of the Chinese capital Beijing, AbuAl-Foul (2016, p. 6) on the example of Jordan, Lean and Tang (2010, p. 377) on the example of Malaysia and Kim *et al.* (2006, p. 930) on the example of Taiwan who, in addition to confirming the above hypothesis, show that there is a two-way causal relationship in Granger's sense between tourism and economic growth.

5. Conclusion and recommendations

The results of the conducted analysis confirm the working hypothesis of this paper on the existence of relationship and contribution of tourism to the economic growth of BiH. Also, both auxiliary hypotheses of this paper on the existence of a causal relationship going from tourist arrivals and from tourist overnight stays to GDP were confirmed. It is important to point out that the results show the existence of another causal relationship for which no working hypothesis was set, and that is the causal relationship going from tourist arrivals to tourist overnight stays.

The conducted analysis and the obtained results show that the development and improvement of tourism sector should be one of the main goals of development policies of BiH in the coming period. The success of tourism is closely linked to the image of the country, its political and economic stability, quality of its transport infrastructures (airports, roads and railways) and information services (information, reservations and payments). Decisions on issues related to tourism should be adjusted and/or changed, especially issues related to developing awareness of the importance of tourism for a country, investing in tourism, improving tourism promotion, organizing a statistical database as well as harmonizing the legal framework in this sector. In the end, none of the above factors can contribute to success through isolated action. An integrated activity is needed, which would contribute to the use of the tourism sector in the economic growth of the country, and which would ultimately lead to an improvement in the quality, well-being and living standards of the local population.

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CHALLENGES OF CROATIA ON ITS WAY TO THE EUROPEAN MONETARY UNION

IZAZOVI HRVATSKE NA PUTU PREMA EVROPSKOJ MONETARNOJ UNIJI

Abstract

More advanced level of economic integration than the European Union is the European Monetary Union. It implies closely coordinated economic policies of member states as well as a common monetary policy. Creating the EMU is a long process. We testify that some countries did not fully fulfilled the set convergence criteria wholly. By joining the economic, and especially the monetary union, the market expands, and thus the volume of exchange of products and services, which has a great impact on the macroeconomic aggregates of these countries. The dilemma here is whether to allow the "new" member states to adopt the euro as soon as possible or to apply a more cautious strategy. A more cautious strategy implies a higher degree of fulfilment of the convergence criteria. The issue of countries joining the EMU is crucial for the survival and stability of this type of integration because its benefits are long-term. The subject of this paper is the challenges of Croatia, an EU member, observed through the oscillations of macroeconomic aggregates in the process of joining the EMU. The macroeconomic aggregates we observe are: inflation rate, interest rate, exchange rate, public debt-to-GDP ratio and budget deficit-to-GDP ratio. It is possible to set the mathematical functions of the movement of these four observed indicators. Since a fitted (mathematical) function of motion will be set for each macroeconomic aggregate, we will be able to predict the state of individual aggregates in the future. It will be possible to set up a mathematical model for planning the optimal time of entry of individual EU countries into the EMU on the example of Croatia. Through a studious approach, we want to list the challenges that EU member states face, as well as the path that countries that wish to join the EMU must go through.

Keywords: accession process, Croatia, European Monetary Union, convergence criteria

JEL: F 15, F 45, F 47

Sažetak

Napredniji stepen ekonomske integracije od Evropske unije (EU) je Evropska monetarna unija (EMU). Ona podrazumijeva usko koordinirane ekonomske politike zemalja članica kao i zajedničku monetarnu politiku. Stvaranje EMU je dugoročan proces. Iako postoje precizno definisani kriteriji kovregencije za ulazak u EMU, svjedočimo da pojedine zemlje prilikom ulaska nisu ispunile zadate kriterije konvergencije u potpunosti. Udruživanjem u ekonomsku, a posebno monetarnu uniju dolazi do proširivanja tržišta, a time i obima razmjene proizvoda i usluga, što ima veliki odraz na makroekonomske agregate tih zemalja. Ovdje se

javlja dilema: treba li dozvoliti "novim" zemljama članicama uvođenje eura što je prije moguće ili primijeniti oprezniju strategiju. Opreznija strategija podrazumijeva viši stepen ispunjenosti kriterija konvergencije. Stoga je pitanje ulaska zemalja u EMU od ključnog značaja za opstanak i stabilnost ove vrste integracije jer su njene prednosti dugoročne. Predmet istraživanja ovog rada su izazovi Hrvatske, članice EU, posmatrano kroz oscilacije makroekonomskih agregata u procesu pridruživanja EMU. Makroekonomski agregati koje posmatramo su: stopa inflacije, kamatna stopa, devizni kurs, odnos javnog duga i BDP-a i odnos budžetskog deficita i BDP-a. Moguće je postaviti i matematičke funkcije kretanja ova četiri posmatrana indikatora. Obzirom da će se za svaki makroekonomski agregat postaviti fitovana (matematička) funkcija kretanja, moći ćemo na bazi toga predviđati stanje pojedinih agregata u budućnosti. Na tom osnovu, moći će se postaviti matematički model za planiranje optimalnog vremena ulaska pojedinih zemalja EU u EMU na primjeru Hrvatske. Naime, kroz studiozni pristup žele se navesti izazovi (sa makroekonomskog aspekta) sa kojima se zemlje članice EU susreću kao i put koji zemlje koje žele da pristupe EMU moraju da prođu.

Ključne riječi: proces pridruživanja, Hrvatska, Evropska monetarna unija, kriteriji konvergencije.

JEL: F 15, F 45, F 47

1. Introduction

The greatest degree of economic integration is a monetary union. The goal of a monetary union is to achieve goals of economic policy through the monetary policy of those countries that participate in it. Prerequisites for its formation are free movement of capital, integration of banking and financial markets of member countries, as well as, elimination of fluctuations in the movement of exchange rates through their fixation (Bilas, 2005, p. 168). Monetary integrations have a number of advantages. These are mostly reflected in achieving macroeconomic stabilization, such as lowering the inflation rate, lowering the interest rate and increasing budgetary discipline (Bilas, 2005, p. 44). Eliminating the risk of changes in the exchange rate between the member states of integration, as well as easier price comparisons, affect the growth of international trade and investment. The European Monetary Union is one of the most advanced monetary integrations. Non-EMU countries have the task of meeting the convergence criteria as soon as possible in order to join the monetary union. Examination of the convergence criteria enables any preparation for the transition to the single currency, that is, to determine whether a state has complied with the undertaken obligations. Convergence must be long-term, and most importantly sustainable, in order to move to a single currency - the Euro (Marelli E. & Signorelli M., 2010, pp. 140-155).

2. Literature review

The fifth largest EU expansion was on May 1, 2004. The EU has ten new members: Cyprus, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Slovakia, Slovenia and Malta. 70 million citizens became EU citizens, bringing the EU's population to around 455 million. Of the 27 Eurozone member states, 19 are Austria, Belgium, Cyprus, Estonia, Finland, France, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Germany, Malta, Portugal, Slovakia, Slovenia and Spain. This expansion is of great importance, not only for its size, but also because of the merging of once opposing ideologies. The fifth expansion continued on January 1, 2007, when Romania and Bulgaria joined, and in 2013, Croatia joined the EU (Razić S. & Kasumović M., 2019, pp. 55-66). The crisis that occurred in 2008 left a significant impact on the Croatian economy and pointed to important structural weaknesses and macroeconomic imbalances. From 2008 to 2014, real GDP decreased by more than 12%.

After joining the EU in May 2013, Croatia recorded a significant increase in exports of goods and later exports of services in tourism, which contributed to increased growth. Managing the Euro adoption process is one of the key strategic decisions of all countries after EU accession. The

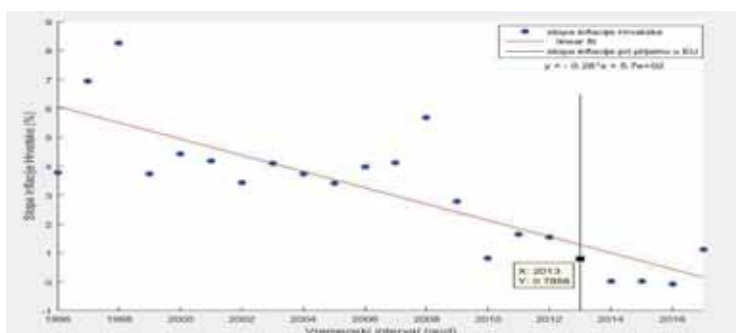
experience of the member states that joined since 2004 shows that larger countries have chosen inflation targets, in contrast to smaller countries that opt for early entry into ERM II, with the aim of early adoption of the Euro. The currency is the Kuna, and it has committed to the introduction of the Euro upon meeting the necessary criteria. The amount that each EU member state pays into the budget is calculated in accordance with the funds available to the country. The bigger a country's economy, the more it pays. In 2018, total spending in Croatia was 1.120 billion Euros and the total contribution to the EU budget was 0.451 billion Euros. The most important sectors of the Croatian economy were wholesale and retail, transport, accommodation and food services with 23.1%, industry with 20.4%, and public administration, defence, education, and health and social welfare with 15.5%. 68% of Croatian exports go to EU countries, of which 14% go to Italy, 13% to Germany and 11% to Slovenia. Pertaining to countries outside the EU, 9% go to Bosnia and Herzegovina and 4% to Serbia. In relation to imports, 78% were imports from EU member states, of which 15% from Germany, 13% from Italy and 11% from Slovenia. Pertaining to countries outside the EU, 3% of Croatian imports come from Bosnia and Herzegovina and China (https://europa.eu/european-union/about-eu/countries/member-countries/croatia_hr).

3. Research methodology

In this research, different combinations of scientific methods were used for the purposes of argumentation. The research was conducted by classifying available data collected from various sources, namely Eurostat, IMF, World Economic Outlook Database, World Bank, European Union Official Web Site, and World Trade Organization. The scientific methods used in the processing of quantitative data are: descriptive statistics used to describe and better understand the measured (given) data set. Numerical and graphical methods were used in order to present the collected data in an understandable and clear way, *i.e.* deviations of actual values of indicators from set values. Mathematical model (fitted function and artificial neural networks) - two quantities were taken into account (given size and deviating size). Therefore, it is a function with the smallest deviation from the set values and which can be used for future predictions. Based on these possibilities, it was determined how much the deviation of certain criteria from the set ones, and based on the time series, assessed Croatia's entry into EMU. Quantitative data processing was performed via: Easy Fit and Mat lab.

4. Results and discussion

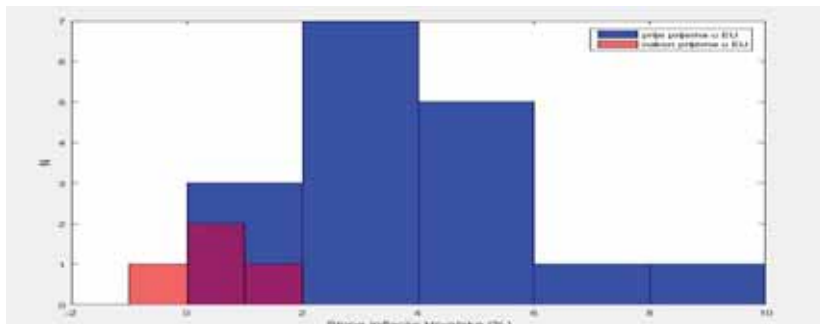
We will verify when Croatia entered the given framework, that is, when it could meet the nominal criterion of the inflation rate. The average value of the Croatian inflation rate in the given period was 3.113%, the maximum value was 8.256% in 1998, and the minimum -0.079% in 2016. The range in which the inflation rate varied was 8.3343%, the standard deviation is 2.220%.



Graph 1. Trend of inflation rate change for Croatia in that period

Source: Author's research

Croatia's inflation rate was moving slightly downward, where the slope of the fitted line was -0.28 (Graph 1). At the time of accession to the EU in 2013, the inflation rate was 0.7858% , which was already within the framework of the countries admitted to the EMU. It is obvious that Croatia had inflation rates within (determined on the basis of countries admitted to the EMU) for almost the entire period. It has been within the required framework from 1999 until 2007, and from 2009, it remained in that interval until 2017.

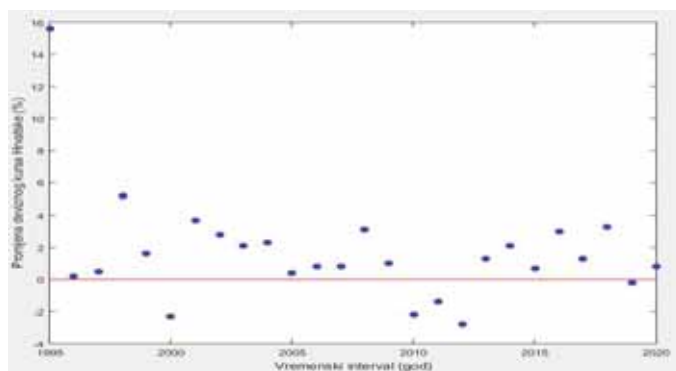


Graph 2. Inflation rate movements before and after the accession to the EU

Source: Author's research

The Graph 2 shows a comparison of the inflation rate with the mean inflation rate. If we compare the data on Croatia's inflation rate with the mean inflation rate data of the three countries that had the lowest inflation rate with an additional tolerance of 1.5% (error bar used), then we may easily verify whether and when Croatia met the first nominal criterion. It is apparent that since 2012, Croatia has been within the required interval prescribed by the nominal criterion and that it met the criterion at all times until the data was available.

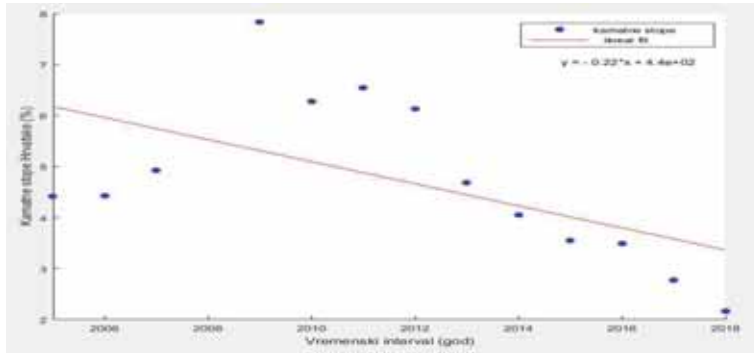
The mean value of the change in the percentage of the exchange rate for the given period was 1.68% . The movement of the exchange rate is presented in Graph 3. The exchange rate of Croatia varies throughout the period, therefore, this nominal criterion is not met.



Graph 3. Movement in exchange rate

Source: Author's research

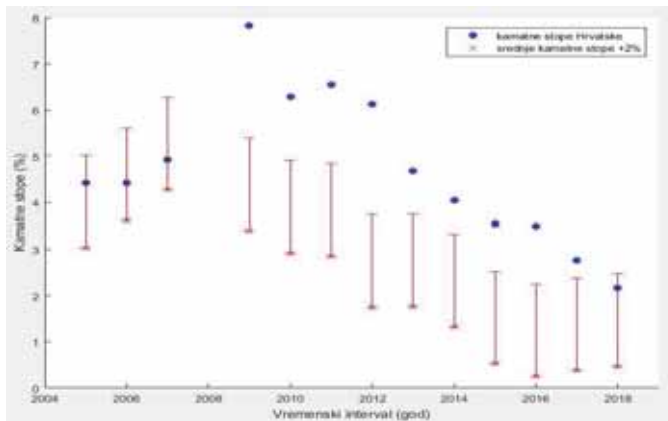
Croatia's interest rate changed in the interval of 5.66% with a minimum value of 2.17% in 2018 and a maximum value of 7.83% in 2009. The mean value for that period was 4.713% . Interest rates of countries admitted to the EMU had interest rates ranging from 1.38% (Lithuania) to 5.30% (Greece).



Graph 4. Movement in interest rate

Source: Author’s research

It is obvious that the linear function is not the best choice for fitting, but we see that the interest rate values decrease with the coefficient -0.22. We see that since 2013, Croatia's interest rate has been within the limits of other countries admitted to the EMU. From 2005 to 2007, Croatia's interest rates were within the required nominal criteria and that criterion was met then. However, a sharp jump occurred in 2009 (data for 2008 are missing), and since then, Croatia has had interest rate values above the allowed level until 2018, when it is required to have the interval by the nominal criterion in that period. Croatia's interest rates have recently been on a declining trend with a greater slope than mean interest rates, therefore, we may assume that Croatia will continue to be within the permitted limits in the upcoming period. In addition to fitting the function that monitors Croatia's interest rates, we must also fit the function that is monitored by the data on mean interest rates in the future.



Graph 5. Interest rates of Croatia and mean interest rates of three countries with the lowest interest rate

Source: Author’s research

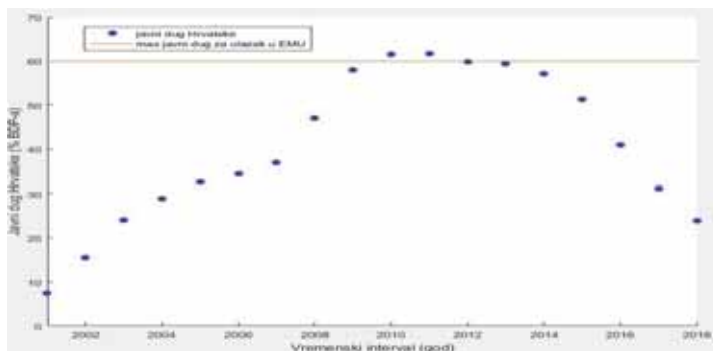
The future movement of interest rates based on the function and coefficients given by fitting, we may forecast how interest rates will move in the future and thus determine whether Croatia will meet the criteria in the future. The difference between Croatian interest rates and mean interest rates should be less than 2%, which is necessary to meet the nominal criterion. The table 1. presents the future values of Croatian interest rates and mean interest rates.

Table 1. *Forecasting interest rate movements*

| Year | Interest rates Croatia | Mean interest rates | Difference | Criterion met |
|------|------------------------|---------------------|------------|---------------|
| 2019 | 1.9488 | 0.095700000 | 1.8531 | yes |
| 2020 | 1.5847 | 0.049600000 | 1.5351 | yes |
| 2021 | 1.2622 | 0.024300000 | 1.2379 | yes |
| 2022 | 0.9847 | 0.011300000 | 0.9734 | yes |
| 2023 | 0.7525 | 0.004900000 | 0.7476 | yes |
| 2024 | 0.5633 | 0.002100000 | 0.5612 | yes |
| 2025 | 0.4130 | 0.000808800 | 0.4122 | yes |
| 2026 | 0.2966 | 0.000301190 | 0.2963 | yes |
| 2027 | 0.2086 | 0.000106170 | 0.2085 | yes |
| 2028 | 0.1438 | 0.000035424 | 0.1438 | yes |
| 2029 | 0.0970 | 0.000011188 | 0.0970 | yes |
| 2030 | 0.0642 | 0.000003345 | 0.0642 | yes |

Source: Author's research

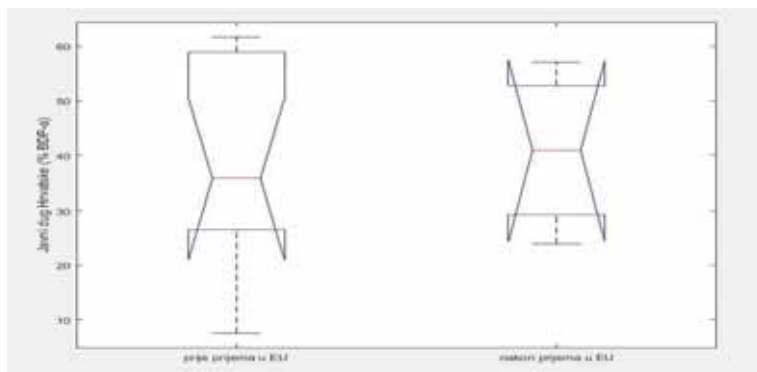
Croatia's maximum public debt was 61.7% of GDP in 2011, and the minimum 7.5% of GDP in 2001. The mean value of public debt was 40.67% of GDP during the given period. The following graph shows the movement of Croatia's public debt.



Graph 6. *Movement in public debt*

Source: Author's research

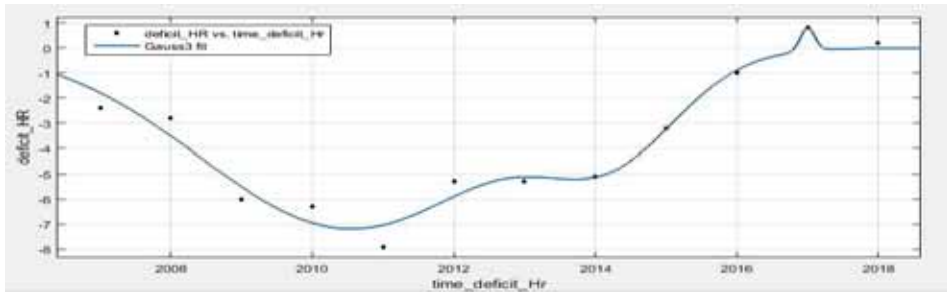
Croatia's public debt has been less than 60% of GDP since 2013, therefore, this criterion has been met.



Graph 7. *Comparison of public debt before and after the accession to the EU*

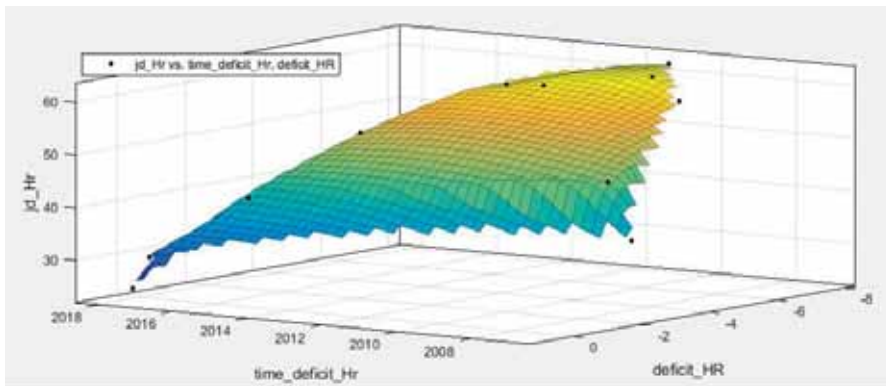
Source: Author's research

The budget deficit varies in the range of 8.7% of GDP. The largest value of the deficit was 0.8% of GDP in 2017, and the minimum value of the deficit was -7.9% of GDP in 2011. The mean value was -3.69% of GDP. Given that the maximum value below 3% of GDP is required by the criterion, Croatia has also met this criterion.



Graph 8. Movement in budget deficit

Source: Author's research



Graph 9. Movement of public debt and budget deficit

Source: Author's research

Croatia has met the requirements of the inflation rate since 2012, interest rates since 2018, public debt since 2013, budget deficit since 2007, while the exchange rate criterion is not met.

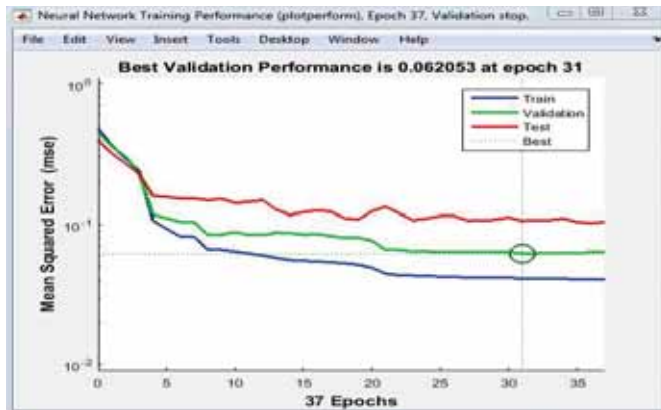
We could roughly conclude (because the conclusion is derived from a small number of samples and the conditions for admission are far more complex) that countries with a lower sum of nominal criteria of 68.52% are eligible to be admitted to the EMU. The admission condition is defined by a mathematical model

$$\alpha + \beta + \gamma + \delta < 68.52 \%$$

Where, α -inflation rate, β -interest rate, γ -public debt and δ -budget deficit.

Let's look at the sum of the percentages of nominal criteria in Croatia, which is 27,384%. According to the aggregate percentages, this country should be admitted to the EMU because the sum is less than 68.52%, and maybe we are really only waiting for the stability of the exchange rate and the introduction of the Euro. However, it is possible that each criterion must be analysed separately upon admission to the EMU. This is taken into account by the neural network. Artificial Neural Networks (ANN) are adaptive statistical models for data processing inspired by the structure and function of the biological nervous system. They consist of simple elements that work in parallel

(neurons) with adjustable connections between them (weights). ANNs learn to map between input-output connections that are presented to them in data sets during network training. The Graph 10 illustrates network training, a setting based on comparing output and target until they match or until a deviation is acceptable. Usually many such entry/target pairs are needed to train the network. The role of pattern recognition is to check whether the neural network can distinguish and classify based on 4 input parameters whether the country needs to be admitted to the EMU, or does not yet meet all the criteria. Input 4 parameters (inflation rate, interest rates, public debt and budget deficit), that are related to output values (0-not received in EMU or 1-is received in EMU) over 20 neurons in the hidden layer.



Graph 10. *Neural network*

Source: Author's research

The neural network otherwise randomly divides all input-output data into 3 groups, 60% of the data is used for network training, 20% for validation and 20% for network testing. The result of the neural network for pattern recognition is a Confusion matrix. The network predicts Croatia's accession to the EMU with a probability of 87.44%. The network has found a complex algorithm that connects the nominal criteria and the country's admission to EMU with an accuracy of 91.5%. Let's take a closer look at this correlation algorithm. The output values of a are related to the input values of p via the transfer function in the following way:

$$a = f(w * p + b)$$

A clustering function is used in 2 outputs (0,1), w-weights that are associated with all input parameters + b-bias to obtain the corresponding output. The values of nominal criteria in the data varied in the range: [- 9.6797 958.5032; inflation rate, 0.09 22.5; interest rates, -496.1 148.2; public debt, -15.1 3.4 budget deficit.

5. Conclusion

We testify that some countries did not fully meet the set convergence criteria upon accession, although there are precisely defined convergence criteria for joining the EMU. The issue of countries joining the EMU is crucial for the survival and stability of this type of integration because its benefits are long-term. After joining the EU in May 2013, Croatia recorded a significant increase in exports of goods, and later exports of services in tourism, which contributed to increased growth. Many economists say the benefits would be significantly greater after joining the EMU.

Consequently, it is evident that since 2012, Croatia has been within the required interval prescribed by the nominal criterion and that it meets it throughout the time the data was available. Croatia's public debt has been less than 60% of GDP since 2013, and this criterion has been met. The budget deficit varies in the range of 8.7% of GDP. The largest value of the deficit was 0.8% of GDP in 2017, and the minimum value of the deficit was -7.9% of GDP in 2011. The mean value was -3.69% of GDP. Given that the maximum value below 3% of GDP is required by the criterion, Croatia has also met this criterion.

Recently, Croatia's interest rates have been declining with a greater slope than the mean interest rates, and we may assume that they will continue to be within the permitted period. The only criterion that is not met refers to the exchange rate. Thus, countries with a lower sum of nominal criteria of 68.52% may be admitted to EMU. The sum of the percentages of nominal criteria of Croatia is 27.384%. According to the aggregate percentages, this country should be admitted to the EMU because the aggregate is less than 68.52%. On the other hand, *the neural network predicts with a probability of 87.44% Croatia's admission to EMU*. The neural network otherwise randomly divides all input-output data into 3 groups, 60% of the data is used for network training, 20% for validation and 20% for network testing.

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EFFECTS OF THE COVID-19 PANDEMIC ON LABOUR MARKET IN BOSNIA AND HERZEGOVINA

UTICAJ COVID-19 PANDEMIJE NA TRŽIŠTE RADA U BOSNI I HERCEGOVINI

Abstract

Besides health issues, the outbreak of the pandemic COVID-19 has awoken a crisis characterized by shocks on both the aggregate supply side and the aggregate demand side. As the pandemic spread, a number of sectors that were negatively affected increased, primarily due to a reduction in aggregate demand (in many cases caused by governmental restrictions) and a slowdown in the supply chain. It furthermore reduced employment rate, investment, and production and productivity. The pandemic consequences affected the reduction of business activities, unemployment rates and put pressure on sustainability of companies, and lead to temporarily or even permanent shut down of businesses with many employed people confined to their homes or even loss of their jobs. Generally speaking, it is global phenomenon that governmental activities, in front of all lock-down and other health-related measures implied a slowdown of the business activity, increase of unemployment and closure of businesses. This paper contains research results on the impact of the COVID-19 pandemic on the labour market in Bosnia and Herzegovina, implemented on the stratified sample of employers in the Federation of BiH, Republic of Srpska and Brčko District BiH. Its aim is to identify specific aspects of the effects of COVID-19 on business operations such as scope of business operations, changes in number of employees and financial results but as well as the reaction of companies to COVID-19. This research identifies industries that were most negatively affected by the COVID-19 but also the ones that experienced higher scope of their business activities during the COVID-19 pandemic. In this paper, authors also provide an overview of recommendations for policy makers as well as for companies in terms of good practices dealing with crisis situations, but also the ones aimed at further support to business development in Bosnia and Herzegovina.

Keywords: labour market, business operations, crisis, COVID-19

JEL: J08, L1

Sažetak

Pored zdravstvenog aspekta, pandemiju COVID-19 virusa, krizu karakterišu šokovi kako na strani agregatne ponude, tako i na strani agregatne tražnje. Kako se pandemija širila, tako se širio i broj sektora na koje je ona negativno uticala, prije svega zbog smanjenja agregatne tražnje i usporavanja lanca ponude što je smanjilo zaposlenost, investicije, te proizvodnju i produktivnost. Kriza nije zaobišla ni Bosnu i Hercegovinu, gdje su pandemijske posljedice utjecale na smanjenje poslovnih aktivnosti, povećanje stope nezaposlenosti i zatvaranje preduzeća. Ovaj rad sadrži rezultate istraživanja o utjecaju pandemije COVID-19 na tržište rada u Bosni i Hercegovini, provedeno na stratificiranom uzorku poslodavaca u Federaciji BiH, Republici Srpskoj i Brčko distriktu BiH. Cilj mu je identificirati specifične aspekte efekata COVID-19 na poslovanje, kao što su obim poslovanja, promjene broja zaposlenih i finansijskih rezultata, ali i reakcije preduzeća na COVID-19. Ovo istraživanje identificira industrije i privredne grane na koje je COVID-19 pandemija imala najveći negativni utjecaj, ali i one koje su iskusile povećan obim poslovnih aktivnosti tokom pandemije. U

ovom radu autori daju i pregled preporuka za kreatore politika i donosiocje odluka kao i za preduzeća u smislu dobrih praksi upravljanja kriznim situacijama, ali i onih usmjerenih na daljnju potporu razvoju poslovanja u Bosni i Hercegovini.

Ključne riječi: tržište rada, poslovne aktivnosti, kriza, COVID-19

JEL: J08, J21, J38, I15, M10

1. Introduction

Outbreak of the worldwide pandemic COVID-19 that besides health issues made many negative implications on different sectors, including economy has the main characteristic of 2020 (Eurostat, 2020, p.1). Governments all around the world were faced with challenges to prevent further spread of the COVID-19 pandemic by taking restrictive measures. These measures forced many businesses to temporarily shut down and many employed people confined to their homes, or got fired. This was the case in Bosnia and Herzegovina as well, where health risks, curfews, travel bans and other lockdown measures, made it difficult for companies to sustain business operations. Many employees got infected, were fired or could not go to their jobs, resulting in reduced incomes and increased vulnerability rates as well as income dropdown. In addition, and given the current underdeveloped business environment in Bosnia and Herzegovina, many companies delayed their investments, purchases of goods and the hiring of workers, which caused many negative effects on the labour market.

The number of persons who lost their jobs in BiH from March to June 2020 amounted to 65.100, out of which 43.200 were from the Federation of Bosnia and Herzegovina, while 21.900 were from Republic of Srpska (Kahrović, 2020, p. 14). Negative effects of pandemic are still visible and in order to be able to formulate appropriate policies and further protect the labour market, it is necessary to understand which business activities were most affected by the COVID-19 crisis, and analyse the effects on volume of business operations, changes in number of employees and financial results. In relation to these issues, this paper makes a significant contribution to understanding the negative effects of the crisis, and the business activities most affected by the crisis, with provision of recommendations for further activities that should be implemented in order to support recovery of economy.

2. Theoretical framework

Pandemics, as phenomenon, emerged in the focus of public and academic space since COVID-19 affected modern society in 2020. Still, pandemics are present throughout our history. Their impacts was different, some had consequences on demographics, while others on the economy (Signoli, 2012, p. 218). Spyrou *et al.* (2016, pp. 874-875) argue that pandemics are directly related to economy, as the commercial exchange between peoples grows, diseases seem to happen with greater frequency. The lack of hygienic standards, or pollution of environment, increased the probability of viruses spread.

Numerous scientific and research studies analyse the effects of COVID-19 on reduction of jobs and job losses (Adams-Prassl *et al.*, 2020, p.3; Béland *et al.* 2020, p.30-31; Kahn *et al.*, 2020, p.7, Lemieux *et al.*, 2021, p. 55). In the United Kingdom, the COVID-19 pandemic has led to a sharp drop in labour demand in many sectors of the economy and to an initial acute labour shortage in other sectors (Costa Dias, Joyce, Postel-Vinay & Xu, 2020, p. 371). At the very beginning of the COVID-19 crisis, Bell and Blanchflower (2020, pp. 61-62) conclude that the labour market in the United States and the United Kingdom could continue to record declining employment and participation rates, indicating that the self-employed are particularly affected, and that long-term unemployment rates could rise especially among workers with the lowest skill levels. Labour force participation

and the number of discouraged increased with the duration of the pandemic, *i.e.* the number of unemployed who were actively looking for work increased, and they voluntarily withdrew from the labour force (Coibion *et al.* 2020, p. 4).

Labour market in Western Balkan countries was also affected by COVID-19 pandemic. According to the World Bank (2020, p.3) performance data from labour markets by April 2020 indicated that the largest annual increase in numbers of unemployed were in Albania (25%) and North Macedonia (11%). In Q1 2020 data on vacancies in Montenegro show a decrease of 75% and in Serbia by 48%. According to the same source, companies quickly switched to defensive measures: change of working hours, temporarily reduction in the number of working hours, forced vacation, unpaid vacation and finally dismissal or even forced imprisonment, as volume reduction business measures – according to the data of Chamber of Commerce of Serbia 77.000 employees were on forced vacation, while data from Employers Association from Kosovo confirm that 84% of companies included in the research conducted by this association, were closed or reduced their business operations.

Governments all around the world are implementing different policies and activities to try to reduce negative effects of COVID-19 to economy. These measures include, among others, tax reliefs, guarantee schemes, subsidized credit lines, partial or full coverage of salary costs, higher unemployment benefits with mitigation criteria, *etc.* According to Anderson *et al.* (2020, p. 931), governments will not be able to minimise both deaths from coronavirus disease 2019 (COVID-19) and the economic impact of viral spread. Keeping mortality as low as possible will be the highest priority for individuals; hence governments must put in place measures to ameliorate the inevitable economic downturn. In order to overcome the consequences caused by the COVID-19 crisis, market policies and programs labour are crucial in providing assistance to workers and employers (Avila & Mattozzi, 2020, p. 1). Brown and Koettl (2015, p.3) identify target areas and instruments that can encourage different effects on labour market presented in Table 1.

Table 10. *Relevant instruments, target groups, and intended effects of ALMPs*

| Target areas | Objective | Instruments | Target workers | Effects |
|------------------------|---|--|---|--|
| Labour demand | I. Provide Incentives for retaining employment | Work sharing and short work Wage subsidies | Insiders | Reduce outflow from employment Retain labour market attachment |
| | II. Provide Incentives for creating employment | Hiring subsidies Business start-up support | Outsiders | Increase inflow into employment Increase labour market attachment |
| Labour supply | III. Provide incentives for seeking and keeping a job | In-work benefits, subsidies, tax credits | Insiders and outsiders | Increase inflow into employment by strengthening work incentives Reduce outflow from employment |
| | | Public works Activation and Workfare Sanctions | Outsiders | Increase labour market attachment Provide income support |
| | IV. Provide incentives for human capital enhancement | On-the-job training Classroom training | Outsiders Outsiders and Insiders | Increase inflow into employment Increase productivity Improve match quality |
| Labour Market Matching | V. Improved labour market matching | Job search assistance | Outsiders | Improve job search efficiency |
| | | Employer intermediation services | Outsider and insiders | Improve match quality |

| | | | | |
|--|--|----------------------------------|-----------|---------------------------------|
| | | Employer intermediation services | Outsiders | Increase inflow into employment |
|--|--|----------------------------------|-----------|---------------------------------|

* “Insiders” refer to those who are currently employed, “outsiders” to the unemployed, long-term unemployed, discouraged, informal workers, and inactive.

Source: Brown and Koettl, IZA Journal of Labor Economics (2015) 4:12

3. Empirical research

3.1 Methodology

This paper uses data collected by the Republic of Srpska Employment Service, Federal Employment Institute and Employment Service of Brčko District through the employer survey process upon commonly agreed methodology developed with technical assistance of the EU funded project “Improving Labour Market Research”. The questionnaire consisted of questions aimed at collecting general data on the employer, number and structure of employees by type of contract, employment, training of workers and redundancy assessment, cooperation with the Employment Service and assessment of COVID-19 pandemics consequences. The database is particularly valuable given that a stratified sample was used. Accepting the marginal error rate of 3% and a confidence level of 95%, the sample size was determined at 2,429 enterprises. Key variables stratifications are the size of enterprises (small, medium and large) and industries (fields of business activities) according to KD2010 classification. Data collection was performed by using so called CAPI methods (Computer Assisted Personal Interviewing). Data collection has been conducted by 152 pollsters: 53 in Republic of Srpska, 92 in the Federation of BiH and 7 in Brčko District. Data were analysed using the STATA statistical program. The sample is dominated by small businesses (78.34%), which actually reflects the real situation in the economy. Medium-sized enterprises make up 15.89% of the sample, and large ones 5.76%. Sample size is presented in Table 2

Table 11. *Sample size*

| Size | Federation of BiH | Republic of Srpska | Brčko District | Total - BiH | Percentage |
|-------------------|-------------------|--------------------|----------------|-------------|------------|
| Small enterprises | 1003 | 695 | 205 | 1903 | 78.34% |
| Middle enterprise | 165 | 209 | 12 | 386 | 15.89% |
| Large enterprises | 64 | 74 | 2 | 140 | 5.76% |
| Total | 1232 | 978 | 219 | 2429 | 100.00% |

Note: This research was done with the technical support of the European Union’s project “Improving labour market research”, which includes the evaluation of active labour market measures, and their redesign in accordance with the results of the evaluation (2020)

Source: Authors’ research

The largest percentage of enterprises in the sample is in industry G - Wholesale and retail trade; repair of motor vehicles and motorcycles (30.0%), C - Manufacturing (24.7%) and H - Transport and storage (7.0%). Total of 61.7% of surveyed employers were in these three industries.

Table 12. *Sample by field of business activity of surveyed employers*

| Industry/ field of business activity | Federation of BiH | Republic of Srpska | Brčko District | Total - BiH | Percentage |
|---|-------------------|--------------------|----------------|-------------|------------|
| A: Agriculture, forestry and hunting | - | - | 8 | 8 | 0.3% |
| B: Mining and quarrying | 10 | 16 | - | 26 | 1.1% |
| C: Manufacturing | 322 | 250 | 28 | 600 | 24.7% |
| D: Production and supply of electricity and gas | 1 | 13 | - | 14 | 0.6% |
| E: Water supply; wastewater disposal, waste management and remediation activities | 28 | 25 | 2 | 55 | 2.3% |
| F: Construction | 119 | 86 | 14 | 219 | 9.0% |
| G: Wholesale and retail trade; repair of motor | 304 | 323 | 102 | 729 | 30.0% |

| | | | | | |
|---|------|-----|-----|------|--------|
| vehicles and motorcycles | | | | | |
| H: Transport and storage | 74 | 71 | 25 | 170 | 7.0% |
| I: Accommodation and food service activities (hotels and restaurants) | 132 | 26 | 2 | 160 | 6.6% |
| J: Information and communication | 46 | 34 | 6 | 86 | 3.5% |
| K: Financial and insurance activities | 8 | 6 | 1 | 15 | 0.6% |
| L: Real estate business | 9 | 14 | 2 | 25 | 1.0% |
| M: Professional, scientific and technical activities | 104 | 86 | 16 | 206 | 8.5% |
| N: Administrative and support service activities | 34 | 16 | 1 | 51 | 2.1% |
| O: Public administration and defense; compulsory social insurance | - | - | 1 | 1 | 0.0% |
| Q: Health and social work activities | - | 1 | 5 | 6 | 0.2% |
| P: Education | - | - | 1 | 1 | 0.0% |
| R: Art, fun and recreation | 18 | 8 | 4 | 30 | 1.2% |
| S: Other services | 23 | 3 | 1 | 27 | 1.1% |
| Total | 1232 | 978 | 219 | 2429 | 100.0% |

Source: Authors' research

3.2 Research results

The companies in the sample were to assess the consequences of the COVID-19 pandemic on the company in 2020 in terms of financial results, volume of production and provision of services, presence on existing markets and cooperation with existing clients, plans to expand into new markets and establishing cooperation with new clients. Given that employers completed the questionnaire in late 2020 and early 2021, their responses reflect a subjective assessment of the effects on key business indicators in the context of the COVID-19 pandemic. In terms of volume of business activities, the largest percentage of employers in Bosnia and Herzegovina (44.1%) stated that in 2020 experienced decline in volume of business activities, most of them in Accommodation and food service activities (hotels and restaurants) (72% of total sample size), while 32.0% had stagnation. Only 22.8% of employers reported an increase in volume of business activities. Such results were expected, especially having in mind the difficult conditions in which the companies operated during 2020 as a direct consequence of the COVID-19 pandemic.

Table 13. Estimation of business volume (production, sales, services) in 2020

| Volume of business activities (Production, Sales, Services) | Federation of BiH | Republic of Srpska | Brčko District | Total - BiH | Percentage |
|---|-------------------|--------------------|----------------|-------------|------------|
| Decline | 516 | 461 | 93 | 1070 | 44.1% |
| Stagnation | 382 | 304 | 92 | 778 | 32.0% |
| Growth | 312 | 210 | 33 | 555 | 22.8% |
| No answer | 22 | 3 | 1 | 26 | 1.1% |
| Total | 1232 | 978 | 219 | 2429 | 100.0% |

Source: Authors' research

The most negative effects in this term COVID-19 pandemic had on small enterprises - 45.8% stated decline in volume of business activities. When it comes to assessing the financial effects of business in 2020 compared to 2019, the results correlate with the change in business volume. The largest percentage of employers (44.9%) stated that they had a decline in financial performance, while 32.7% recorded stagnation. A positive trend when it comes to the financial result of operations was recorded by 21.2% of the total surveyed employers. Observed by the field of business activities, the largest percentage of employers in the accommodation and food service activities (hotels and restaurants) (73%) reported a decline in financial results, followed by employers in Administrative and support service activities (55%), and Transport and storage (54%). Similar to the volume of business activities, the results indicate that small businesses were more affected by the COVID-19 pandemic than medium and large ones in terms of financial performance. Namely, 46.7% of them

stated decrease of financial results, while it was the case with the 38.9% of the medium sized ones and 36.4% of large enterprises in the sample. It is interesting to mention that growth of financial results during pandemic period is identified at companies that operate in information and communications technologies implying that the crisis had positive impact on some industries. The survey contained a question that followed new employments and various types of termination of employment contracts in 2020 (compared to 2019), where each employer was expected to answer questions about the number of new employees and workers which employment contract was terminated on any basis (finishing of the period of the employment contract, retirement and other reasons). The number of new employees and the number of persons which employment contract was terminated was collected on the selected number of occupations of interest, with the provision that employers could also list other (other) occupations.

Given that employers in 2020 employed and terminated employment contracts with workers in different occupations, the difference between the number of employees and the number of workers with terminated employment contracts gives the best insight into the change in the number of workers for the observed occupation, activity or size of the company, or insight into which occupations, activities and categories of companies are so-called net “winners” (new employments were greater than the number of terminations of employment contracts) or “losers” (new employments less than the number of terminations of employment contracts). Generally, at the sample level, we can conclude that in 2020 there were more terminations of employment contracts than newly employed workers (difference of 1,725 workers in the sample). Not all industries *i.e.* fields of business activities were equally affected. Fields of business activities - Information and communication (J), Construction (F), Transport and storage (H), Professional, scientific and technical activities (M), Water supply; wastewater disposal, waste management and remediation activities (E), Production and supply of electricity and gas (D) were the ones that employed more workers than workers whose employment contracts were terminated, and showed sustainability at least in the context of job maintenance during COVID-19 pandemic. Particularly significant sustainability in this sense were showed by companies in Information and communications industry (23.3% of the total increase in the number of employees in 2020), Construction (23.1%), and Transport and storage (20.5%). All other fields of business activities had a negative difference between new employees and the total number of workers whose employment contracts were terminated. However, the activity of wholesale and retail trade; repair of motor vehicles and motorcycles (G) was particularly affected. Within this activity, employers had many more terminations of employment contracts than new employments, while the most decrease in total number of employees was identified in the industry of Accommodation and food service activities (hotels and restaurants) (19%). The difference between the number of employees and the number of workers whose employment contract was terminated is positive for small enterprises, which indicates that small enterprises were generating new jobs and the conditions of the COVID-19 pandemic. Medium-sized and large companies had more terminations of work contracts than new employees, and this negative difference indicates the problems of large and medium-sized enterprises to maintain the level of employment before the COVID-19 pandemic and to ensure growth. If we compare the difference between employment and termination of employment contracts for different occupations, we can see which occupation was sought (positive difference) or how much it was affected by the COVID-19 pandemic or some other environmental factor (negative difference). In this context, occupations that were especially sought independently of the pandemic and achieved a positive difference between new employees and terminated ones were: deliverers (12.2%), data entry operators (12.0%), and supporting workers in production (7.8%), telephone operator (6.4%), truck driver (5.8%), IT developer (2.9%), carpenter (2.8%) and commercialist (2.5%). All these occupations had more employees than terminated work contracts and accounted for 52.3% of the increase in the number of workers. Occupations that were particularly affected in 2020, primarily due to the COVID-19 pandemic, and had a negative difference between new employees and those with terminated employment contracts were:

salesman-trader (17.0%), waiter (13.6%), tailor 6.3%), shoemaker (3.9%), leather tailor (3.5%), bus driver (3.1%) and assembler of products from different materials (3.0). All of these occupations had more termination of employment contracts than new employment in 2020, accounting for 50.3% of the reduced number of workers in 2020.

5. Conclusions and recommendations

This paper has been created on the basis of research conducted by the Federation Employment Service, the Employment Service of Republic of Srpska and the Employment Service of the Brčko District of BiH at the end of 2020 and the beginning of 2021. It has been supported by the European Union financed project “Improving Labour Market Research”.

The labour market is one of the key markets that ensures the stability of the economy. Since whole economy was negatively affected by COVID-19 pandemic that emerged in 2020, it also had negative repercussions on labour market in Bosnia and Herzegovina. In this paper authors presented empirical results on the impact of the COVID-19 pandemic on labour market and key performance indicators of companies (financial effects according to the self-assessment of employers on the market of Federation of BiH, Republic of Srpska and Brčko District BiH), but also on the changes in the number of workers that have occurred as a result of the COVID-19 crisis. The results showed that the largest number of employers in 2020 experienced a decline or stagnation in volume of business activities, which in turn affected the financial results. These results indicate that market disruptions caused by the pandemic leave consequences, which is manifested through a decrease in demand for products and services, but also makes it more difficult to organise the work in company. Employers in hotels and restaurants, administrative and support service activities, and transport and storage were particularly affected by the COVID-19 crisis, where a significant percentage of employers reported a decline or stagnation in volume of business activities and financial results. Still it is encouraging that a significant percentage of companies in the field of information and communication (31%) stated a positive trend, *i.e.* the growth of financial results. Small businesses were more affected by the COVID-19 pandemic than medium-sized and large ones, but they also showed more flexibility than medium-sized and large companies in terms of new employment. Namely, the difference between the number of employees and the number of workers whose employment contracts was terminated was positive for small enterprises, while it was the opposite case with medium-sized and large companies. When it comes to jobs, not all industries were equally affected. Industries Information and communication (J), Construction (F), Transport and storage (H), Professional, scientific and technical activities (M), Water supply; sewerage, waste management and remediation activities (E), Production and supply of electricity and gas (D), experienced higher number of new employees than the ones which employment contract was terminated. Particularly significant contributions in this sense were made by Information and communication activities (23.3% of the total increase in the number of employees in 2020). At the other hand the largest decline of employees was recorded in industries of trade (number of terminated employment contracts) and hotels and restaurants (overall decrease in number of employees).

However, there was still demand for certain occupation independent of COVID-19 crisis (Veselinović & Markuš, 2021, p.24). Occupations that, despite the pandemic, were especially sought and achieved a positive difference between new employees and terminated employment contracts are: deliverers, data entry operators, support workers in production, telephone operator, truck driver, IT developer, carpenter and commercialist. Occupations that were particularly affected in 2020, primarily due to the COVID-19 pandemic were: salesman-trader, waiter, tailor, shoemaker, leather tailor, bus driver and assembler of products from different materials.

In order to mitigate negative effects of COVID-19 outbreak governments should implement different incentive policies to support companies in sustainability and recovery. Some of the policies

and support activities may include policies aimed at relief for workers and companies in order to protect existence and economically sustainable activities, especially in strongly affected sectors: wage subsidies, effective communication, social dialogue and a clear commitment of the authorities to provide support to companies, facilitating alternative employment or employment of those who do not work, ensuring income protection, protection of companies from impending bankruptcy, introduction of restrictive measures support for retaining workers through subsidies with continuous monitoring and evaluation of applied policies, and taking on consideration all other long-term challenges with which labour market and companies in BiH face.

Faced with outbreak of COVID-19 pandemic many governments all over the world defined policies to support companies and other economic subjects in sustainability, since lockdown and other restrictive measures such as social distancing had negative effects on most of the economic subjects. This section contains recommendations for policies aimed at mitigation of negative effects of COVID-19 pandemic on economy as well as review of good practices in helping enterprises overcome crisis period. Policies aimed at relief for workers and companies in order to protect existence and economically sustainable activities, especially in strongly affected sectors are required, thereby setting foundations for a fast recovery with the opening of working places when a pandemic is brought under control. Public resources should first be used for providing assistance to strongly affected sectors, such as Accommodation and food service activities (hotels and restaurants) and trade, the two sectors and industries in Bosnia and Herzegovina that employ most of the employees and at the same time are in most cases excluded from government incentive programs. In this term wage subsidies can help job preservation as well as promote job creation in "normal" economic times.

Additionally, effective communication, social dialogue and a clear commitment of the authorities are of critical importance for limiting jobs losses and support to companies in their recovery. It is required for governments to open social dialogue and provide, not just funds incentives, but also additional incentives from their jurisdiction that can help companies to survive and recover (decrease of par fiscal taxes and fees at all government levels, support in development of distribution channels, support to networking, greater commitment and incentive for buying domestics products and services etc.).

According to the World Bank (2020, p. 7) following short-term policies are commonly applied to protect affected people and help to preserve jobs in otherwise sustainable activities: facilitating alternative employment or employment of those who do not work, ensuring income protection for those who lose work and source of livelihood, protection of companies from impending bankruptcy due to shock supply, interruption of supply channels and introduction of restrictive measures support for retaining workers through subsidies. Additionally, and not less important, is monitoring and evaluation of applied policies, their adjustment to changed circumstances and requirements of the companies in order to support them in recovery and further growth. In this sense, for all government levels in Bosnia and Herzegovina, it is also important not to lose insight in long term challenges that companies and labour market in the country are facing. These implications should also be considered, especially the ones related to lack of quality work force, lack of contemporary work skills, low productivity of work force and brain drain from the country. Hence, governments should define and focus on policies aimed at development of existing workforce in terms of gaining and improving contemporary skills required by companies, but also on keeping young people to stay in the country and work on its development through incentive polices aimed at improvement of overall quality of life especially of education, health and law system, making Bosnia and Herzegovina more attractive for employment and living.

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REBUILDING TOURISM FOR THE FUTURE: TRANSITION FROM URBAN TO RURAL TOURISM

OBNOVA TURIZMA ZA BUDUĆNOST: PRELAZAK SA URBANOG NA SEOSKI TURIZAM

Abstract

The paper investigates the transition from urban to rural areas in the European Union. Considering the Covid - 19 pandemic and the great effect it has left on tourism, the paper focuses on changing the emphasis from urban to rural tourism. The aim of this paper is to point out the role of rural tourism in providing potential for improving the economic position of European Union countries. This study uses Eurostat as a source of data on the number of overnight stays and a comparative analysis of urban and rural areas in the EU. The results indicate a change in tourist spending and an increase in the number of overnight stays in rural accommodation units.

Keywords: urban tourism, rural tourism, Covid – 19, European union

JEL: Z30, Z32, I15

Sažetak

Rad istražuje tranziciju iz urbanih prema ruralnim područjima u Evropskoj uniji. S obzirom na pandemiju Covid – 19 i veliki efekat koji je ostavila na turizam, rad se fokusira na promenu akcenta sa urbanog na ruralni turizam. Cilj rada je da se istakne uloga ruralnog turizma u pružanju potencijala za poboljšanje ekonomske pozicije zemalja Evropske unije. Ova studija koristi Eurostat kao izvor podataka o broju noćenja i komparativnoj analizi urbanih i ruralnih područja u EU. Rezultati ukazuju na promenu potrošnje turista i povećanje broja noćenja u ruralnim smeštajnim jedinicama.

Ključne reči: urbani turizam, ruralni turizam, Covid – 19, Evropska unija

JEL: Z30, Z32, I15

1. Introduction

Over the past two years, there have been significant changes in the tourism industry. The recent pandemic has aroused interest in the relationship between rural and urban tourism. Although a lot of research is related to urban tourism, which provides more benefits to modern tourists, currently tourism has turned to the rural world and places where it can relax in a safe and healthy way. Namely, in the era of the pandemic, tourism proved to be a force of change that interacts and becomes part of a new reality, and the village has become a place of cultural significance for urban tourists (Li *et al.*, 2019, p.153). With this in mind, this paper shows in an applicative way that rural areas in the European Union do not lag behind urban areas in terms of the number of tourist nights. Namely, such a situation existed even before the pandemic, and today it has only intensified. Data were collected from official Eurostat statistics for the period 2012-2019. Due to the lack of data, a comparative numerical analysis is shown only for that period, but the theoretical part within the literature review and the discussion of the results showed an increased number of overnight stays in the period after the pandemic.

2. Literature review

Today, most of the world's population lives in cities. In the European Union, the share of the city's population reached 75% of the total, with predictions of even greater growth (Cotella & Vitale Brovarone, 2021, p. 1). However, although these figures seemed irreversible, the pandemic called into question the quality of life in cities. Already controversial issues of mobility and alternative housing have benefited rural areas. Due to urbanization, fast way of life, pollution, a discussion started about the trend of decreasing urbanization and relocation to rural areas. The pandemic has only further strengthened such attitudes.

As the pandemic shifted the population from urban to rural areas, at the same time tourism turned more to rural than to urban areas. Although rural tourists are heterogeneous, the primary reasons for traveling are relaxation from everyday life, escape from hectic work. The factor of calm atmosphere and attractive landscape is especially attractive. In addition, rural activities, good culture, rural gastronomy and opportunities for children are particularly attractive factors (Poruțiu *et al.*, 2021, p. 2).

Asquith (2020, p.1) state that rural areas have been less affected by the health crisis. There is also a certain number of residents who, due to work from home and isolation, wanted to escape from the most populous cities and regions and worked and enjoyed more peaceful and natural areas. As Dimitrovski *et al.* (2019, p. 25) claim that agro tourism has received growing academic interest over the recent decades. However, at the time of the pandemic, the role of rural tourism was greatly increased. For example, the authors Marques *et al.* (2021, p. 1) show that preferences towards rural areas have increased significantly in Portugal and that rural regions are best positioned today. The rural regions has experienced a strong and lasting recovery in this country thanks to the growth of domestic demand. Vaishar & Štastná (2022, p. 187) have emphasized that the greatest decline has been suffered by large regions based on international tourism. On the example of the Czech Republic, these are Prague and the most important spa Karlovy Vary as well as the most famous UNESCO World Heritage Site - Český Krumlov. On the other hand, rural tourist sites had a very modest decline. On the contrary, in several cases in the Czech Republic, the occupancy of accommodation facilities was on the rise, even higher than in 2019. Zawadka (2019, p. 533) believes that rural tourism, through various types of physical activities such as horseback riding, cycling and hiking, could increase in an environment dominated by the COVID-19 pandemic, with indoor gyms and less time spent outdoors.

Butnaru *et al.*, (2021, p.328) draws attention to urban destinations which recorded a markedly negative scenario in terms of losses in tourism, while rural destinations benefit from local, historical, gastronomic and cultural attractions. However, the situation after the pandemic is not a great in rural areas either. De Luca *et al.* (2020, p. 119) state that although in some countries urban areas are less affected by the crisis, there are also severe challenges in rural areas that are exacerbated by low financial resources, difficult access to health services and isolation problems in rural areas.

3. Data and Results

Data for the analysis of this study were collected from the official statistics of the Eurostat. The variable that was basic in the analysis was Nights spent at tourist accommodation establishments by degree of urbanization. This variable has been calculated since 2012, and data were available until 2019. The entire period that was available was taken into account in the data analysis. After retrieving the data, several common points were identified and different patterns were attributed to EU countries during the pandemic. All 27 European Union member states were analysed.

According to the official statistics of Eurostat, and the variable Nights spent at tourist accommodation establishments by degree of urbanization, the European Commission divides all areas in which measures of overnight stays into three parts: (1) rural areas, (2) urban areas and (3) towns and suburbs. Graph 1 shows the Nights spent at tourist accommodation establishments by degree of urbanization in absolute amount. It can be observed that until 2017, tourist nights were clearly pronounced and that rural areas were leading. Since 2017, all three levels of urbanization have been intertwined, and at the end of the observed period, rural areas will still be the leaders in the number of overnight stays in the EU. This means that the EU has a very high potential for the development of rural tourism.

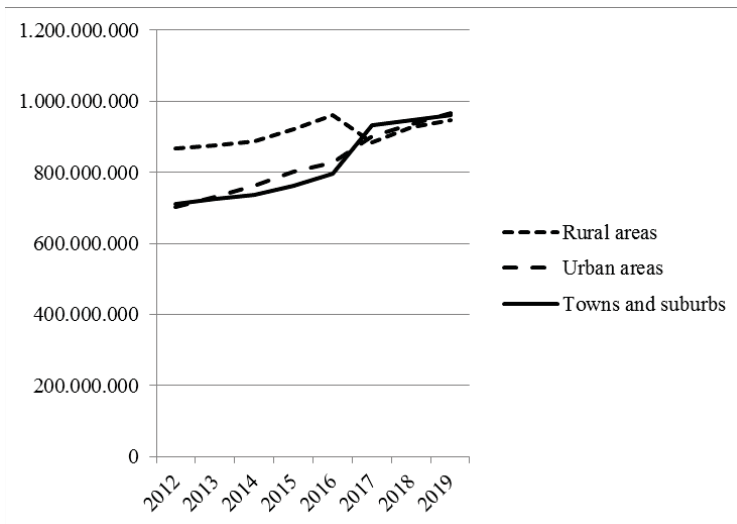


Figure 1. Nights spent at tourist accommodation establishments by degree of urbanization

Source: Eurostat, (2021), Nights spent at tourist accommodation establishments by degree of urbanisation (from 2012 onwards), [Online]. Available from: <https://ec.europa.eu/eurostat/databrowser/view/tin00179/default/table?lang=en> [Accessed: 25 April 2021]

Bearing in mind that tourist destinations can be categorized as those on the supply side and on the demand side, their further characteristics have not been explored. Namely, tourist destinations are at

the core of the tourist system, however, there is no systematic classification of the region (Silva *et al.*, 2021, p.1). In this sense, this paper classifies EU countries according to their potential for rural tourism. Table 1 shows Nights spent at tourist accommodation establishments by rural areas in the EU27 (% of total nights) according to different degrees of potential for rural tourism development (low potential, moderately low, middle potential, high potential, very high potential). Groups of countries were formed on the basis of different potential.

Table 1. Share of rural tourism in total nights spent in tourist accommodations in EU27 (%)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------|---------------|---------------------|------|------|------|------|------|------|
| Belgium | 20% | 19% | 19% | 20% | 21% | 18% | 18% | 18% |
| Bulgaria | 28% | 27% | 28% | 27% | 27% | 25% | 29% | 29% |
| Czechia | 38% | 38% | 37% | 39% | 39% | 37% | 38% | 39% |
| Denmark | 58% | 57% | 56% | 54% | 54% | 53% | 53% | 52% |
| Germany | 34% | 33% | 33% | 32% | 32% | 32% | 32% | 32% |
| Estonia | 22% | 22% | 24% | 22% | 23% | 20% | 24% | 25% |
| Ireland | na | 34% | 34% | 29% | 31% | na | 28% | 26% |
| Greece | 65% | 65% | 64% | 66% | 65% | 65% | 69% | 67% |
| Spain | 30% | 30% | 30% | 30% | 30% | 12% | 12% | 12% |
| France | 38% | 39% | 38% | 39% | 39% | 39% | 38% | 38% |
| Croatia | 68% | 67% | 67% | 66% | 66% | 65% | 64% | 63% |
| Italy | 36% | 35% | 35% | 35% | 35% | 28% | 28% | 28% |
| Cyprus | 38% | 41% | 41% | 40% | 40% | 40% | 37% | 38% |
| Latvia | 13% | 13% | 13% | 13% | na | 16% | 14% | 14% |
| Lithuania | 24% | 24% | 25% | 25% | 26% | 25% | 26% | 25% |
| Luxembourg | 51% | 49% | 46% | 46% | 45% | 46% | 47% | 47% |
| Hungary | 48% | 31% | 31% | 31% | 31% | 25% | 25% | 25% |
| Malta | 3% | 4% | 4% | 4% | 3% | 1% | 1% | 1% |
| Netherlands | 33% | 33% | 33% | 33% | 33% | 32% | 32% | 32% |
| Austria | 68% | 68% | 67% | 66% | 67% | 66% | 66% | 66% |
| Poland | 33% | 33% | 32% | 32% | 33% | 29% | 30% | 30% |
| Portugal | 17% | 18% | 14% | 14% | 16% | 17% | 17% | 17% |
| Romania | 22% | 22% | 21% | 21% | 22% | 23% | 24% | 24% |
| Slovenia | 52% | 52% | 51% | 47% | 46% | 45% | na | 44% |
| Slovakia | 45% | 45% | 44% | 42% | 43% | 42% | 43% | 44% |
| Finland | 39% | 38% | 37% | 36% | 36% | 35% | 35% | 34% |
| Sweden | 39% | 39% | 38% | 37% | 37% | 36% | 36% | 36% |
| *na=non available data | | | | | | | | |
| | 0-10% | low potential | | | | | | |
| | 11-20% | moderately low | | | | | | |
| | 21-40% | middle potential | | | | | | |
| | 41-50% | high potential | | | | | | |
| | more than 50% | very high potential | | | | | | |

Source: Eurostat, (2021), Nights spent at tourist accommodation establishments by degree of urbanisation (from 2012 onwards), [Online]. Available from: <https://ec.europa.eu/eurostat/databrowser/view/tin00179/default/table?lang=en> [Accessed: 25 April 2021]

According to the table, the countries can be grouped according to the potential for the development of rural tourism. Namely, EU countries are divided into 5 levels according to different shares of the number of overnight stays in rural areas in the total number of overnight stays at the EU level. With this in mind, it is possible to form 5 clusters according to the potential for rural tourism

development, so that the first cluster has a very high potential, while cluster 5 implies the lowest or no potential for rural tourism development. These clusters would be:

- Cluster 1: Denmark, Greece, Croatia and Austria.
- Cluster 2: Luxembourg, Slovenia and Slovakia.
- Cluster 3: Bulgaria, Czech, Germany, Estonia, Ireland, Spain, France, Italy, Cyprus, Lithuania, Hungary, Netherlands, Poland, Romania, Finland and Sweden.
- Cluster 4: Belgium, Latvia and Portugal.
- Cluster 5: Malta.

As it is noticeable, Austria is one of the leading countries in terms of tourist overnight stays in rural areas. Austria is well known for its Ritzier Land - a region with 19 farms offering accommodation services (Eskerod *et al.*, 2021, p. 4). In addition, they are known for their rich wine cellars and wide range of local gastronomy. This region offers all aspects of rural and cultural tourism. The farms offer the possibility of staying in vineyards where you can learn about wine production, make tastings and enjoy culinary products. On the other hand, the Netherlands is somewhere in the middle, just as the authors Delbecq *et al.*, (2014, p. 588) pointed out that it represents the scope of a mixed urban-rural culture. Many EU countries have opportunities to use cohesion policy. In this sense, funds can be found for the regeneration of certain rural areas and the significant development of this tourist industry.

4. Conclusions

The Covid - 19 pandemic has brought various challenges to the tourism industry. Numerous authors have emphasized the asymmetric impact of the crisis between urban and rural areas, whether economic, social or health. The classification of EU countries according to the number of overnight stays in rural areas provides new insights into EU regionalization that could be used as additional input for the study of rural tourism patterns in Europe. Given that this is a division of countries according to the potential for rural tourism, the results can also be a tool for decision makers. This study was conducted with the aim of improving knowledge and strengthening the link between rural areas and tourism. Research limitations are greatest in terms of time period and fewer variables. In the near future, it would be interesting to estimate participation (number of overnight stays and number of visitors) during and after the pandemic. Certainly, the whole situation has struck a balance about migration on the relation rural-urban.

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**INTERNATIONAL ECONOMICS /
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ANALYSIS OF THE STATE OF ENERGY POVERTY IN TUZLA CANTON**ANALIZA STANJA ENERGETSKOG SIROMAŠTVA NA PODRUČJU
TUZLANSKOG KANTONA****Abstract**

In the crisis caused by COVID-19, major emphasis was put on the fact that it is necessary to solve the issue of energy poverty if we wish to build a welfare state that cares for the needs of all its inhabitants. The level of energy poverty has been increasingly in the focus of interest in Bosnia and Herzegovina (BiH) in the last three years, as the majority of population will not be able to afford access to basic energy services, especially due to rising unemployment. In this context, it is necessary to achieve the key goals of the European Green Plan, despite the current and unprecedented disturbances in national economies around the world. According to the above, the subject of this research is energy poverty in Tuzla Canton. The main goal of the paper is to identify energy sources and energy costs of households, identify energy-poor households, and identify key recommendations for combating energy poverty in Tuzla Canton. Primary data will be used, collected by applying the survey technique, and when processing them, certain methods of description and inferential statistical methods will be applied. The results of the research conducted on a sample of 10.044 respondents indicate a pronounced energy poverty in Tuzla Canton.

Keywords: energy poverty, energy costs, Tuzla Canton

JEL: Q4

Sažetak

U krizi uzrokovanoj COVID-19 do izražaja je došla činjenica da je neophodno riješiti pitanje energetske siromaštva ukoliko želimo izgraditi socijalnu državu koja se brine za potrebe svih svojih stanovnika. Nivo energetske siromaštva je u posljednje tri godine sve više u fokusu interesovanja u Bosni i Hercegovini, jer većina stanovništva neće moći priuštiti pristup osnovnim energetskim uslugama, posebno zbog rasta nezaposlenosti. U tom je kontekstu neophodno postići ključne ciljeve Evropskog zelenog plana, uprkos aktualnim i do sada neviđenim poremećajima u nacionalnim ekonomijama u cijelom svijetu. Shodno prethodno navedenom, predmet istraživanja ovog rada je energetske siromaštvo na području Tuzlanskog kantona. Osnovni cilj rada odnosi se na identifikovanje izvora energije i troškova energije domaćinstava, identifikovanje energetske siromašnih domaćinstava, te identifikovanje ključnih preporuka za suzbijanje energetske siromaštva na području Tuzlanskog kantona. Pri pisanju rada koristit će se primarni podaci prikupljeni primjenom tehnike anketiranja, a pri njihovoj obradi primjenjivat će se određene metode deskripcije i inferencijalne statističke metode. Rezultati istraživanja sprovedenom na uzorku od 10.044 ispitanika ukazuju na izraženo energetske siromaštvo na području Tuzlanskog kantona.

Cljučne riječi: energetska siromaštvo, troškovi energije, Tuzlanski kanton

JEL: Q4

1. Introduction

There are various definitions of energy poverty. In general, it may be said that energy poverty is the inability of a household to provide an adequate amount of energy in their home, which would allow the living space to be comfortable enough and well lit for everyday needs. The first adequate definition, and perhaps the best-known definition of energy poverty, was devised by Brenda Boardman of Oxford University in 1991, who found that a household is energy poor if it has to spend more than 10% of its income on energy costs to maintain an adequate level of comfort in their home (Boardman, 1991, p. 4). Energy poverty is a concept consolidated in a legislative package called "Clean Energy for All Europeans", which seeks to facilitate a fair energy transition. In accordance with the Directive (EU) 2018/1999 on the management of the Energy Union and action in the field of climate, the European Commission is obligated to provide framework guidelines on adequate indicators for measuring energy poverty. However, it is left to the EU Member States to develop their own criteria according to the national context. The situation regarding the solution of energy poverty is no better in the EU accession countries, specifically in Bosnia and Herzegovina. Namely, a large number of households in BiH face difficulties in supplying energy and meeting energy costs. Energy-poor households in BiH often do not have enough resources or knowledge to meet basic energy needs, are socially isolated and have no one to ask for help.

Therefore, the subject of this research is energy poverty in Tuzla Canton as the most populous canton in BiH. The main goal of the paper is to identify energy sources and energy costs of households, to identify energy-poor households, and to identify key recommendations for combating energy poverty in Tuzla Canton.

2. Literature review

According to an analysis by the European Commission from 2016, it is estimated that 54 million Europeans suffer from energy poverty. In Eastern Europe, 37% of residents say they keep temperatures in their homes too low to save money. Energy poverty ultimately threatens the health of people and their well-being. It is astonishing that almost 13 inhabitants out of 100,000 a year die due to living in excessively cold homes. The European Commission's analysis blames rising prices, low incomes and energy-inefficient homes for these facts, so people are forced to choose between food and heating. With this in mind, the EU has identified options in its strategic documents, opened discussions and launched action plans for adoption of action plans at national, regional and local levels, at the level of industry and individual consumers, in order to use all potentials for energy efficient savings. According to the EU legislation, all its members were supposed to implement the 20-20-20 strategic plan by the end of 2020, that is, to achieve energy savings of 20%, reduce greenhouse gas emissions compared to 1990 by at least 20%, and enable at least 20% of energy needs to come from renewable energy sources. Furthermore, the EU is currently aligning its energy and climate policies with the commitments it has made by acceding to the Paris Climate Agreement. Even in its strategic planning documents, the Union has committed itself to the decarbonisation of the economy and society in the period up to 2050, with precisely defined goals for individual countries (Agić *et al.*, 2013, p. 3).

In their own research, Brstilo & Nekić (2014), through 6 chapters of the Report, presented measures related to the promotion of energy efficiency and the use of renewable energy sources in almost all economic sectors in the Republic of Croatia, with the aim of removing barriers and implementing measures for their implementation. In the Report on Energy Poverty in Southeast Europe (2016),

the focus was primarily on the analysis of key parameters that indicate the need to improve energy efficiency in the Republic of Serbia, as follows: 1) energy intensity of primary energy is questionable more compared to EU countries to create the same amount of newly created value); 2) high share of households in electricity consumption, which is mostly the result of its use for heating purposes during the winter months, which indicates that electricity is used very inefficiently; 3) the efficiency of the transformation of primary into final energy is at a low level; 4) dependence on imported energy sources; and 5) large greenhouse gas emissions from the energy sector.

Little is known about energy poverty in BiH. Political decision-makers in BiH will be obligated, since BiH is already in the process of joining the EU, to base their plans for the development of the energy economy on EU energy policies. This means that BiH will have to consistently implement the EU acquis in domestic legislation in the energy and environmental sectors. In the CEE report (2018) entitled “Review of the situation regarding energy poverty in Zenica-Dobojski Canton”, a survey was conducted in the area of the City of Zenica and the Municipality of Zavidovići, in the summer and winter of 2017. The aim of this research was to provide insight into energy and water consumption and provide advice and recommendations related to savings. Furthermore, in 2017, the Framework Energy Strategy of Bosnia and Herzegovina until 2035 (2017) was drafted in BiH which specifically lists the commitments (visions, strategies and plans) of key actors in BiH regarding energy policies.

The analysis and recommendations for removing obstacles to investment in the energy sector at the level of BiH and the implementation of energy efficiency measures (2018) were done jointly by the Republic of Srpska and the Federation of BiH. This Report was, in fact, the initial basis for the preparation of a detailed analysis of the legal framework, identification of legal and other recommendations for removing barriers to the implementation of energy efficiency measures and the use of renewable energy sources in both entities. According to these available studies, obstacles relate to: 1) research and technological development, 2) better use of tax measures, 3) public procurement and purchases, 4) buildings, 5) household appliances, 6) limiting vehicle fuel consumption, and optimization traffic management. In order to identify current obstacles and potential measures for the development of energy efficiency and renewable energy sources, Kušljugić (2019) researched the energy transition in BiH. Namely, the main goal of this document was to initiate systematic dealing with the topic (trends, opportunities and challenges) of energy transition in BiH, which is a prerequisite for the development of future quality strategic documents concerning energy efficiency and renewable energy sources. Agić *et al.* (2013), in their research point out that there are valid indicators that suggest that determined efforts and perseverance in the implementation of energy efficiency and saving measures could become one of the promising paths leading to a stable economy for a longer period, which could affect reducing energy costs, and thus production, and increasing employment. This could be an important factor in creating a better and sustainable economy in Bosnia and Herzegovina. Thus, these authors state that the biggest obstacles to increasing energy efficiency in BiH are: a) lack of information (on prices and availability of new technologies, costs of own energy consumption, lack of information of customers themselves); b) problem in financial investments (investments are often long-term and sometimes uncertain); c) technical barriers (non-standardization of equipment and components in energy infrastructure); and d) regulatory failures (problems in tariff structures, criteria and standards related to the qualification or privilege of electricity producers from renewable energy sources).

In its Report entitled “Energy Sector Management and Poverty in Bosnia and Herzegovina”, the Center for Policies and Governance (2011) pointed out that BiH faces a key development dilemma: continue the practice as before and guarantee poverty to future generations or change energy sector management policy; turning gradually towards the rationalization of production and distribution, renewable energy sources and investment in energy efficiency, for instance, making strides in development. In this regard, the Report also states a number of recommendations: 1) development

of temporary social programs, 2) improvement of energy efficiency, 3) structural reforms, 3) promotion of renewable energy sources, *etc.* The Study entitled “Energy Poverty in Southeast Europe” (2016) emphasize that BiH is faced with a problem of a legislative nature when it comes to energy poverty. The laws of electricity in the Federation of Bosnia and Herzegovina and the Republika Srpska have failed to fully implement the provisions on consumer protection in Directive 2009/72/EC, and have failed to apply in any way the provisions relating to vulnerable consumers in Directive 2009/73/EC. The legal framework of the Brčko District implements customer protection within the framework of general public services. Regulatory acts, such as the general conditions for the supply of electricity and the rules for the supply of eligible customers, promote the protection of customers with regard to the conditions for disconnection, complaints and information rights in all three jurisdictions.

3. Research methodology

The research was conducted through 2 visits and consultations of 10,044 households living in the area of cities/municipalities: Kalesija, Tuzla, Lukavac, Živinice, Banovići and Gračanica. During the first visit to households in 2020, a survey was conducted and an overview of energy consumption for the period August 2019-July 2020, and advice and recommendations related to savings were given, in order to motivate households to take measures to reduce energy consumption and change their habits (households received LED bulbs). In order to see whether household counselling influenced the undertaking of measures to reduce energy consumption, the electricity consumption bills for the period August 2020-July 2021 were re-examined after one year. Consumption in the same months in the year before the consultation.

The research sample consists of 10,044 respondents from the Tuzla Canton (hereinafter TK). Out of a total of 10,044 respondents, 25% or 2,509 are from the area of the city of Tuzla. It is followed by: Kalesija 1,505 (15%), Živinice 1,505 (15%), Banovići 1,514 (15%), Lukavac 1,508 (15%) and Gračanica 1,502 (15%).

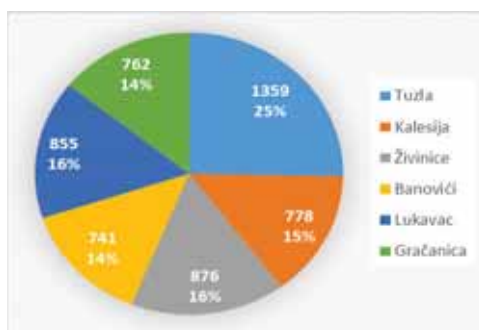


Figure 1. Geographical location of the respondents

Source: Authors' research

On average, each cc was examined:

- 44. Resident / household from the area of the city of Tuzla,
- 22. Resident / household from the area of Kalesija municipality,
- 38. Resident / household from the area of the town of Živinice,
- 15. Resident / household from the area of the municipality of Banovići,
- 30. Resident / household from the area of the town of Lukavac and
- 30. Resident / household from the area of the town of Gračanica.

4. Results and discussion

The research results are presented according to the set research goals stated in the beginning of this paper. The research results on monthly electricity consumption observed from August 2019 to July 2020 show that the average monthly electricity costs are higher in the heating season. The average monthly cost of electricity was the highest for the month of December when it amounted to 64.17 BAM, and the lowest in August when it amounted to 58.59 BAM.

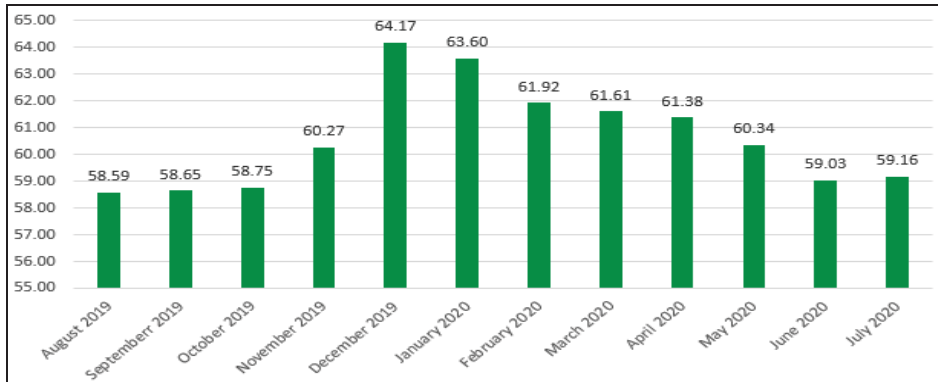


Figure 2. Average monthly electricity consumption in BAM

Source: Authors' research

Figure 3 represents average monthly electricity consumption by municipalities and it simplifies the identification of differences and deviations. Households in Gračanica have the highest average monthly cost of electricity and it is 82.86 BAM, while the lowest average monthly cost of electricity, in the amount of 54 BAM, belongs to households from the city of Tuzla.

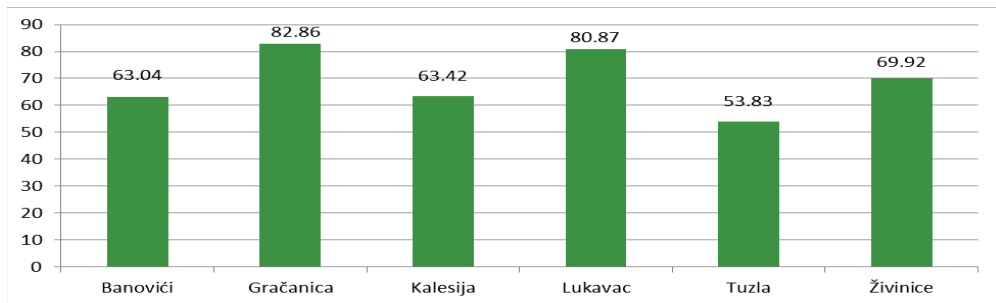


Figure 3. Average monthly electricity consumption by municipalities in BAM

Source: Authors' research

Figure 4 shows the average heating monthly cost by municipalities to help identify differences and discrepancies. Households in Gračanica have the highest average monthly cost for thermal energy and it amounts to 94.14 BAM, while households in Banovići have the lowest average monthly cost and it amounts to 78.65 BAM.

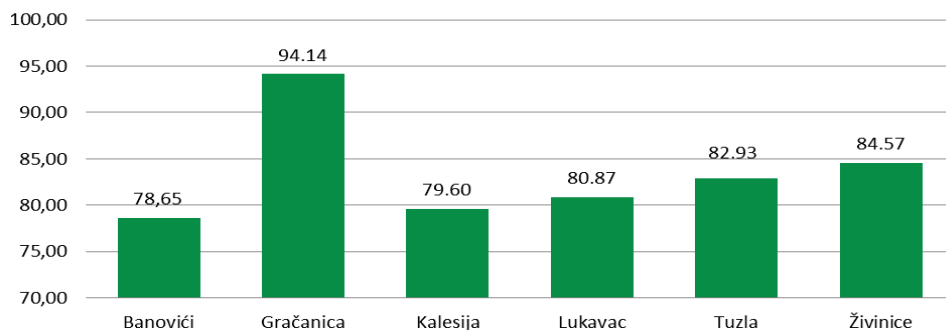


Figure 4. Average monthly heating costs by municipalities in BAM

Source: Authors' research

We analyzed the average monthly heating costs by income category and type of housing (Table 1).

Table 1. Comparative overview of average monthly heating costs for households with the same average monthly income, observed against different housing units in which they live

| Average monthly heating costs vs. income and type of housing | | | | |
|--|-------------------------|--------------------------|-----------------------|-------|
| Monthly household income level | Family house (one unit) | Family house (few units) | Residential buildings | Other |
| 0 to 250 BAM | 61.76 | 70.00 | 31.39 | |
| 251 to 500 BAM | 71.08 | 84.19 | 48.00 | 16.53 |
| 501 to 750 BAM | 78.06 | 80.28 | 52.71 | 41.67 |
| 751 to 1000 BAM | 81.21 | 93.20 | 58.03 | 27.78 |
| 1001 to 1250 BAM | 85.29 | 102.82 | 55.94 | 18.33 |
| 1251 to 1500 BAM | 92.61 | 103.72 | 58.31 | 30.56 |
| 1501 to 2000 BAM | 99,24 | 108.67 | 60.38 | 63.89 |
| 2001 to 2500 BAM | 101.63 | 115.27 | 55.69 | 16.67 |
| 2501 to 3000 BAM | 110.53 | 125.83 | 58.70 | |
| 3001 to 3500 BAM | 111.02 | 125.13 | 69.07 | |
| 3501 to 4000 BAM | 115.20 | 126.28 | 57.08 | 66.67 |
| More than 4000 BAM | 128.07 | 152.72 | 100.00 | |

Source: Authors' research

The highest heating costs occur in family houses with few units and income class more than 4000BAM, while the lowest in apartments in residential buildings.

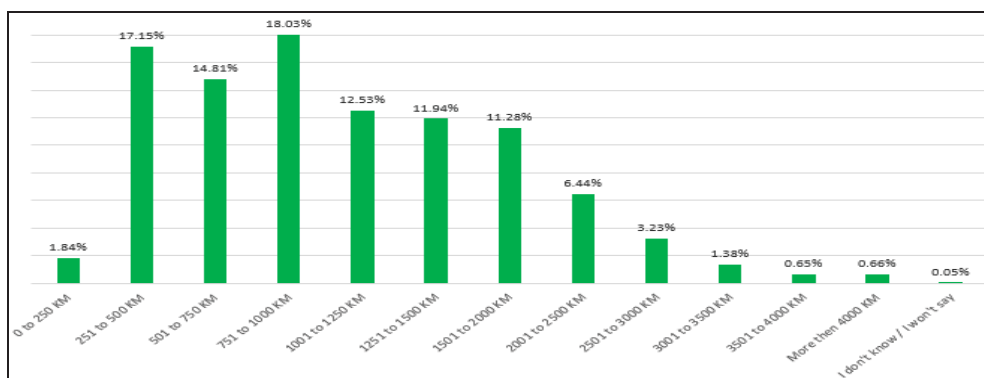


Figure 5. Average monthly household income

Source: Authors' research

In the structure of respondents, we have the most households (18.03%) in the group with average monthly income between 751 and 1000 BAM. It is followed by households (17.15%) with an average monthly income between 251 and 500 BAM, while in the third place, in terms of frequency, we have households (14.81%) that have an average monthly income between 501 and 750 BAM. A total of 51.84% of households have an average monthly income below 1000 BAM.

Based on the collected data on monthly costs of heat and electricity consumption and income for 10,044 households, it was calculated how many households are energy poor, considering the definition that a household is energy poor if it has to spend more than 10% of its income on energy costs to maintain an adequate level comfort in their home (Boardman, 1991, p. 2).

Table 2. Overview of average monthly revenues, costs for electricity and heat by municipalities in BAM

| City / Town | Average monthly electricity costs | Average monthly cost for heat energy | Total monthly cost for electricity and heat | Average monthly household income |
|-------------|-----------------------------------|--------------------------------------|---|----------------------------------|
| Banovići | 63.04 | 78.65 | 141.69 | 1108.59 |
| Gračanica | 82.86 | 94.14 | 161.51 | 1384.75 |
| Kalesija | 63.42 | 79.60 | 143.02 | 1148.59 |
| Lukavac | 80.87 | 80.87 | 138.45 | 1132.38 |
| Tuzla | 53.83 | 82.93 | 136.76 | 1012.27 |
| Živinice | 69.92 | 84.57 | 145.49 | 1102.05 |

Source: Authors' research

In order to gain a clearer insight into the possible connection between the area of living space that is heated and not heated, the average annual costs for electricity and heat are presented in Table 3.

Table 3. Overview of energy costs by building area and heated space by municipalities / cities

| City / Town | Average area living space (m ²) | Average surface of the heated space (m ²) | Average annual electricity consumption (BAM) | Average total annual energy costs for heating (BAM) | Total energy costs (BAM) |
|-------------|---|---|--|---|--------------------------|
| Banovići | 129.87 | 92.13 | 756.53 | 943.79 | 1700.32 |
| Gračanica | 124.12 | 97.27 | 808.46 | 1129.71 | 1938.17 |
| Kalesija | 123.36 | 95.06 | 761.06 | 955.18 | 1716.24 |
| Lukavac | 100.29 | 82.30 | 690.95 | 970.45 | 1661.40 |
| Tuzla | 87.60 | 75.16 | 645.95 | 995.15 | 1641.10 |
| Živinice | 120.68 | 92.22 | 731.03 | 1014.88 | 1745.91 |

Source: Authors' research

Based on the insight into the collected data on total income and costs for electricity and heat, out of the total number of respondents (10,044), 6,961 of them belong to the group of energy-poor households that allocate over 10% of their income for energy costs (observed at the annual level). Of the total sample, 69.305% of households are in energy poverty. The structure of energy-poor households is shown in the following figure. Compared to the number of households surveyed by municipalities/cities, we find that in Kalesija, Gračanica and Tuzla, we have the most energy-poor households (70.23%, 69.79% and 69.35% respectively). The lowest share of energy poor households is in Lukavac, where "at least" 68.44% of households in that municipality are energy poor.

5. Conclusion and recommendation

As it can be seen, about 70% households are in energy poverty which is a very worrying fact. Many people are energy poor and the authorities need to be more dedicated to solving this problem. Based

on the presented primary research, it is possible to give the following recommendations for increasing energy efficiency and reducing energy poverty in Tuzla Canton, which are in line with the Sustainable Development Goals and EU directives:

- Continuously work in all segments of improving energy efficiency, which directly affects the reduction of energy poverty since it also contributes to reducing energy consumption and increases the comfort of living.
- Provide an adequate monetary fund.
- Budget for financing / co-financing projects in the field of increasing energy efficiency.
- Provide additional funds through projects.
- Finance/co-finance projects in critical areas.
- Allocate a part of the city budget funds for the implementation of energy efficiency measures for households for which the City/Municipality bears the costs of energy/energy bills.
- Provide funds for assistance and protection to vulnerable categories of the population: population with the lowest income, population with most family members, population in residential buildings without insulation, population with old electrical appliances, and population from energy-poor household category.
- Continuously and systematically educate and inform the population about how to save electricity and reduce costs for the use of electricity.
- Continuously and systematically educate and inform the population about the importance of insulating residential buildings.
- Continuously and systematically educate and inform the population about the importance of purchasing devices with a higher energy class.
- Continuously monitor the electricity consumption of vulnerable categories (examples of measures: replacement of windows and doors, replacement of household appliances "old for new", electrical renovation of buildings, etc.)

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THE CHALLENGES OF THE EUROPEAN UNION DURING THE COVID-19 PANDEMIC

IZAZOVI EVROPSKE UNIJE U VREMENU COVID-19 PANDEMIJE

Abstract

In recent years, the European Union has been marked by numerous crises and challenges that have seriously threatened to affect its further development and prosperity. Building a common European identity, the economic crisis, the euro crisis, the migration crisis, the UK's exit from the EU, are the weaknesses that the EU has faced and have posed a threat to the unity and togetherness of the EU. However, the crisis caused by the Corona virus is probably one of the most severe crises in the history of the EU, and has once again shown the need for solidarity needed for the future development of the EU. The EU Recovery Fund is a new temporary recovery instrument to repair the economic and social damage caused by the pandemic. The main goal of the research is to determine whether the pandemic only indicated the real danger of the EU's survival and how much solidarity and unity is present among the EU members. The pandemic once again called into question the sustainability of the EU concept and pointed to the evident need for changes in its action. Secondary data collected from relevant sources will be used, which will be processed using the method of internal research. In addition, other methods are distinguished: methods of analysis and synthesis, generalization and abstraction, methods of systematized approach (holistic approach), classification and comparison, and methods of induction.

Keywords: European Union, crisis, challenges, COVID-19

JEL: F15

Sažetak

Posljednjih godina, Evropska unija obilježena je brojnim krizama i izazovima koje su ozbiljno prijetile da utječu na za dalji njen razvoj i prosperitet. Izgradnja zajedničkog evropskog identiteta, ekonomska kriza, kriza eura, migracijska kriza, izlazak Velike Britanije iz EU, slabosti su s kojima se EU suočavala i predstavljale su prijetnju jedinstvu i zajedništvu EU. Međutim, kriza izazvana pandemijom vjerovatno je jedna od najtežih kriza u historiji EU, i još jednom je ukazala na značaj solidarnosti koja je potrebna za budući razvoj EU. Fond za oporavak EU je novi instrument privremenog oporavka za otklanjanje ekonomske i socijalne štete uzrokovane pandemijom. Osnovni cilj istraživanja jeste utvrditi da li je pandemija samo ukazala na realnu opasnost opstanka EU i koliko je solidarnost i jedinstvo prisutno među članicama EU. Pandemija je još jednom dovela u pitanje održivost koncepta EU i ukazala na evidentnu potrebu za promjenama u njenom djelovanju. Pri pisanja rada koristiće se sekundarni podaci prikupljeni iz relevantnih izvora, koji će biti obrađeni upotrebom metode internog istraživanja. Osim toga, izdvajaju se i druge metode: metode analize i sinteze, generalizacije i apstrakcije, metode sistematiziranog pristupa (holistički pristup), klasifikacije i komparacije, te metoda indukcije.

Cljučne riječi: Evropska unija, kriza, izazovi, COVID-19

JEL: F15

1. Introduction

In recent years the European Union has been facing a number of challenges that is finding increasingly difficult to overcome. Most European Union member states are facing with a crisis of confidence in Europe and its institutions, while nationalist political parties and ideas are increasingly developing, and that leads to a weakening of European solidarity. After almost six decades of successful integration, the European Union has become an important part of the continent's political, economic, institutional and legal reality. However, the whole manifestation of Europe depends on the vitality of its fundamental idea, its essence. If that idea disappears among European citizens, it could be the end for the EU. The support that EU citizens and members have provided to European integration has been weakening in recent years. Most citizens do not see significant benefits from membership and believe that it does not bring much benefits to their country and them. Within the EU there are many factions, it is deeply divided, far from the vision of its founders, and there is little unity among the member states. EU citizens feel less and less togetherness, unity, solidarity and belonging, and are increasingly moving away from the idea of a united EU. The economic crisis that spilled over in the EU from the United States in 2008, confirmed what was already obvious, after the failed referendums and the failure to adopt a treaty on a constitution for Europe that the Union has entered a new phase of integration, a phase of crisis. The economic crisis has also revealed fundamental weaknesses and new challenges, as well as the need to further strengthen integration processes.

The main goal of the research is to determine whether the pandemic only indicated the real danger of the EU's survival and how much solidarity and unity is present among the EU members. The pandemic once again called into question the sustainability of the EU concept and pointed to the evident need for changes in its action.

2. Literature review

The weakening and crisis of the euro as a currency has raised legitimate concerns about the future of the euro as a single currency. The single currency, designed to strengthen the unification of the member's states, became a source of tension and a threat to the united EU during the financial crisis. The referendum in United Kingdom's for exit from the EU was a great blow to European unity and deepened the crisis, and there is a justified fear that a domino effect could be triggered among other EU members. Migration crises where the European Union is facing with an uncontrolled influx of migrants, and the main flows of migration are directed towards highly developed countries and areas of the EU. There is also a high degree of dissatisfaction of European citizens due to the erosion of social rights, large social differences between individual member states as well as within the states themselves. (Nuhanović, 2019, p.59)

Even before the COVID pandemic, the EU faced numerous challenges - the economic crisis, the euro crisis, the referendum for the exit of the United Kingdom, the migrant crisis, which affected its functioning. However, the crisis caused by the COVID-19 is probably one of the most severe crises in the history of the EU, and has once again shown the need for solidarity needed for the future development of the EU. The Corona virus has seriously shaken Europe and the whole world, and what started as a pandemic has grown into a serious economic crisis. At the same time, the Corona virus has once again highlighted the interdependence of the economies of EU member states and the importance of a fully functioning single market. The Covid-19 and its economic and social consequences have radically changed the realities of the 27 EU member states. EU member states have adopted restrictive measures to combat the pandemic which led to a high reduction in annual gross domestic product (GDP) at the level of the 27 EU member states products in 2020, a decrease of 6.4% (Pirozzi, 2021, p.3)

The crisis caused by the pandemic has shown that the consequences of the pandemic and the recovery potential of EU member states differ significantly. Countries and regions whose economies depend on services, exports or a large number of small businesses have found themselves in a more difficult situation than others. The consequences of the crisis also vary between different sectors. The hardest affected are companies that are based on service activities or depend on jobs with a large number of workers or clients in the same premises. According to estimates by the European Commission (European Commission, 2021, p.3), tourism, the social economy and the creative and cultural ecosystem could feel a 70% drop in sales. The consequences are severe for the textile industry, transport, energy-intensive industries and the renewable energy sector.

Research by the European Court of Auditors (European Court of Auditors, 2020) has shown that the crisis caused by the COVID-19 could lead to an increase in economic disparities between EU member states. Namely, measures to combat the effects of the COVID-19 on the economy taken by EU member states in the early stages of the crisis helped to preserve jobs and businesses. But there is a justified risk that, due to the different impact of the pandemic on member states and their different capacities to provide support, could increase the economic disparities between them. EU member states have different opportunities and capacities to absorb losses and help in response to the current crisis. This can certainly affect the single market, jeopardize balance and equality in the recovery process, and increase disparities within the EU. That is why a joint response from EU-level members is needed.

COVID-19 economic policy response involves a wide range of measures at national and EU levels, triggering risks, challenges and opportunities for EU economic coordination and integration for two reasons. First, the pandemic may generate risks of economic divergence on different dimensions of Member States' economies. Second, the EU's response to the emerging difficulties in Member States entails challenges and opportunities for the EU's economic governance to design and implement appropriate measures that ensure steady economic convergence within the EU (European Court of Auditors, 2020, p. 47).

2. Research methodology

Bearing in mind the interdisciplinary character and complexity of the subject matter of this research, the relevant methods will be used. Therefore, in some parts of the work will dominate: basic methods of scientific description, collecting and arranging facts, formulating individual statements, then methods of economic analysis and logical conclusion and understanding. A historical method will be used for theoretical and methodological analysis and evaluation of the observed research problem. Also, methods of analysis and synthesis, comparison method, methods of induction and deduction, classification method, generalization and concretization methods will be applied. Empirical research was carried out on the basis of secondary data sources, using the desk research method. Thus, books on the field of European economic integration, articles, studies, publications, journals, newsletters, reports from local and international institutions, and the websites that address these research issues are highlighted.

The results of the research will be presented below.

3. Results and discussion

In mid-2020, EU representatives announced a revolutionary and long-awaited plan - "Next Generation EU" - a temporary recovery instrument worth more than EUR 800 billion to repair the immediate economic and social damage caused by the coronavirus pandemic (EC Directorate-

General for Budget, 2021, p.8). According to the plan after the pandemic, Europe will be greener, more digital, more resilient and more prepared for existing and future challenges.

The Recovery and Resilience Mechanism is a central part of the Next Generation EU instrument, and includes EUR 723.8 billion in loans and grants to support reforms and investments undertaken by EU Member States (EC Directorate-General for Budget, 2021, p.8). The aim is to mitigate the economic and social consequences of the coronavirus pandemic and to make the European economy and societies more sustainable, resilient and prepared for the challenges and opportunities posed by the green and digital transition. Member States are obliged to prepare recovery and resilience plans in order to withdraw funds under this mechanism.

In order to provide targeted measures for the recovery of society and the economy, and to protect life and sources of income, the European Commission intends to increase the EU budget for the period 2021-2027 to a total of 1.85 trillion euros in order to create conditions for sustainable socio-economic recovery, rebuilding and revitalizing the single market, and to support urgent investment and complement Member States' recovery efforts at national level. (European Commission, 2021, p.2). The EU's long-term budget for 2021-2027 and the Next Generation EU recovery instrument together form the largest package of incentives ever funded by the EU budget, amounting to more than 2.0 trillion EUR. The budget is bigger than ever before and will help repair the economic and social damage caused by the coronavirus and aid the transition towards a modern and more sustainable Europe (EC Directorate-General for Budget, 2021, p. 6).

According to the budget, it is planned to: (EC Directorate-General for Budget, 2021, p.11).

- More than 50% of the total amount of the next long-term budget and Next Generation EU will support the modernisation of the European Union through research and innovation; fair climate and digital transitions; preparedness, recovery and resilience.
- 30% of the EU budget will be spent to fight climate change. The package also pays specific attention to biodiversity protection and gender-related issues.
- 20% of Next Generation EU will be invested in the digital transformation.
- In 2026 and 2027, 10% of the annual spending under the long-term budget will contribute to halting and reversing the decline of biodiversity.
- For the first time ever, new and reinforced priorities have the highest share within the long-term budget (31.9%).

Funding for the EU's Next Generation instrument will be raised by temporarily raising the own resources ceiling to 2.00% of EU gross national income, allowing the Commission to use its strong credit rating to borrow in the financial markets of € 750 billion. These additional funds will be channelled through EU programs and repaid over a longer period of time within future EU budgets, from 2028 to 2058 at the latest (European Commission, 2021, p. 4.).

Italy, with almost 200 billion euros, will receive the largest share of the funds. Spain, France and Poland will also reach large sums of funds, while Luxembourg will receive only 100 million euros. Member States have submitted to the European Commission their national plans on how they want to spend funds and what significant investments they plan to make in the next few years. Spending plans must meet a number of criteria that the European Commission should review. At least 37% of investments must contribute to climate and environmental protection, while 20% must promote the digitalisation of the economy and society. It must be clearly recognizable for all measures that they really stimulate the economy (DW, 2021).

The adopted recovery plan reflects a politically acceptable compromise to establish the EU's first major joint response to the crisis. The recovery plan indicates the need for a fair and inclusive recovery. At the same time, it is necessary to eliminate differences and inequalities that have either

become visible or worsened during the crisis, and to promote territorial cohesion. The starting point is solidarity: between people, generations, regions and countries. To begin with, the proper functioning of the single market needs to be re-ensured. The pandemic affected three of the four freedoms: people, goods, and services. After the initial problems, decisive measures were taken to ensure the free movement of goods and products and thus help keep markets open and many factories to continue operating. The free movement of people was a prerequisite for enabling the transportation and availability of seasonal and other workers to maintain supply chains.

The current crisis has also highlighted the need for coordination and response to the crisis at European level. Although coordination between Member States soon improved after a weak start, it remains to be seen what can be learned from this. This means that in the future it is necessary to ensure better crisis preparedness and better crisis management. The agreement reached is positive for the EU and the member states most affected by the pandemic. This time the solidarity of the European Union proved to be a quick response that arrived earlier than expected compared to the financial crisis in 2008. Relying on the notion of solidarity, the EU and its member states will work together to rebuild and prepare the economy and the internal market for a new unpredictable crisis and pandemic. The road to recovery will be difficult, but financial measures provided by the EU will relieve some of the burden on Member States and contribute to a faster recovery of the European Union from the COVID-19 (Fernández, 2021, p. 1423).

The recovery program emphasizes the need to strengthen the single market and invest in common European priorities. Investing in one country means investing in the Union, and the program emphasizes that a joint and cohesive recovery that encourages a parallel green and digital transition will strengthen Europe's competitiveness and resilience and its global position. The drivers of European recovery must be solidarity, cohesion and convergence. Next Generation EU is not only a recovery plan, but also a unique opportunity to emerge stronger from the EU pandemic. EU leaders have reached an agreement on a historic fund for reconstruction due to the consequences of the Corona crisis. For the first time, the EU is borrowing together to alleviate the economic crisis in member states. Such an agreement shows that the EU, despite all the differences and differences of opinion, is able to act together when needed. Although negotiations to accept the recovery plan have been long and intense, the agreement reached is a clear sign of European unity, solidarity and common direction. The Corona crisis provides Europe with a unique opportunity to assess its effectiveness, sustainability and legitimacy. As EU leaders assess the past and begin to plan for the future, they should not only think how to return to normal state before COVID-19, but how the EU can emerge from the crisis more sustainable, balanced and fair and decide how the EU should be reformed (Bergsen, 2020, p.18) Crises worsen negative conditions, inequalities and competition among groups for scarce resources, but can also often encourage individuals and social groups to engage in exceptional acts of solidarity, mutual support and assistance, even in difficult conditions (Grasso et al. 2021, p. S10). It is therefore not known whether the economic governance of the European Union will change forever or whether the extraordinary circumstances caused by Covid-19 will reduce the sense of urgency once the effects of the pandemic have subsided (Ladi & Tsarouhas, 2020, p. 1053).

4. Conclusions

Solidarity and cohesion as key principles in the functioning of the EU can and should be important principles in overcoming the current crisis. European countries must become aware of the importance of cooperation and solidarity and jointly develop a vision for future development. EU members need unity and further integration in order to overcome the existing weaknesses and ensure further development, prosperity and unity. Discussions on the future of economic governance in the European Union will continue in the coming period, but the implementation phase of the national grant plans is yet to be implemented. Resistance within the European Union to

the possibility of real solidarity remains one of the obstacles to rethinking economic governance at Union level and applying the new approach.

However, many economists warn that it is not certain that the proposed measures will boost sustainable growth and reduce disparities between member states. Efficiency will largely depend on how well it responds to the real consequences of the crisis and increases the capacity of Member States to support their economies and implement new measures properly. The history of European integration is a history of crises and their overcoming by finding new solutions and new commitments of integration actors. If the EU wants to survive, it is necessary to overcome numerous challenges, create a common vision and define a new concept that will be based on European values. While a crisis of this magnitude could jeopardize the existence of the EU and deepen divisions, it could also be an opportunity for the EU to address some of the fundamental shortcomings that exist in the architecture of the euro area. The response to the pandemic is an opportunity for Europe to prelaunch and focus on the many mechanisms available. If handled properly, the Corona virus has the potential to bring the EU closer together than any other event.

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THE IMPACT OF THE COVID-19 PANDEMIC ON THE FINANCING OF THE EUROPEAN UNION ENERGY EFFICIENCY PROGRAM

UTJECAJ PANDEMIJE COVID-19 NA FINANSIRANJE PROGRAMA ENERGETSKE EFIKASNOSTI EVROPSKE UNIJE

Abstract

The paper tries to determine the cause-and-effect relationship between the COVID-19 pandemic and the financing models of the European Union's energy efficiency programs. One of the goals is to present how the pandemic has shaped the economy in the member states and whether it has had an impact on the priorities of meeting the sustainable goals of the European Union. Observing the impact of the pandemic on the level of financing of energy efficiency programs, not only evaluates the financial aspect of these investments, but also the growth of the member state, but also the area that regulates this issue. The results of the research, with the expected consequences of a pandemic, showed that each model has its own specifics, with its application depending on the environment in which it is applied, and that it is influenced by numerous factors that increase or decrease economic growth in each member state. The COVID-19 pandemic had an impact on economic trends in the member states, but it did not reduce the level of financial assistance through the model of financing green projects, because investing in ecology eliminates one of the causes of the pandemic in the future. Secondary data collected from relevant sources will be used, which will be processed using the method of internal research. In addition, other methods are distinguished: methods of analysis and synthesis, generalization and abstraction, methods of systematized approach (holistic approach), classification and comparison, and methods of induction.

Keywords: financing models, energy efficiency, economic growth, Western Balkans

JEL: Q 43, Q47

Sažetak

U radu se nastojala utvrditi uzročno-posljedična veza pandemije COVID-19 i modelâ finansiranja programâ energetske efikasnosti Evropske unije. Jedan od ciljeva je predstaviti na koji način je pandemija oblikovala privredu u zemljama članicama, te da li je imala utjecaja na prioritete ispunjenja održivih ciljeva Evropske unije. Posmatranjem utjecaja pandemije na stepen finansiranja programa energetske efikasnosti ne ocjenjuje se samo finansijski aspekt ovih ulaganja, nego i rast zemlje članice ali i oblasti koja uređuje ovo pitanje. Rezultati istraživanja, uz očekivane posljedice pandemije, pokazali su da svaki model ima svoje specifičnosti, uz to da njegova primjena zavisi od okoline u kojoj se primjenjuje, te da na njega utječu brojni faktori koji povećavaju ili smanjuju ekonomski rast svake zemlje članice. Pandemija COVID 19 je imala utjecaja na privredna kretanja u zemljama članicama, ali to nije smanjilo stepen finansijske pomoći putem modela finansiranja zelenih projekata, jer ulaganjem u ekologiju eliminiše se jedan od uzročnika nastanka pandemije uopće u daljoj budućnosti. Pri pisanju rada koristiti će se sekundarni podaci prikupljeni iz relevantnih izvora, koji će biti obrađeni upotrebom metode internog istraživanja. Osim toga, izdvajaju se i druge metode: metode analize i sinteze, generalizacije i apstrakcije, metode sistematiziranog pristupa (holistički pristup), klasifikacije i komparacije te metoda indukcije.

Ključne riječi: modeli finansiranja, energetska efikasnost, ekonomski rast, Zapadni Balkan

JEL: Q 43, Q47

1. Introduction

Despite the current challenges, the crisis caused by the COVID-19 virus represents an opportunity for organization within each state. History shows that major crises are forcing us to significantly rethink and create opportunities for better reconstruction. In determining whether countries have successfully recovered from COVID-19, it is necessary to start from an assessment of the quality of life and well-being of people, as well as greenhouse gas emissions and loss of natural resources. Gross Domestic Product (GDP) to assess the impact of COVID-19 is only a means to an end, not an end. The European Union has presented an ambitious vision of the economy towards the future, more precisely aimed at the goals of sustainable development of the UN. Since 2009, he has been actively working to promote and encourage environmental awareness and energy efficiency. The concept of thinking about consuming natural resources has changed significantly in the last few years. This commitment is not accidental, given the growing scarcity of resources, and thus energy dependence. Most countries in the world today are paying more and more attention to alternative ways of energy production, paying special attention to energy efficiency. Namely, energy efficiency implies efficient use of energy which results, in combination with other inputs, with the lowest production cost and optimal resource allocation, assuming the price efficiency of all inputs (Gelo, 2010, p. 217).

The subject of research in this paper refers to the analysis of the impact of the COVID-19 pandemic on the financing of energy efficiency programs of the European Union. The scientific literature on the given topic is very scarce, and the authors have made a significant scientific contribution by systematizing in a theoretical - methodological sense, the current comprehensive theoretical knowledge of the concept of financing energy efficiency. The basic research question posed in the paper is: has the impact of the COVID-19 pandemic reduced the level of investment in energy efficiency programs through the European Union funding model and thus had a negative impact on economic growth?

2. Previous research

Numerous literature directs both countries and companies in the direction of achieving economic effects that bring savings and thus a part of the profit that can be directed towards economic growth and development. Energy efficiency programs have been identified as the most efficient and cost-effective ways to achieve the European Union's economic growth goals, presented in the European Union Strategy 2020/2030/2050. These goals incorporate three key components, which can be divided into: economic, social and the component that emphasizes environmental protection. Energy efficiency is permeated through all these components. In accordance with the results of research conducted in the countries of the European Union (Gales, Kander, Malanima & Rubio, 2007, p. 233; Nadel, Elliott & Langer, 2015, p. 44, *etc.*), it has been proven that energy efficiency affects economic growth, through higher GDP, higher percentage of investments and higher level of savings. In this regard, it can be concluded that it is part of the economic component. In addition, energy efficiency also affects the social component through a higher standard of living. Energy efficiency projects bring new products, new jobs, new companies and new industries, with the inevitable increase in investment in existing industries. The spread of the COVID-19 pandemic has a great negative impact on the economy of the European Union and the started projects, but also on the countries of the Western Balkans, which are already lagging behind in terms of monitoring directives in terms of energy efficiency.

Energy efficiency is a key pillar of the European Union's long-term strategic vision for a prosperous, modern, competitive and climate-neutral economy. Through its strategies, the commission seeks to increase the potential to increase the competitiveness of enterprises, improve the process of energy security and reduce greenhouse gas emissions. The emphasis of the financing

model is on reducing energy costs that can affect the investment decisions of companies and their financial performance in many ways, given that energy serves as one of the key inputs in the production processes of goods and services. The general concept of legislation in the field of energy efficiency is designed primarily for the benefit of the international community for environmental protection, the country for energy security, international obligations, cost reduction and competitiveness and companies to increase their profits and competitiveness. The European Union always looks at its goals in the long run, so it can be said that the EUROPA 2030 Strategy is one of the key elements of their legislation, which primarily seeks to ensure a sustainable future, and thus more jobs and a better quality of life. The European Commission has proposed five measurable targets for the period up to 2020, among which is the target defining an attempt to address the consequences of climate change and energy, where they cite the concept of energy efficiency as a solution. According to Hadžić & Hadžić, (2020, p. 22), investing in energy efficiency and renewable energy sources in the current time of the COVID-19 crisis can be one of the solutions to stimulate economic activity in the short and medium term. The paper points out that at the time of the COVID-19 pandemic, investing in energy efficiency can strengthen the construction sector, stimulate economic activity and mitigate negative economic effects, and create preconditions for faster economic recovery (Hadžić & Hadžić, 2020, p. 22). Since 2015, global energy efficiency improvements have been recorded through primary energy intensity measurements. Funding models thanks to members have also recorded growth.

3. Research methodology

The subject of the research also determined the research methodology in this paper. Having in mind the interdisciplinary character and complexity of the set subject of research, the paper also uses relevant methods and techniques of scientific research. The subject research was realized on the basis of secondary data sources, using the method of internal research (desk research), which includes books in the field of energy economics and finance and articles, studies, publications, journals, newsletters, reports of domestic and international institutions, the web sites that address the above research issues.

The results of the research will be presented below.

4. Results and discussion

Data available during 2020 indicate that despite the COVID-19 pandemic to finance energy efficiency, the biggest obstacle remains the lack of information on programs. In addition, the inconsistency of adequate access to appropriate financial models to support energy efficiency measures has been further highlighted. According to official EIB (European Investment Bank report 2019), in 2019 more than 40% of EU companies have taken measures to improve energy efficiency, which shows an increase compared to the 2018 results. Slovakia has shown the highest percentage of companies that invest in energy efficiency, as many as 61% of companies invest in these activities. The countries Spain, the Czech Republic, Austria, Slovenia, Portugal and Sweden showed a higher percentage of companies investing in energy efficiency than in the United States, where 47% of companies invested in energy efficiency. In contrast, Lithuania, Estonia, Greece, Romania and France are at the other end of the spectrum, whose rankings are almost unchanged from the previous year. Research shows that companies that invest in energy efficiency have a positive relationship between energy intensity and company size. Specifically, manufacturing, the sector with the highest energy intensity, represents the largest share of companies investing in energy efficiency (43% in 2019), followed by infrastructure (37%) and services (30%). The construction sector has the smallest share of companies investing in energy efficiency with 25%. When we compare the size of enterprises, it is clear that large enterprises show twice the probability of investing in energy efficiency compared to small and medium enterprises.

According to available informations on Western Balkans Investment Framework, the most important energy efficiency financing models that achieve results are: EBRD Regional Energy Efficiency Program (REEP / REEP +), Green for Growth Fund (GGF), Credit lines of commercial banks through support through various WBIF financing models. For example, currently the WBIF is the most active joint initiative of the European Union aimed at strengthening harmonization and cooperation in investments for the socio-economic development of the Western Balkan countries. The economic and investment plan, adopted by the European Commission in October 2020, aims to boost the region's long-term economic recovery, supported by digitalization and energy.

This clearly emphasizes energy efficiency and digitalization as the basis for the development of this region. The European Commission is proposing the mobilization of up to € 9 billion of pre-accession instruments for Assistance III (IPA III) as a priority. In particular, the Western Balkans fund is expected to further mobilize capacity investment in the region, with the ambition of potentially increasing investment to 20 billion euros. Through WBIF grants in the Western Balkans, 210 projects worth a total of 22.4 billion euros were supported despite the instability of the region's economy caused by the COVID-19 pandemic. Currently, 103 projects are in operation or in the final phase worth 10.4 billion euros. For the countries of the Western Balkans, 361 grants worth 1.4 billion euros were approved, and 187 worth 238 million euros were completed.

The current situation with a retrospective from the period of 2009 can be seen more clearly in the following Graph 1.



Figure 1. Allocated financial resources through the financing model for the countries of the Western Balkans
Source: WBIF Annual Report (2020), p. 8.

Although at first glance the current trends in financing energy efficiency in the EU have fallen into the background after the appearance of the COVID-19 virus, the agenda for the Western Balkan countries still insists on the ambitious goal of creating a climate neutral region by 2050. It has been drafted into the Economic and Investment Plan, which has the potential for the long-term recovery of the Western Balkans and their transition to digitalization and green energy. The single regional energy market and the linked road infrastructure are clear European Commission directives. On the path to integration, the countries of the Western Balkans must maximize the potentials and benefits provided by their geographical structure through EU-funded projects. It seemed that in 2019, the trend of global energy efficiency improvements was moving in a better direction. Global primary energy intensity improved by 2% in 2019 compared to 1.1% in 2018. The COVID-19 pandemic has a major impact on global energy systems, limiting investment and threatening to slow the spread of key clean energy technologies. Before the crisis, progress in clean energy technologies was promising but uneven. The IEA's (International Energy Agency) annual clean energy progress monitoring report shows that only 6 of the 46 technologies and sectors were "on track" to meet the 2019 long-term sustainability goals. Those six included electric vehicles, rail transport and lighting. Another 24 showed some progress, but insufficient to meet long-term goals, while the remaining 16 were "out of the question". Global carbon emissions will be reduced this year as a result of major disruptions in travel, trade and economic activities caused by the pandemic. The global pandemic has imposed unprecedented constraints on social and economic activities - especially mobility - with serious impacts on energy use. Global energy demand is expected to decline by 6% in 2020, the biggest drop in more than 70 years (IEA News, 2020).

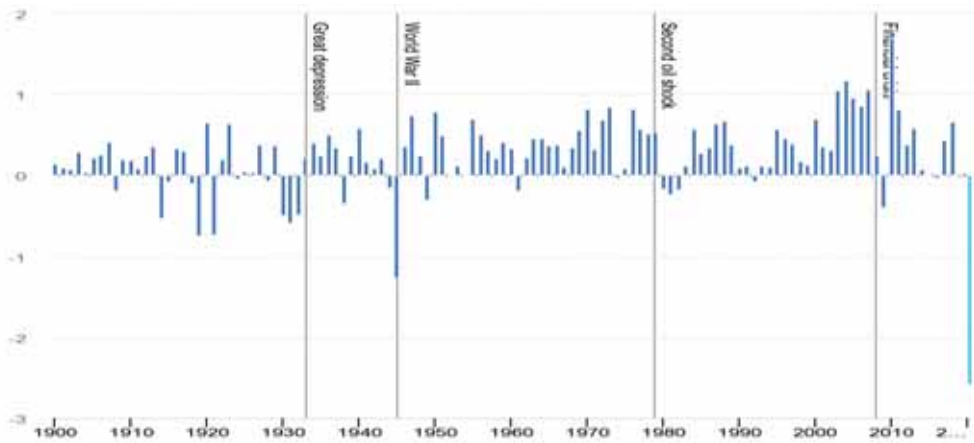


Figure 2. Annual change in global energy-related CO₂ emissions, 1900-2020

Source: IEA Global report, 2020.

The fact is that after the economic crises, emissions recovered quickly as the economies came back into force. Although the current crisis may have accelerated some structural changes - such as the fall in coal in Europe - the temporary drop in energy consumption resulting from massive restrictions on movement is far from sufficient. Smart and ambitious government policies will be needed to achieve the kind of sustainable structural adjustments needed across a range of sectors to achieve long-term climate goals. Renewable energy sources have so far shown resilience to the COVID-19 crisis. The share of renewable energy sources in the global electricity supply reached almost 28% in the first quarter of 2020, compared to 26% in the same period in 2019. For causes in the slow improvement of energy efficiency, the COVID-19 crisis is added as a new layer of uncertainty. First, the current economic crisis threatens to delay the investment of businesses and households in more efficient technologies. While investment may not have changed significantly

yet (especially because projects often happen agreed years in advance), investment resilience will be tested in the coming period 2021 and 2022, especially if the crisis deepens. Second, the crisis has triggered changes in behaviour in markets as well, adding uncertainty about energy efficiency progress. For example, an unprecedented drop in demand in air transport could change the energy intensity of international travel and freight traffic forever, depending on how the airline industry recovers after a pandemic. Meanwhile, the rates of teleworking are increasing the way we move around cities. Such changes could in some cases reduce energy intensity but increase in others. Third, the form of government policy response to the economic crisis will have a strong impact on energy efficiency progress, for better or for worse. In industry, for example, funding incentives in the past has sometimes resulted in aging, inefficient facilities that work longer. If governments do not consider the energy system in the design of COVID-19 stimulus packages, similar results could be achieved.

According to research by Wijay, Zeki & Haeras (2021, p. 5), the results indicate that the pandemic has generally had a negative impact on the energy efficiency business ecosystem. The drop in revenue has caused delays in energy efficiency efforts, which could potentially reduce the business opportunities of companies to provide energy efficiency services (ESCo). The survey also shows that facility managers and energy ESCo still have a conservative stance on projected business conditions for 2021 and 2022, indicating a perception of economic uncertainty and a lack of confidence in how they will deal with the pandemic in the future. The research further showed that facility managers and ESCo agree on the urgency of improving energy efficiency and advocating for it in the public and private sectors. Finally, respondents expressed the need for government support for energy efficiency during the rest of the pandemic and recovery after the pandemic (Wijay, Zeki & Haeras, 2021, p. 5).

Based on all this, we can conclude that EU funding for energy efficiency programs has not changed or decreased even contrary to policies. The European Commission is trying to increase interest in investing in renewable sources to ensure energy independence and security. During 2020, the European Union invested € 3.3 billion through various funding programs and models. Some of the most important transactions are focused on support programs for small and medium enterprises through WIF EDIF, EFSE, GGF and WB guarantees worth € 455 million. There are also MFA funds available for 12 months in the form of loans on extremely favourable terms in the amount of € 750 million and the EIB with additional loans for investments and lending to small and medium enterprises in the amount of € 1.7 billion. According to the European Commission's estimates, 2/3 of the total financing issued by the EBRD is directly related to the COVID-19 crisis response for 2020. In addition to direct disbursements, the existing frameworks were supplemented in the total value of € 253 million, as follows: € 60 million was allocated to supplement the World Bank's EDIF guarantee fund, € 30 million was allocated from the World Bank for EDIF ENIF II and ENEF II, € 15 million set aside to supplement the World Bank's Regional SME Competitiveness Support Program EDIF, € 120 million was set aside to redirect the World Bank guarantee to support SMEs, € 20 million was set aside to buy € 10 million of new shares in EFSE and € 10 million of new shares in GGF, € 8 million grant in the form of technical assistance for the EFSE Development Fund. In addition to the above, the European Commission has directed € 202 million to the reorganization of existing programs that provide support to small and medium enterprises (WBIF News, 2020)

5. Conclusions

Based on the research, we can conclude that with the spread of the COVID-19 pandemic, investment projects underway in both large energy infrastructure and energy efficiency and renewable projects may be delayed due to supply chain disruptions and companies unable to repay loans due to loss of revenue. The most endangered are projects implemented by small and medium

enterprises and households, mainly in the field of energy efficiency and small renewable energy. Commercial banks have reported a number of problems in assessing customer requests for arrears, in this regard it should be noted that however more microfinance institutions are threatened by lack of liquidity. On the positive side, however, many international financial institutions are willing to grant bridging loans to commercial banks and other financial institutions if and when necessary. The European Union launched its financial institutions in parallel, and the European Commission approved additional support packages. The systematization of previous scientific and theoretical knowledge and empirical research presented in this paper indicates that the COVID-19 pandemic had an impact on economic trends in the European Union and other regions, but this factor did not reduce the amount of funding for energy efficiency programs. According to the available data, we can conclude that during the pandemic, more attention was paid to the scarcity of resources and the importance of reducing environmental pollution while maintaining the level of investment.

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RISK MANAGEMENT AND INSURANCE OF EXPORT CREDITS IN BOSNIA AND HERZEGOVINA

UPRAVLJANJE RIZICIMA I OSIGURANJE IZVOZNIH KREDITA U BOSNI I HERCEGOVINI

Abstract

The subject of research in the paper is the most commonly used methods of credit risk protection in the export-oriented companies in Bosnia and Herzegovina. This primarily includes export credit insurance, letters of credit, bank guarantees and factoring. The paper aims to identify the existing methods of credit risk management in export companies and their consequent impact on their efficiency in foreign markets. The impact of the COVID-19 pandemic on their export business has also been determined. The research showed that export credit insurance is a rather underdeveloped area in Bosnia and Herzegovina, and its export companies are forced to use other types of protection against export credit risk if they decide to operate with the deferred payment. The relationship between satisfaction with market position and market performance of export companies and credit risk management methods was established. Also, the research found that there are differences in the active use of methods of protection against export credit risk, depending on the amount of income that the company generates. The results showed that the attitude of employees on the complexity and requirements of doing business in the international market, the development and clarity of risk management plan and active use of available instruments to protect against credit risks of export business differ significantly depending on the need for additional training on export risk management. The research also confirmed the connection between the perception of risk managers in export companies on the legal framework and regulation of the insurance market, with the perception of variability and ease of application of export credit insurance in Bosnia and Herzegovina.

Keywords: credit risk, risk management, export credit agencies, export credit insurance

JEL: G22, G32

Sažetak

Predmet istraživanja u radu su najčešće korišteni načini zaštite od kreditnih rizika u izvozno orijentisanim bosanskohercegovačkim preduzećima. To u prvom redu čini osiguranje izvoznih kredita, odnosno osiguranje potraživanja od stranih kupaca, zatim dokumentarni akreditivi, bankarske garancije te faktoring. Cilj rada je da se identificira postojeća praksa upravljanja kreditnim rizicima izvoznog poslovanja kod izvoznih preduzeća i njen posljedični uticaj na efikasnost nastupa ovih preduzeća na stranim tržištima. Osim toga utvrđen je i uticaj COVID-19 pandemije na njihovo izvozno poslovanje. Istraživanje je pokazalo da je osiguranje izvoznih kredita prilično nerazvijeno područje u Bosni i Hercegovini, te da su bosanskohercegovačka izvozna preduzeća primorana koristiti druge vrste zaštite od rizika izvoznih kredita, ukoliko se odlučuju na poslovanje sa odgodom plaćanja. Utvrđena je povezanost između zadovoljstva tržišnom pozicijom i tržišnim nastupom i metoda upravljanja kreditnim rizicima. Također, istraživanjem je utvrđeno da postoje razlike u aktivnom korištenju metoda zaštite od rizika izvoznog poslovanja u zavisnosti od visine prihoda koje preduzeće ostvaruje. Rezultati su pokazali da se stav uposlenika o kompleksnosti i

zahitjevima poslovanja na međunarodnom tržištu, razvijenost i jasnost rizik menadžment plana te aktivna upotreba dostupnih instrumenata zaštite od kreditnih rizika izvoznog poslovanja statistički značajno razlikuju u zavisnosti od iskazane potrebe za dodatnom edukacijom o upravljanju rizicima izvoznog poslovanja. Istraživanje je također potvrdilo povezanost percepcije rizik menadžera u izvoznim preduzećima o zakonskom okviru i regulativi tržišta osiguranja, sa percepcijom varijabilnosti ponude i jednostavnosti primjene osiguranja izvoznih kredita.

Ključne riječi: kreditni rizik, upravljanje rizicima, izvozno-kreditne agencije, osiguranje izvoznih kredita

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1. Introduction

The efficiency of a company's operations in the international market largely depends on the management process of overdue and outstanding trade receivables, as well as the internal risk management policy. A large number of corporations in the international market, within their internal risk management plan, must have a precisely defined share of the allowed risk portfolio in the total portfolio of trade receivables, since the risk of collection of these receivables has a direct impact on business results. Nevertheless, deferred sales are often used as an instrument to increase competitiveness in the international market. Although the insurance of export credits, *i.e.* foreign receivables, is especially present in international business, unfortunately, in Bosnia and Herzegovina (BiH) it is a rather unexplored area. According to the data available on the website of the International Credit Insurance and Guarantee Association (ICISA), apart from our country, only Kosovo, Moldova, Macedonia, Russia and Belarus are European countries where ICISA members do not offer export credit insurance and guarantees, nor do they have their own branches.

The central research hypothesis is: The existing supply of export credit insurance is insufficient for active credit risk management of export companies in BiH, and as such has a negative impact on satisfaction with the market performance of BiH exporters and requires the use of other methods to manage these risks. Besides the central research hypothesis, due to the complexity of the research, certain auxiliary hypotheses have been formulated and presented below.

H1: The combination of several protection methods, *i.e.*, active credit risk management gives the best results in managing this type of risk of BiH exporters.

H2: Active risk management of export credits significantly improves the market position of BiH exporters.

H3: The characteristics of the company affect the active use of methods of protection against the risks of export business.

H4: BiH exporters, *i.e.*, their employees are not sufficiently trained to actively manage export business risks, especially credit risks.

H5: The COVID-19 virus pandemic had a significant negative impact on the volume of export operations of BiH companies and consequently on their share in the foreign market.

H6: BiH legislation is an obstacle to expanding the range of export credit insurance tools.

2. Literature review

Credit risk assessment, as one of the phases of managing this type of risk, was systematically processed by Ribić (2011, pp. 107-114), who came to the conclusion that the credit risk assessment process consists of two parts. The first part consists of financial analysis, *i.e.*, "hard facts" analysis, which includes the analysis of the balance sheet and income statement, and the analysis of business indicators such as liquidity, profitability, activity and financial stability. The second part of the assessment is the analysis of non-financial indicators or "soft" analysis, which assesses the creditworthiness of the company based on basic information about the company, management, and

accounting, the market in which the company operates, employees' qualifications, and relationships with business partners.

Alsem, *et al.* (2003, pp. 107-113) explored the impact of firm size on the use of export credit insurance and concluded that large firms operate mostly with a relatively low degree of risk aversion. For medium-sized companies, they found that they will most often use export credit risk insurance, while small companies are forced to use alternative ways of export credit risk insurance. By comparing the results, we see that export credit insurance is most often used by large and medium-sized companies.

Abraham and Dewit (2000, pp. 5-26) have shown that government guarantees can stimulate companies to export even without subsidies, that is, by charging a real, fair premium. Therefore, they concluded that the impact of export credit insurance on trade promotion also applies to private insurers, which are unlikely to subsidize their clients.

Rienstra-Munnicha and Turvey (2002, pp. 3-20), also examined how export credit risks affect export sales and how export credit guarantees, or insurance reduce the risks of non-payment and overseas sales. In their paper, the authors presented a theoretical model that showed how the risk of export credits can be mitigated by insuring export credits, and that it can also increase the export of companies and thus improve their market position in the international market. Their model predicts that exports will increase with a decrease in the probability of default, an increase in insurance or guarantees, a reduced or subsidized premium rate, a lower risk aversion, and a smaller variation in the amounts paid. Egger and Url (2006, pp. 399-418) found in their study that an increase in Austrian export guarantees of 1% generates long-term growth of Austrian exports of 0.4%. Moser, Nestmann, and Wedow (2008, pp. 781-803) came to similar conclusions when analysing the German export guarantee market, but took into account possible issues of endogeneity and sales dynamics, and as a result, obtained a multiplier of 1.7%.

Felbermayr and Yalcin (2011, pp. 4-27) tested differences in the effects of German Hermes export guarantees in countries with different income groups. They came to the conclusion that export guarantees and loans have less effect in richer countries. An increase of Hermes guarantees by one percent increases exports in the richest countries by 1.2%, in countries with higher average income by 1.3%, and in countries with lower incomes by 1.4%. This means that Hermes' impact on increasing exports increases with decreasing average income, *i.e.*, that less developed countries benefit more from export credits and guarantees.

Van der Veer (2010, p. 6-20) in his research somewhat confirmed the results of his colleagues from Austria and Germany. He used a series of arguments to explain why private export credit insurance is important for international trade. Credit insurance particularly stimulates exports to markets where companies would not otherwise sell, enabling business partners to build a reputation while reducing the need for exporters to use expensive insurance. These results showed that, due to the real decline in the supply of private credit insurance, there was a decrease in exposure to private insurance during the last economic crisis of 2008. This caused a drop in World exports by 5-9% and a drop in European exports by 10-20%. Polat and Yeşilyaprak (2017, pp. 15-19) found that export promotion through export credit insurance is an important element of Turkey's export strategy. Their research showed that if export credit insurance increases by 1%, Turkish exports would increase between 3% and 17%, assuming that other independent variables remain constant.

Along with export credit insurance, one of the most important and perhaps the most affordable ways to insure companies in developing countries, as well as small and medium enterprises, is factoring. Balaban *et al.* (2018, pp. 125-136) conducted research on the importance of factoring in the financing of companies in BiH. The results of the research showed that in countries where the

efficiency of court procedures and records is poor and long-lasting, such as BiH, the use of factoring is considered one of the possible solutions to problems that companies may have with proving the priority of receivables and collecting them. In this form of factoring, the credit risk falls on the seller who bears the consequences if the buyer does not pay the invoice that was the subject of factoring, and thus the risk would be significantly reduced or even completely eliminated.

3. Theoretical background

Active risk management is an important element of modern corporate strategies. The existing imperfections of the capital market are the basis of various theories about the economic justification of the risk management function, *i.e.*, the existence of its positive impact on the value of the company. In order to achieve one of the basic goals of every company, management strives to, with the choice of adequate sales policy, ensure better collection of its receivables and thus increase the value of the company and maximize shareholder profits (Van Horne & Wachowicz, 2002, p. 8). Risk management techniques can be classified as risk control and risk financing. Rejda (2003, p. 12), points out that risk managers typically use a combination of these techniques to manage each exposure to losses. The most commonly used way of managing financial risks, especially credit risks, and is actually the transfer of risk to insurance companies and other financial institutions. Despite the stability of business partners, all receivables from customers pose a risk, so securing receivables is extremely important for the success of each company's business. Receivables from customers arise when the customer takes over goods that he has not previously paid for, and undertakes to settle its due obligations within a certain period of time. The time delay for payment depends on many factors, the most important of which are: financial reports of the business partner, the strategic importance of the buyer for positioning the seller in a particular market, assessment of company's management, payment security instruments, *etc.* Export credit insurance also requires the payment of a premium. Insurance premiums are based on individual risk factors such as the creditworthiness of the buyer and the countries involved in the transaction. Credit insurance can often be taken out either on a single customer basis or on a multi-customer portfolio. Export credit insurance is offered by private insurers as well as government agencies which are often referred to as export credit agencies. The most important international organizations that deal with defining and monitoring the standards of international regulations governing credit and export insurance are: the OECD, the Berne Union, the Prague Club, the Paris Club, and the London Club. Also, in the insurance market of the European Union, there are several important export credit agencies and the largest and most important are: ECGD, Euler Hermes, Atradius, and Coface.

Looking at the insurance market of Bosnia and Herzegovina, we see that credit insurance, unfortunately, is rarely used. One reason for this is the lack of agencies or institutions to deal with it. The only agency currently operating in the BiH market, which is related to the insurance of exclusively legal entities, is the Export Credit Agency of BiH (IGA), a state institution. IGA is currently undergoing a restructuring process so that from 2018 it does not provide export credit insurance services to clients in BiH. Prior to the start of the restructuring process, due to the increased growth of client requests to which they could not respond, IGA recorded a declining trend in the number of clients. The inability to respond to customer requests was reflected in the fact that many BiH exporters were rejected due to their unsatisfactory creditworthiness, or due to the extremely high risk of their business. Currently, international institutions for claim insurance are not active in BiH, and as the main reason for that, complex legal procedures and complicated regulation of BiH, and extremely high political risk stand out, which consequently has a negative impact on foreign investors. All of the above prevents the activities of global insurance agencies in our market, and the generally poor economic image of the country further reduces the interest of global insurance agencies to expand their business to the BiH market. If we look at the insurance market in BiH, (*Insurance Agency of BiH*, Annual Report, 2019) despite the increase in premiums compared to previous years, out of the total insurance premiums in 2019, which amounts to 762,780.531

BAM, only 11,429.102 BAM was paid on basis of credit insurance, or only 1.5%. Credit insurance premium in the Federation of BiH has a declining trend, where it participates with 1.98%. In Republic of Srpska, this type of insurance is almost not used at all and participates only with 0.4% in the total premium, but there is an increasing trend compared to previous years. The only insurance company that actively promotes credit insurance in BiH is Triglav Osiguranje, which offers a policy of insurance against insolvency and bankruptcy of the buyer, as well as in the case when the buyer does not make payment 180 days after the due date of the invoice. Due to all the above, most BiH export companies use alternatives to secure their export credits, such as bank guarantees, letters of credit, factoring, or turn to sign sales contracts with prepayment, *i.e.*, advance payment.

4. Methodology

Based on the database of BiH exporters, available on the website of the Foreign Trade Chamber of BiH (BiH Exporters Directory), a sample of 100 export companies operating in various industries in BiH was formed. In order to ensure the representativeness of the sample, companies of different sizes, revenues, business volumes, and the share of exports in total business were surveyed. The empirical research was conducted in a period of six months, from October 2020 to March 2021. The data collection instrument used in the research is a survey questionnaire using a five-point Likert scale. The survey questionnaire was prepared only in electronic version, using the Google Forms form, and as such was sent by e-mail to the addresses of export companies in BiH, and in this way, the survey was successfully conducted throughout BiH. Respondents were members of the company's top management. Descriptive and inferential statistics, correlation and regression analysis, and analysis of variance - ANOVA was used for data processing. The collected data were processed using MS Excel and IBM SPSS (Statistical Package for Social Science).

5. Results and discussion

Of the total number of surveyed companies, most are medium-sized companies with 32%, followed by large companies with 26% and small companies with 25%. The fewest are micro-companies in the selected sample, 17% of them. A quarter of the surveyed companies (25%) operate in the agri-food industry, followed by the metal and electrical industry with 22%, the wood industry with 15%, and 12% of companies are within the category of other (chemical and pharmaceutical industry, textile, leather and footwear, trade, *etc.*). Most companies are from the Federation of BiH (84%), while there are 14% from Republic of Srpska, and 2% from Brcko District. During 2019, the largest number of companies generated revenues from 700.000 BAM to 8,000.000 BAM. Since the research was conducted during the COVID-19 pandemic, its impact on the business of export-oriented companies was also examined. The research showed that the pandemic had a significant negative impact on BiH exporters, meaning that 51% of companies recorded a decline in business volume during 2020. This confirmed the fifth auxiliary hypothesis of the research. The biggest consequences were felt by micro and small companies, 13% of them. The consequences of pandemic control measures that had the greatest negative impact on business during 2020 are the reduction of demand from foreign clients and logistical difficulties due to various transport restrictions, which were chosen by as many as 50 or 48 companies, respectively.

5.1 Analysis of satisfaction with the market performance of BiH exporters

In order to determine the connection between the existing supplies of export credit insurance with the degree of satisfaction with the market performance of BiH companies on the international market, a multiple regression analysis was applied. In this case, the dependent variable is the average value of respondents' answers to questions that describe the degree of satisfaction with

market performance. The first regression model (model 1) is presented in Table 1 and it describes the impact of the current supply of insurance against the risk of export credits in BiH on the level of satisfaction with the market performance of companies in the international market.

Table 1. *Significance of the regression model for measuring the impact of the existing supply of insurance against the risk of export credits on the level of satisfaction with market performance (model 1)*

| | R | R ² | F | dF | p |
|---|-------|----------------|-------|--------|-------|
| Model 1 | 0.331 | 0.11 | 5.978 | (2:97) | 0.004 |
| Independent variable: Satisfaction with the insurance supply and simplicity of application of export credit insurance | | | | | |
| Dependent variable: Level of satisfaction with the market performance of BH companies in the international market. | | | | | |

Note: R - correlation coefficient; R² - degree of multiple determination

Source: Authors' research

According to the indicators from Table 1, we see that the regression model is statistically significant ($p = 0.004$). The coefficient of multiple determination (R^2) shows that the predictor set of variables explains with 11% of the variance the degree of satisfaction with market performance as a dependent variable. Table 2 provides an overview of the values of the regression coefficients of the model.

Table 2. *Regression model 1 with evaluated parameters*

| Predictors | B | se (B) | β | t | p |
|--|-------|--------|---------|-------|-------|
| Constant | 2.446 | 0.339 | | 7.215 | 0.000 |
| Satisfaction with the insurance supply | 0.037 | 0.141 | 0.038 | 0.261 | 0.795 |
| The simplicity of application of export credit insurance | 0.304 | 0.145 | 0.302 | 2.095 | 0.039 |

Note: B - non-standardized regression coefficient, se (B) - standard error of non-standardized regression coefficients, β - standardized regression coefficient; t-test

Source: Authors' research

Based on the values of regression coefficients shown in Table 2, we see that some predictors make a significant contribution to explaining the average assessment of the degree of satisfaction with the market performance of BiH export companies. Of the two predictors, we see that the simplicity of application of export credit insurance is a stronger predictor ($\beta = 0.302$; $p = 0.039$), which makes a significant predictive contribution to the explanation of the dependent variable, *i.e.*, the degree of satisfaction with the market performance of BiH exporters. Given that the regression coefficient is positive, we can say that a high degree of simplicity in the application of export credit insurance corresponds to an above-average degree of satisfaction with market performance. For the predictor of satisfaction with the insurance supply, we cannot claim that it is an adequate predictor in explaining the degree of satisfaction with the market performance of BiH exporters, given that $p > 0.05$.

Table 3 shows Pearson's and Spearman's correlation coefficient between the level of satisfaction with the market performance of BiH companies on the international market with the degree of satisfaction with the existing supply and the ease of application of export credit insurance.

Table 3. *Correlation coefficients between the degree of satisfaction with market performance and the existing supply of export credit insurance*

| Variables | Coefficient | Level of satisfaction with market performance | Significance (P) |
|--|-------------|---|------------------|
| Satisfaction with the insurance supply | Pearson's | 0.264 | 0.008 |
| | Spearman's | 0.262 | 0.009 |
| Ease of application of export credit insurance | Pearson's | 0.330 | 0.001 |
| | Spearman's | 0.300 | 0.002 |

Source: Authors' research

According to the calculated coefficients and test results on their significance ($p < 0.05$) we can conclude that there is a statistically significant, positive relationship between dependent and independent model variables, i.e., between the degree of satisfaction with market performance and satisfaction with insurance supply and ease of applying export credit insurance.

Given the low average ratings of the degree of satisfaction with the insurance supply and the simplicity of application of export credit insurance (3.32 and 3.10, respectively), it follows that the existing export credit insurance offer is insufficient for active credit risk management of export companies in BiH, and as such has a negative impact on satisfaction with the market performance of BiH exporters and requires the use of other methods to manage these risks. Based on the above, we can accept the central research hypothesis.

5.2 Analysis of the perception of credit risk management efficiency of BiH exporters

In order to determine satisfaction with the efficiency of risk management of export credits of BiH exporters in relation to the number of protection instruments used by these companies, the ANOVA test was used. The results of the differences in the respondents' answers related to the respondents' perception of the efficiency of risk management for the collection of export receivables are presented in Table 4.

Table 4. *Testing the difference in the perception of the efficiency of risk management in relation to the number of used protection instruments*

| Variables | Number of protection instruments used | Mean ± SD | F - test | df | p |
|--|---------------------------------------|------------|----------|--------|-------|
| Efficiency of risk management policy | not used | 4.17±0.983 | 2.809 | (3;96) | 0.044 |
| | one method | 3.55±1.138 | | | |
| | two methods | 3.44±1.037 | | | |
| | 3 and more methods | 4.18±0.795 | | | |
| Minimization of the share of risky receivables | not used | 4.00±1.549 | 0.338 | (3;96) | 0.798 |
| | one method | 4.18±1.054 | | | |
| | two methods | 3.96±1.147 | | | |
| | 3 and more methods | 4.23±0.813 | | | |
| Ratio of overdue and total debt | not used | 4.33±0.817 | 0.782 | (3;96) | 0.507 |
| | one method | 4.14±0.957 | | | |
| | two methods | 3.96±0.825 | | | |
| | 3 and more methods | 4.32±0.568 | | | |
| Risk management cost level | not used | 4.00±1.095 | 2.630 | (3;96) | 0.055 |
| | one method | 4.00±1.021 | | | |
| | two methods | 3.65±0.832 | | | |
| | 3 and more methods | 4.41±0.590 | | | |

Source: Authors' research

According to the results of the ANOVA test shown in Table 4, we see that there is no statistically significant difference in the perception of individual indicators of risk management efficiency depending on the number of methods used ($p > 0.05$), except for the variable of risk management policy efficiency ($p < 0.05$). The variable efficiency of risk management policy shows a statistically significant difference of $p = 0.044$. In terms of the level of risk management costs, the results are very close to a statistically significant difference ($p = 0.055$). We can conclude that, based on the data from the sample, there is a difference between the respondents' perception of the efficiency of risk management of export receivables collection depending on the number of protection instruments used only in the case of respondents' perception of the efficiency of risk management policy, therefore, the first auxiliary hypothesis is partially accepted.

5.3 Analysis of the market position of BiH exporters

The second regression model (model 2) presents the impact of active management of export credit risks defined through the parameters of risk knowledge by management, a developed and clear risk plan, active risk management, conducting creditworthiness analysis of clients, on respondents' perception of market position of BiH exporters. The second regression model is given in Table 5.

Table 5. Significance of a regression model for measuring the impact of active risk management on market position perception (model 2)

| | R | R ² | F | dF | p |
|--|-------|----------------|--------|--------|-------|
| Model 2 | 0.568 | 0.323 | 11.333 | (4;95) | 0.000 |
| Independent variables: Parameters of export credit risks active management. | | | | | |
| Dependent variable: Respondents' perception of the market position of BiH exporters. | | | | | |

Note: R – correlation coefficient; R² – degree of multiple determination

Source: Authors' research

According to the data from Table 5, we see that the regression model is statistically significant ($p < 0.001$). The coefficient of multiple determination (R²) shows that the predictor set of variables explains with 32.3% of the variance the respondents' perception of the market position of BiH exporters as a dependent variable. Table 6 provides an overview of the values of the regression coefficients of this model.

Table 6. Regression model 2 with evaluated parameters

| Predictors | B | se (B) | B | t | p |
|---|--------|--------|--------|--------|-------|
| Constant | 2.883 | 0.250 | | 11.521 | 0.000 |
| Knowledge of risk | -0.073 | 0.087 | -0.107 | -0.836 | 0.405 |
| Developed and clear risk plan | 0.235 | 0.088 | 0.374 | 2.674 | 0.009 |
| Active risk management | 0.134 | 0.081 | 0.223 | 1.651 | 0.102 |
| Conducting customer creditworthiness analysis | 0.058 | 0.084 | 0.101 | 0.681 | 0.498 |

Note: B – non-standardized regression coefficient, se (B) – standard error of non-standardized regression coefficients, β – standardized regression coefficient; t-test

Source: Authors' research

Based on the values of regression coefficients from Table 6, we can see that some predictors make a significant contribution to the explanation of the average assessment of respondents' perception of the market position of BiH exporters as a dependent variable. Of the four predictors, the developed and clear risk plan predictor stands out as statistically significant ($p = 0.009$), which makes a significant predictive contribution in explaining the respondents' perception of the market position of BiH exporters. Predictors such as knowledge of risk by management, active risk management, and conducting customer creditworthiness analysis as an independent model variable did not prove to be adequate predictors in explaining the dependent variable ($p > 0.05$). Table 7 shows the Pearson's and Spearman's correlation coefficients of the dependent and independent model variables.

Table 7. Correlation coefficients between respondents' perception of market position and active management of export credit risks

| Variables | Coefficient | Respondents' perception of market position | Significance (p) |
|---|-------------|--|------------------|
| Knowledge of risk | Pearson's | 0.347 | 0.000 |
| | Spearman's | 0.374 | 0.000 |
| Developed and clear risk plan | Pearson's | 0.540 | 0.000 |
| | Spearman's | 0.536 | 0.000 |
| Active risk management | Pearson's | 0.503 | 0.000 |
| | Spearman's | 0.490 | 0.000 |
| Conducting customer creditworthiness analysis | Pearson's | 0.456 | 0.000 |
| | Spearman's | 0.411 | 0.000 |

Source: Authors' research

Based on the calculated coefficients and test results on its significance ($p < 0.05$) we can conclude that there is a statistically significant interdependence between dependent and independent model variables, *i.e.*, between respondents' perceptions of market position and respondents' attitudes about active management of export credit risks regarding the Pearson's correlation coefficient and Spearman's rank correlation coefficient. In addition, we can conclude that there is a positive statistical relationship between the model variables *i.e.*, the more developed and clearer risk management plan is, the better the market position of export companies. This means that we can partially accept the second research hypothesis.

5.4 *Analysis of the connection between the characteristics of the company and the active use of methods of protection against the risk of export business*

The results of the research related to the active risk management of export operations will be analysed through the connection of the management of these risks with the basic characteristics of the company. Credit risk management will be observed from the point of view of respondents' perception of the active use of available methods of protection against export business risks in relation to the amount of income, business sector, a form of organization, number of employees, and business continuity of surveyed companies. According to the results of the ANOVA test shown in Table 8, we see that there is a statistically significant difference in the respondents' perception of active credit risk management depending on the amount of company income ($p < 0.05$).

Table 8. *Testing the differences in respondents' perceptions of active risk management depending on the level of income*

| Variables | Income level | Mean \pm SD | F - test | df | p |
|--|----------------------------|------------------|----------|--------|-------|
| Respondents' perception of active credit risk management | Up to 700,000 KM | 2.94 \pm 1.289 | 2.943 | (3;96) | 0.037 |
| | 700,000 KM-8,000,000 KM | 3.23 \pm 1.140 | | | |
| | 8,000,000 KM-40,000,000 KM | 3.67 \pm 0.990 | | | |
| | Over 40,000,000 KM | 3.88 \pm 0.885 | | | |

Source: Authors' research

From the above we can conclude that there are statistically significant differences in the perception of respondents about the active credit risk management of export operations depending on the income level ($p < 0.05$). The research showed that there are no significant statistical differences ($p > 0.05$) in terms of respondents' perception of active credit risk management of export operations in relation to the company sector, the form of organization of the company, the number of employees, and the continuity of the company. This only partially confirms the third auxiliary hypothesis of the research.

5.5 *Analysis of the connection between the characteristics of the respondents and the use of methods of protection against the risk of export business*

The basic characteristics of the responsible persons can sometimes influence the choice of risk protection instruments. In this regard, the hypothesis that employees of BiH exporters are not sufficiently trained to actively manage export business risks, especially credit risks, will be tested by comparing respondents' answers to the question of whether they believe there is a need for additional education of employees on financial and credit risks and how to manage these risks on the one hand, and the perception of respondents related to knowledge of export business risks, employees' attitude towards the requirements of international business, the existence of a developed and clear risk management plan, and active use of export business risk protection methods on the other.

Table 9. *Testing the difference in the need for employee's education with regard to indicators of active risk management of export operations*

| Variable | The need for additional education of employees | Mean ± SD | F - test | df | P |
|---|--|------------|----------|--------|-------|
| Knowledge of export business risk | YES | 3.96±1.129 | 1.720 | (2;97) | 0.184 |
| | NO | 4.34±0.794 | | | |
| | I DO NOT KNOW | 4.09±0.831 | | | |
| Attitudes of employees about the requirements of international business | YES | 3.73±1.047 | 4.566 | (2;97) | 0.013 |
| | NO | 4.29±0.680 | | | |
| | I DO NOT KNOW | 3.82±0.874 | | | |
| Developed and clear risk management plan | YES | 3.25±1.139 | 5.520 | (2;97) | 0.005 |
| | NO | 3.93±0.848 | | | |
| | I DO NOT KNOW | 3.18±1.079 | | | |
| Active use of available credit risk protection instruments | YES | 3.08±1.127 | 6.395 | (2;97) | 0.002 |
| | NO | 3.88±1.005 | | | |
| | I DO NOT KNOW | 3.27±0.905 | | | |

Source: Authors' research

Based on the test results from Table 9, we can conclude that certain parameters, *i.e.*, certain indicators of active risk management show significant statistical differences ($p < 0.05$) depending on the need for additional training on risk management of export operations, namely: employees' attitude towards business requirements on the international market, development and clarity of risk management plan and active use of available instruments for protection against credit risks of export business. This means that we can partially accept the fourth research hypothesis. The research also showed that there are no significant statistical differences ($p > 0.05$) in the attitudes of management on knowledge of export business risk depending on the expressed need for additional education of employees on risk management of the export business.

5.6 Impact analysis of the legal framework and regulations on the variability of supply and ease of application of export credit insurance in BiH

The third regression model (model 3) presents the impact of the legal framework and regulations of the insurance market in BiH on the perception of respondents about the variability of supply and ease of application of export credit insurance. The third regression model is given in Table 10.

Table 10. *Significance of the regression model for measuring the impact of the legal framework and insurance market regulations on the perception of supply variability and ease of application of export credit insurance (model 3)*

| | R | R ² | F | dF | p |
|---|-------|----------------|---------|---------|-------|
| Model 3 | 0.744 | 0.554 | 121.701 | (1; 98) | 0.000 |
| Independent variable: Perception of the legal framework and regulations of the insurance market | | | | | |
| Dependent variable: Perception of supply variability and ease of application of export credit insurance | | | | | |

Note: R – correlation coefficient; R² – degree of multiple determination

Source: Authors' research

According to the data from Table 10, we see that the regression model is statistically significant ($p = 0.000$). The coefficient of multiple determination (R²) shows that the predictor variable explains with 55.4% variance the perception of supply variability and ease of application of export credit insurance.

Table 11. *Regression model 3 with evaluated parameters*

| Predictors | B | se (B) | B | t | p |
|---|-------|--------|-------|--------|-------|
| Constant | 1.331 | 0.180 | | 7.375 | 0.000 |
| Perception of the legal framework and regulations of the insurance market | 0.624 | 0.057 | 0.744 | 11.032 | 0.000 |

Note: B – non-standardized regression coefficient, se (B) – standard error of non-standardized regression coefficients, β – standardized regression coefficient; t-test

Source: Authors' research

According to the coefficients in Table 11, we can see that the listed predictor, perception of the legal framework and regulation of the insurance market, as an independent variable, makes a significant contribution to explaining the perception of supply variability and ease of application of export credit insurance ($p < 0.05$). Given the low average perception of the legal framework and regulations of the insurance market in BiH (Mean = 3.01), this confirms the sixth auxiliary hypothesis that the legislation is an obstacle to expanding the range of export credit insurance tools. Table 12 shows the Pearson’s and Spearman’s correlation coefficients.

Table 12. *Correlation coefficients between the perception of the legal framework and insurance market regulations and the perception of supply variability and ease of application of export credit insurance*

| Coefficient | Perception of the legal framework and regulations of the insurance market | Significance (p) |
|-------------|---|------------------|
| Pearson’s | 0.744 | 0.000 |
| Spearman’s | 0.703 | 0.000 |

Source: Authors’ research

According to the calculated coefficients and test results on their significance ($p < 0.05$) we can conclude that there is a statistically significant relationship between the perception of the legal framework and insurance market regulations and the perception of supply variability and ease of application of export credit insurance.

6. Concluding remarks

Export credit insurance gives a great competitive advantage because it enables the sale of products and provision of services with deferred payment, but with a significantly lower risk of non-payment, where the possibility of deferred payment is often considered as a prerequisite for establishing modern business operations. This study examined the impact of risk management methods on the degree of satisfaction with market performance in the international market. The results obtained by regression and correlation analysis showed that there is a statistically significant, positive relationship between the levels of satisfaction with market performance on the one hand and satisfaction with the insurance supply and simplicity of application of export credit insurance in BiH as a risk management method on the other. In addition, the survey found a partial existence of a significant, positive statistical relationship between respondents’ perceptions of market position and respondents’ attitudes towards the active risk management of export credits. In order to try to determine the relationship between the characteristics of companies actively using the methods of protection against export business risk, the interdependence of respondents’ perception of active credit risk management of the export business and the basic characteristics of the company was tested. The research established that there are differences in the active use of methods of protection against the risk of export business, depending on the level of income that the company generates. In addition to the above, the research tried to determine the connection between active risk management of export operations and the need for additional education of employees related to knowledge and management of business risks. The results showed that the attitude of employees on the complexity and requirements of doing business in the international market, the development and clarity of risk management plan, and the active use of available instruments for credit risk protection of export business differ statistically significantly, depending on the need for additional training on export risk management, while a statistically significant difference is not present in the attitude of management on knowledge of export business risks. The research also showed a significant negative impact of the COVID-19 pandemic on the operations of export companies. Finally, the research proved a positive and statistically significant relationship between the perception of the legal framework and insurance market regulations in BiH and the perception of the variability of supply and ease of application of export credit insurance. Based on all the results of the research, it can be concluded that the basic research hypothesis has been confirmed, *i.e.*, the existing export credit insurance supply is insufficient for active credit risk management of export

companies in BiH, and as such has a negative impact on market satisfaction of BiH exporters, and requires the use of other methods to manage these risks. The general goal of the research has been achieved as well, *i.e.*, the existing practices of credit risk management of export operations within BiH export companies and its consequent impact on the efficiency of these companies in foreign markets have been identified.

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NON-DAMAGE BUSINESS INTERRUPTION INSURANCE POLICIES DURING COVID-19 PANDEMIC

POLICE OSIGURANJA OD PREKIDA POSLOVANJA BEZ MATERIJALNE ŠTETE TOKOM PANDEMIJE COVID-19

Abstract

Pandemic risks, such as Covid-19, are difficult to insure as they are characterized by multiple factor risks and losses and involve simultaneously different types of businesses and people. The scarcity of time series and statistical data prevents insurers from developing correct pricing. We propose a model of Catastrophe Risk with Non-Damage Business Interruption Policies to manage the pandemic risk due to the spread of Covid-19. The model implies a Monte Carlo simulation on different lockdown scenarios; the frequency and severity distributions of losses of Italian SMEs. The main results show the importance of a “Covid-19 lockdown exposure NDBI policy”, which not only benefits SMEs, but also the insurer.

Keywords: Covid-19, insurance policies, reinsurance, catastrophe risk

JEL: C15, G22

Sažetak

Pandemijske rizike, poput Covid-19, teško je osigurati jer ih karakteriziraju višestruki faktori rizika i gubici i istovremeno uključuju različite vrste preduzeća i ljudi. Nedostatak vremenskih serija i statističkih podataka sprječava osiguravatelje da razviju ispravne cijene. Predlažemo model rizika od katastrofa s policama osiguranja od prekida poslovanja bez materijalog oštećenja za upravljanje rizikom od pandemije zbog širenja Covid-19. Model implicira Monte Carlo simulaciju na različitim scenarijima zaključavanja; raspodjele učestalosti i ozbiljnosti gubitaka italijanskih malih i srednjih preduzeća. Glavni rezultati pokazuju važnost NDBi police zbog izloženosti prekidima poslovanja zbog COVID-19, ne koristi samo malim i srednjim poduzećima, ali i za osiguravača osiguravač.

Ključne riječi: Covid-19, police osiguranja, reosiguranje, rizik od katastrofe

JEL: C15, G22

1. Introduction

A catastrophe is an event which occurs very rarely. In its broadest sense, a catastrophe is something that exceeds the capability of those affected to cope with, or absorb, its effects; in the contest of

natural hazards the driver is an extreme event causing widespread and, usually sudden, damage or suffering (Mitchell-Wallace *et al.*, 2017; Niehaus, 2002; Doherty, 1997; Jaffee & Russell, 1997; Klein & Wang, 2009). Catastrophe risks arise from extreme and irregular events. In insurance, catastrophes can be divided into two broad categories: catastrophes connected to human activity (Man-Made or Technical disasters) or generated by nature itself (Natural Catastrophe) (Swiss Re, 2002, p. 4). In recent months, the aforementioned natural disasters have been joined by the Covid-19 pandemic. Across the European Union/European Economic Area (EU/EEA) there has been a considerable further increase in Covid-19 infections and the current situation represents a major threat to public health (ECDC, 2020, p. 1). However, the Covid-19 pandemic has caused not only a huge impact on the health system but also serious effects on an economic and financial level. In particular Covid-19 pandemic has sharply slowed down the Italian economy: the income and spending power are reduced for 32% of workers; moreover, 70% of these workers did not respect their financial obligations; a small percentage (12%) didn't repay the loans and utilities.

In this paper, we propose a model for the pricing of a “Non Damage Business Interruption” (NDBI) insurance policy (that is classified in the field of Non-life insurance classes “Financial loss or Miscellaneous Financial Loss”) with associated a “Catastrophe excess of loss”, that is a form of non-proportional reinsurance that protects the insurance company against an accumulation of losses due to single events (Mata, 2006; Finken & Laux, 2009; Lakdawalla & Zanjani, 2012; Stone, 1973). The above-mentioned model with standard frequency-severity is based on three main steps:

1. simulation with the Monte Carlo method of the lockdown scenario (if and how many lockdowns occur in the territory in a year);
2. where there had been a lockdown, the simulation of the number of SMEs who decide to report the closure to the insurance (frequency);
3. estimate the amount to be compensated to SMEs that have interrupted activity (severity), obtaining the distribution of the global compensation useful for the purpose of calculating the relevant actuarial values.

We focus our attention on Italy, because some theoretical studies and empirical surveys showed that in Italy the percentage of companies covered by an adequate insurance “blanket” appears to be rather low. Among the reasons given for the lack of insurance coverage, the ones that undoubtedly stand out are the poor perception of exposure to risk and the high cost of insurance services. After all, firms cover mainly the risk of fire, theft and robbery, and civil responsibility for third parties and employees, whereas little attention is given to the risk of an interruption in business activity, particularly when it comes to taking out ad hoc insurance policies (Santoboni *et al.*, 2012, p. 56).

The paper is organized as follows. In section 1 we describe some of the current ways to managing catastrophe related risks with insurance contracts. Section 2 describes the model. Section 3 describe and discuss the obtained results. Section 4 concludes.

2. Theoretical framework

To mitigate the devastating effects related to the spread of the Covid-19, business interruption (BI) policies play a fundamental role in the insurance sector. The BI policies generally represent the extension of another insurance policy called a property policy, which protects the insured company in the case of interruption of its business, in order to cover the relative loss of profit or the higher expenses to be incurred (Rose & Lim, 2002). BI policies can be divided into property coverage policies (damage), autonomous (non-damage) policies (BI) and contingent policies. In BI “damage” policies, the insured risk is constituted by a specific direct material damage “physical damage” that is suffered by the company assets in the presence of specific events (earthquake, flood, fire). These in turn differ in: (i) named perils - Only damages caused by catastrophic events indicated and

specified in the policy are covered; (ii) all-risks - These cover losses and / or damage caused by any risk, unless the event that occurred is specifically excluded from coverage.

From the foregoing, it is clear that BI policies linked to property-type policies can find concrete application only in the event that the interruption of the insured company's business has suffered material and physical damage. In insurance practice, new BI policies called "non-damage" are spreading. These policies give the insured company the same protection and coverage as the BI "damage" with a substantial difference, in fact the interruption of the company's business or of one of its departments or plants, is derived from events that did not necessarily cause material damage but from the so-called "trigger events", which are events that have the effect of interrupting the activity in a specific business but without causing physical damage to this activity which is instead, as seen, typical and necessary for the property cover to be activated. In the last decade, due to the spread of various epidemics such as SARS, MERS, ZIKA, various insurance companies have stipulated Non-Damage Business Interruption (NDBI) policies with companies that apply in the absence of material damage, reason for which operate in order to protect business interruptions or loss of profit deriving from risks that are not only epidemic but also as a result of measures issued by the authorities, such as power blackouts, strikes and cyber-attacks. Therefore, the policies (NDBI) that are the best to protect the insured company in the presence of the current Covid-19 pandemic have in summary filled a void of damage coverage that is not provided for in any other traditional policy.

3. Model

The choice to consider the BI policy is due to the fact that business interruption is one of the greatest risks perceived by companies across the country, especially in the latter period with the spread of Covid-19. SMEs (small and medium-sized enterprises) are the most vulnerable to the NDBI Covid-19 risk, in fact, not having the same financial strength as large companies, the interruption of their business for months could also lead to default. Despite the impact of the health emergency, however, which forced many of these companies to reduce or stop their activities, in Italy currently only 3% of SMEs (according to the requirements of the European Commission, in terms of employees, turnover and active in the balance sheet there are 148,531 SMEs present in Italy, of which 123,495 are small enterprises and 25,036 medium enterprises) are specifically insured with a BI policy. The objective of the practical case under consideration will be to do the pricing for an NDBI insurance product, including the signing of a non-proportional "catastrophe excess of loss" type reinsurance treaty.

In this regard, the aforementioned Loss of Profits model is applied following an approach, not of a "tailored" type, which consists in calculating the insurance policy on the basis of separate accounting data for each individual company, but of a "general" type, taking on average the balance sheet data of all SMEs that in our country are currently guaranteed by a BI policy (3%). Specifically, the technical analysis of the practical case in question was carried out by observing the following moments:

1. empirical distribution of the aggregate damage, after having described and analysed the statistical bases for the definition of the technical bases, applying the Montecarlo simulation with frequency - severity model;
2. calculation of the tariff premium, after having found the average of the empirical distribution of the aggregate damage (fair premium), and having applied an appropriate safety loading;
3. calculation of the SCR (Solvency capital requirement), adopting the Internal Model and using the VaR 99.5% (Value at Risk), as regards the premium sub-module of the Non-Life Underwriting Risk;

4. calculation of the reinsurance premium, using a reinsurance model for "catastrophe excess of loss", having established full catastrophe, scope and calculated the global compensation retained by the insurer and that assigned to the reinsurer.

It was also assumed that:

- the NDBI policy for "lockdown", given the current emergency in Italy, is mandatory;
- coverage of the policy in question is annual and occurs only in the case of the "lockdown" event;
- the policy guarantees a maximum monthly coverage during the year;
- 3% of Italian SMEs sign the NDBI policy contract with the analyzed company;
- no other company during the year, in addition to those already insured, signs an NDBI insurance contract with the company analyzed.

3.1 Hypotheses and Montecarlo simulation

The objective of the discussion is to model the distribution of the global compensation that the insurance will have to compensate the policyholders in a year, in fact, from this distribution, by calculating significant values, such as expected value, variance and quantiles, they are useful actuarial values (VaR, SCR, fair premium). To do this, 100,000 Montecarlo simulations were used using a frequency severity model.

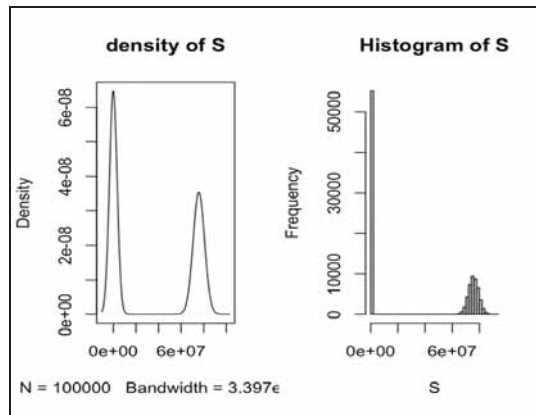


Figure 1. Empirical distribution of aggregate damage S

Source: Authors' research

The following probabilistic assumptions were made:

- the variable number of "lockdowns" N in a year follows a Poisson distribution with "lambda" parameter 0.6 (the probability of a lockdown occurring in a year will be equal to 0.4511884%);
- for j ranging from 1 to 4456 (number of insured risks), let I_j be the probability that the j -th SME will close during the year due to the "lockdown". It has been hypothesized that the I_j conditioned to $N > 0$ are i.i.d. (independent and identically distributed), and follow a bernoulli with parameter 0.7, therefore, given the fact that the "lockdown" has occurred, each chooses independently of the other whether to close or less with a sufficiently high probability;
- the sum of I_j is the total number of SMEs to be compensated for the insurer, therefore, it is necessary to simulate a number of variables equal to the aforementioned sum, in order to obtain the value in euros to be compensated. Therefore, let Y_j be the variable that represents the compensation relating to the j -th PMI, it is supposed to be identically equal to 0 if N is

equal to 0, in fact, if the "lockdown" does not occur, the damage to be compensated is 0, and distributed according to a lognormal when $N > 0$. The parameters of the lognormal are such as to replicate the mean (21,239.754) and the variance (13,668,108,333) of the average monthly profit for an SMEs;

- to emphasize even more the independence between the value of the global compensation and the total number of claims reported, it was decided to multiply the expected value of Y_j by a factor ranging from 1 to 1.3 depending on the value of the sum of the I_j , which we call M which is distributed according to a binomial (sum of independent bernoulli).

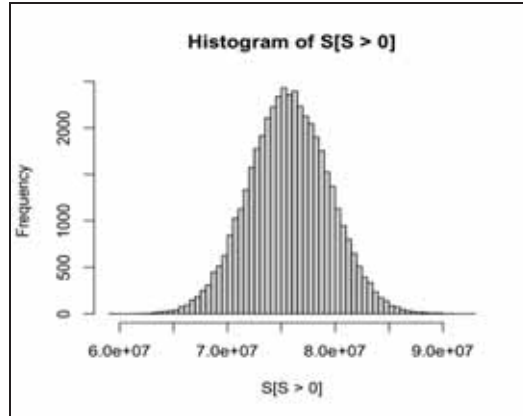


Figure 2. Empirical distribution of aggregate damage $S > 0$

Source: Authors' research

The algorithm of the model operates as follows:

- A number of simulations equal to 100,000 are performed. In each simulation i :
- The number of lockdowns occurred in that situation is simulated, if N is equal to zero S_i will be equal to zero, if, on the other hand, $N > 0$, and with the aforementioned hypotheses it is assumed that only the first lockdown will be covered with a premium, proceed in this way:
 1. Simulate 4456 bernoulli I_j and are added together to obtain the number M_i of the complaints relating to the i -th simulation;
 2. Calculate the factor ranging from 1 to 1.3 to be multiplied by the mean of Y_j and simulate M_i lognormal values;
 3. The value of S_i will be equal to the sum of the M_i lognormal values, which correspond to the compensation relating to the single SME that has decided to close, the observed distribution is as in Figure 1.

We observe a mass of probability concentrated in zero, when the insured event does not occur, while, a probability distribution, shifted to the right, as shown in Figure 2, sum of lognormal, which represents the value of the global compensation in case of occurred lockdown. Since insurance is actuarially fair, when the premium, by definition, is equal to expected claims, from the empirical distribution of the aggregate damage the "fair" premium (P) is the expected value of the distribution. Therefore, estimate made for the premium will be the sample mean of the simulated values of S , in formula:

$$\sum_{i=1}^{N_{sim}} S^i / N_{sim} = E(S) = P.$$

It is appropriate to use a "function" that associates a real number (pure premium) to the probability distribution of S . Given the particular shape of the distribution of S , caused by the high variability of the insured event, the principle for the calculation of the pure premium deemed appropriate in

this report was the principle of the standard deviation, based on this principle, the loading of safety is proportional to the standard deviation of S , in formulas:

$$\Pi = P + \gamma\sigma(S); \text{ con } \gamma > 0.$$

Finally, after having found the pure premium, an additional safety loading is carried out, using the principle of "constant loading", for the calculation of the gross premium (C), in formulas:

$$C = \Pi + b; \text{ with } b > 0.$$

The loading is independent of the riskiness of the contract, and takes into account:

1. contract acquisition costs, such as the purchase commission which constitutes the agent's remuneration;
2. premium collection costs, such as the collection commission paid to the agent as compensation for handling the collection of the prizes;
3. general management expenses which include various items of general expenses incurred by the insurance company for the administration of the contract.

The expected value of the distribution $E(S)$ is equal to € 34,203,481, having therefore set this value for P ; the pure premium, given the high variability, using the formula of the above standard deviation principle applied, with $\gamma = 0,664$ is $\Pi = 59.277.367€$. The gross premium, or the premium that takes into account the acquisition, management and collection costs, using the constant loading principle, equal to € 200 per contract, will be $C = \Pi + 200 \cdot N_{\text{ris}} = 60.168.567,33€$; this value as possible is much higher than the expected value of the distribution of the aggregate damage $E(S)$, but it is the result of the high variability present in this policy portfolio, just think of the range of distribution (the minimum value and the maximum value). The insurance company in question will be obliged to reclaim the policyholder (each company that wants to protect itself against the "NDBI" risk due to "lockdown" following a Covid-19 pandemic spread, and the damage it produces) towards payment of an annual premium of € 13,502.82. This value seems reasonable considering that an SME today in Italy to protect itself against this imminent risk, should be willing to pay a premium of about € 1.125 per month to the insurance in question.

3.2 SCR Premium Non-Life Underwriting Risk

The Solvency Capital Requirement is calibrated to ensure that all quantifiable risks to which an insurance or reinsurance undertaking is exposed are taken into account. It will cover existing business as well as new business which should be recorded over the next 12 months and is calculated as an aggregate value for all lines of an insurance. As for the existing business, it will cover only unexpected losses; corresponds to the VaR of the basic own funds of an insurance or reinsurance undertaking subject to a confidence level of 99.5% over a period of one year. Being $F_{ST}(x) = P(S_T \leq x)$ the distribution function of the surplus in $T > 0$, that for simplicity, we suppose continuous and strictly increasing. Once a probability has been set (which should be thought of as "small", ie less than 0.5), the Value at Risk (VaR) of the position is defined the ε -quantile of S changed in sign; we have:

$$\text{VaR}_{\varepsilon}(S_T) = -x_{\varepsilon} = -F_{S_T}^{-1}(\varepsilon) \cdot S_T.$$

Having found the VaR at 99.5% of the distribution which is equal to € 85,179,047, to calculate the SCR, using the internal model, it will be necessary to subtract the volume of premiums from the 99.5% Value at Risk with an annual time horizon.

The value of the SCR_IM (SCR Internal Model) that the insurance company will have to guarantee for the solvency of the current risk in the portfolio will be equal to € 25,010,479.67.

While, for the calculation of the premium SCR second standard formula, the Solvency directive provides that the SCR is equal to $3 * \sigma * V$, where “ σ ” in the XVI non-life class (pecuniary losses) is equal to $0.17 * NpLob$ (100%), and V (in our study “C”) is the volume of premiums in the portfolio. The SCR SF according to the standard formula is, therefore, equal to $3 * 0.17 * \text{€ } 60,168,567.33 = \text{€ } 30,685,969.34$. Since the SCR required by the Solvency II directive, with the standard formula, is greater than that obtained with the internal model, we observe the convenience for the insurance company to adopt the internal model for the calculation of its solvency capital requirement.

Furthermore, a fundamental objective of the insurer, in order to provide useful information on the riskiness of the portfolio in question, is to keep the probability low enough, in particular equal to a given threshold ϵ , considered acceptable: $\epsilon = \Pr\{G < -W\} = \Pr\{X > W + P + r\}$, that is the probability of the event "the random charge for compensation exceeds the sum of the total amount of pure premiums ($P + r$) and the solvency margin (W) initially available to the insurer in relation to the portfolio". The probability of the event $\{X > W + P + r\}$ is properly called the annual ruin probability of the insurer in relation to the portfolio, in our model it is $\epsilon = 0.005$.

3.3 "Catastrophe Excess of Loss" reinsurance

In order to reduce the annual ruin probability, ϵ , we assume that the insurance decides to sign a non-proportional reinsurance treaty of the "Catastrophe excess of loss" type. This type of reinsurance refers to claims arising from a single catastrophic event, which affect multiple contracts in the portfolio. In formulas, with reference to a portfolio of civil liability insurance consisting of n contracts stipulated at the same time and with an annual duration, let S be the global compensation relating to, having fixed the priority L^C , the amount to be paid by the insurer is: $S^A = \min(S; L^C)$, on the other hand, the amount transferred to the reinsurer, in the event that no upper limitation (scope) is envisaged is: $S^R = \max(S - L^C; 0)$, while in the event that we will have a partial scope (realistic hypothesis) $S^R = \min[\max(S - L^C; 0); Q^C]$, also indicating with K the random number of catastrophes affecting the portfolio during the year and with S_h ($h=1,2,\dots,K$) the global compensation

corresponding to the h -th catastrophe in chronological order. Full catastrophe established, L^C , the global compensation retained by the insurer is:

$$X^A = \sum_{h=0}^K \min(S_h; L^C)$$

while the global compensation assigned to the reinsurer is:

$$X^R = \sum_{h=0}^K \max(S_h - L^C; 0).$$

To define the priority, that is the monetary amount such that if the aggregate damage exceeds this value, the compensation is paid by the reinsurer, a graph of the aggregate damage S given $S > 0$ is constructed, as in Figure 3, and is obtained as a priority L is the average of this distribution which is equal to $\text{€ } 75,714,971$. The priority in the reinsurance practice is generally partial, therefore a scope is introduced, *i.e.* the maximum amount within which the reinsurer undertakes to compensate the aggregate damage, is therefore taken as scope Q , the upper limit of acceptance for the reinsurer, the quantile of the distribution of S at 95%, this amount is equal to $\text{€ } 81,833,004$. The value of the damage borne by the reinsurer is therefore equal to: $S^R = \min[\max(S - L, 0), Q]$ and the “fair” premium (Pr) that the reinsurer will charge in order to assume the risk will be the expected value of S^R ; $Pr = E(S^R) = \text{€ } 661,525,40$. In addition, a safety loading is made for the pure premium, adopting as before the principle of the standard deviation, greater than that carried out by the insurance. The pure reinsurance premium (Πr), in this case with $\gamma = 0,665$ will be: $\Pi r = Pr + \gamma * s.d. (\min(\max(S - L, 0), Q)) = \text{€ } 1.746.382$; further assuming that a safety loading for expenses equal to that of

insurance is made using the principle of "constant loading", considering the loading independent of the riskiness of the contract, suitable for management expenses which include various items of general expenses incurred by reinsurer for the administration of the contract. The reinsurance gross premium (C_r) is equal to:

$$C_r = \Pi_r + 200 * N_{risc} = \text{€ } 2,637,582.$$

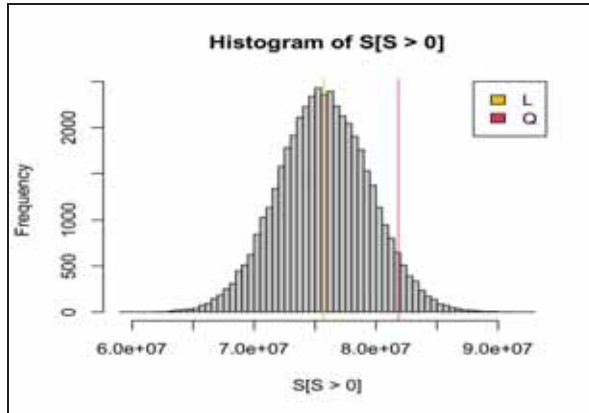


Figure 3. Distribution of $S[S > 0]$, Priority (L) and Flow (Q)

Source: Authors' research

Post reinsurance, the compensation payable by the insurance will be: $S_{pr} = S - S_r$. The premium volume remaining in the insurance company (Π_{pr}) will be equal to: $\Pi_{pr} = \Pi - \Pi_r = 57,530,985.33 \text{ €} = C_{pr} = C - C_r$, the pure premium and gross premium post reinsurance are the same, since the same loading for expenses was carried out by both parties, and the same technical bases were used for the assessment of the damage. As regards the SCR solvency capital, to be set aside following reinsurance, taking into consideration the internal model, equal to the VaR - the amount of the premiums in the portfolio, this time however, taking into consideration the VaR of the post reinsurance distribution (plus the expected value of expenses), we get $SCR_{pr_IM} = \text{€ } 19,075,186$. The SCR_{pr_SF} , obtained with the standard formula $3 * 0.17 * C_{pr}$ is instead = $\text{€ } 29,340,802.52$. Once again, the convenience for the insurance company to adopt the internal model is confirmed. As expected, the amount of premiums collected has decreased, however, we note that the capital to be set aside for solvency requirements has decreased more than the total amount of premiums decreased. In fact, observing two percentage changes, we note how, post reinsurance, against a change in the expected profit $(\Pi_{pr} - \Pi) / \Pi * 100$ of $(-2,94612\%)$, the SCR_{pr_IM} decreased by (-23.73123%) and in fact the profitability index, U_{pr} / SCR_{pr_IM} increased, ranging from 1.002535 (pre-reinsurance) to 1.222924 (post-reinsurance).

The confirmation of the reinsurance benefit can also be seen in the decrease in the ruin probability post-reinsurance ε_r . In the 100,000 simulations carried out, post reinsurance, it has never happened that the losses are greater than the SCR_{pr_IM} .

$$\varepsilon_r = \text{sum}(\Pi_{pr} - S_{pr} < (-SCR_{pr})) / N_{sim} = 0.$$

Finally, the simulation of the frequency-severity model algorithm was replicated, with 40,000 risks in the portfolio (40,000 SMEs are insured; therefore, we assume that the insurance company has about 27% of SMEs in Italy in its portfolio). In conclusion, by observing the values of the new simulation, it is interesting to note that as the number of the portfolio increases, the convenience of adopting the internal model for calculating the SCR increases. In fact, despite the increase in the value of the internal model SCR, the result of the SCR_{IM} / NRA for each individual risk has

decreased from € 5,612.76 (in the analysis seen above with 4,456 risks) to € 5,248.40. While the standard SCR formula that increases proportionally with the increase in premiums (consequence of the $3 \cdot \sigma \cdot V$ formula), going from 4,456 risks in the portfolio to 40,000, also increases the value of the SCR_SF / NRA relating to each single claim, in fact, increased before it increased by about € 80 (6,954.23-6,886.43) at risk.

4. Conclusions

The result of the model developed in the paper highlights, for the historical period that we are all experiencing, the importance of a “Covid-19 lockdown exposure NDBI policy”, which not only benefits SMEs, for the reasonable gross premium required to cover the net profit that would have been lost in a month due to business interruption, but, from the results obtained, also the insurer reaches a profit margin, which increases when a reinsurance treaty is signed (in our case “catastrophe excess of loss”). The actuarial values that are generated by the simulation algorithm improve as the risks (SMEs insured) present in portfolio increase; this suggests that, if this policy were not stipulated only by 3% of SMEs but, were sold on a wide scale throughout the national territory, it would also be a relief for the public system brought to its knees by the pandemic crisis and which alone does not seem to succeed to support Italy’s ailing SMEs. Moreover, despite the awareness and the timely reaction of the insurance market, in the near future it will be necessary to find and at the same time innovate pandemic risk transfer solutions as well as to structure adequate mechanisms that allow to divide the risk between insurers and reinsurers, capital market and governments, creating a system of close collaboration between all the parties. However, the catastrophe model remains the only solution to quantify and assess a catastrophe risk and try to manage it.

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ENVIRONMENTAL SOCIAL GOVERNANCE IN INSURANCE COMPANIES

SOCIJALNO UPRAVLJANJE ŽIVOTNOM SREDINOM U OSIGURAVAJUĆIM KOMPANIJAMA

Abstract

Environmental Social Governance is nowadays a fundamental issue in every field of economics. Despite the increasing interest by policy makers and regulators in financial intermediation, the literature on insurance industry is still humble. We contribute in filling this gap by exploring the relationships between a set of financial ratios and environmental social governance scores of 107 large listed US insurance companies during 2010-2018. Larger, more profitable and more solvent insurance companies reach the highest level of environmental social governance awareness. Our model helps in obtaining significant and relevant findings to share with policy makers and researchers.

Keywords: ESG, insurance companies, profitability, sustainability, solvency

JEL: G22, G34, Q50

Sažetak

Društveno upravljanje okolišem danas je temeljno pitanje u svakom području ekonomije. Uprkos sve većem interesu kreatora politike i regulatora za finansijsko posredovanje, literatura o industriji osiguranja i dalje je skromna. Mi doprinosimo popunjavanju ove praznine istražujući odnose između skupa finansijskih pokazatelja i rezultata društvenog upravljanja okolišem za 107 velikih američkih osiguravajućih kompanija koje kotiraju na berzi tokom 2010-2018. Veća, profitabilnija i solventnija osiguravajuća društva dostižu najviši nivo svijesti o društvenom upravljanju okolišem. Naš model pomaže u prikupljanju značajnih i relevantnih nalaza koje treba podijeliti s kreatorima politike i istraživačima.

Ključne riječi: ESG, osiguravajuća društva, profitabilnost; održivost, solventnost

JEL: G22, G34, Q50

1. Introduction

Sustainability is one of the most significant trends in financial markets research. In the last decades. The growth of the UN Global Compact, the United Nations backed Principles for Responsible Investment (UN PRI), the Global Reporting Initiative (GRI), the Carbon Disclosure Project (CDP), the Sustainability Accounting Standards Board (SASB), the American Forum for Sustainable and Responsible Investment (US SIF), and European Sustainable Investment Forum (EUROSIF), all bear strong interest to sustainability concerns. As risk managers, insurers and investors, the insurance industry plays an important role in promoting sustainable economic and social development. Whether in the form of investors' desire for sustainable responsible investing (SRI), or corporate management's focus on corporate social responsibility (CSR), the content, focusing on sustainability and ESG (environmental, social and governance) issues, is the same.

The interest in sustainable development of the insurance sector, declined in its different paradigms, has been even intensified in the last few years, thanks to the effort of global non-profit associations. Among these, UNEP FI, the international body that aims to connect the United Nations and the financial sector globally, launched the Principles for Sustainable Insurance (PSI) framework in 2012, to focus on embedding environmental, social and governance issues in insurance decision-making, to raise awareness of the same with clients and business partners, and to promote action with governments, regulators and key stakeholders (Scordis *et al.*, 2014). More recently, PSI ESG Guide for non-life insurance represents the first insurance guide on ESG issues aimed at raising awareness of the potential benefits of ESG integration in the insurance business model. The insurance sector is responding to sustainability challenges with strategic action across both underwriting and investment, including through the UN-backed Principles for Sustainable Insurance (PSI). Leading insurers are incorporating environmental factors into the provision of insurance coverage and their underwriting strategies, reallocating capital towards green assets, and integrating ESG factors in asset allocation and stewardship activities. In 2014, the Principles had been signed by 42 insurers representing around 15% of world premium volume and US\$8 trillion in assets under management, as well as by 30 insurance market bodies. In 2017, more than 100 organisations worldwide have adopted the PSI, including insurers representing more than 20% of world premium volume and US\$14 trillion in assets under management.

A growing number of insurance supervisors and regulators are starting to incorporate sustainability into the way they oversee the sector. In some parts of the world, ESG is starting to feature in insurers' regulatory regime. For example, the Prudential Regulation Authority (PRA) in the UK and the European Union's European Insurance and Occupational Pensions Authority (EIOPA) have made it explicitly clear that they expect insurance companies to model and quantify the impact of ESG factors (and climate change in particular) in their regular Solvency II stress-testing exercises and to report on the results (PRA, 2019; EIOPA, 2019). In August 2018, EIOPA and the European Securities and Markets Authority (ESMA) have asked by the European Commission to work out how the objectives of the 2015/6 Paris Agreement on climate change and the UN 2030 Agenda for Sustainable Development Goals should be incorporated into the regulatory environment for financial services (European Commission, 2018). These reflect three key objectives expressed in the EU action plan published in March 2018. Surveys conducted by several private and public organizations highlight how insurers take increasingly into account environmental, social and governance (ESG) considerations. The Best's Special Report, "Insurance Industry Becomes Active in the Development of the ESG Agenda" (Best, 2018), states that publicly listed multi-national insurance groups are well aware of shareholders' expectations and try to align both their long-term investment and underwriting strategies accordingly. Increasing public awareness puts pressure on all types of financial institutions to consider ESG factors and their potential impact on reputational and operational risks (Lagasio & Cucari, 2019). This is reinforced by regulatory developments with an increased focus on ESG issues, such as the inclusion of climate-related non-financial disclosures

in order to facilitate informed decisions. Despite this growing attention by principle setters and regulators, literature on ESG practices in insurance companies is still scant. We contribute to the literature on this topic by closing this gap and trying to answer the following research questions:

1. Is there a link between the size, profitability and solvency of an insurance company and its ESG awareness?
2. Which of the above aspects is the most relevant in implementing a specific ESG policy?
3. Are there any sub-relationships that may be identified between the financial characteristics of financial companies and the three dimensions of ESG?

We answer our research questions by computing several scores representing the ESG awareness of insurance companies and by running a fractional regression model between the obtained scores and the size, profitability and solvency of insurance companies included in the sample. We rely on MSCI data related to 107 large US insurance companies observed during the last ten years. We obtain that there is a significant and positive association between ESG factors and two of the above financial characteristics of insurance companies or rather profitability and size. In almost all the regressions proposed we also find a significant link with the solvency ratio. All the findings show a high level of consistency in both the ESG overall score and its sub-scores investigated (Environmental score, Social score, Governance score, Human rights strenghts score, Corporate Governance score, Diversity score, Community strenghts score Employee strenghts score Product strenghts score). We speak to both supervisors and practitioners. The former may be interested in the current level of ESG awareness in insurance companies, in order to guide their future activities. Practitioners, and in particular insurers, should be interested in reading our findings and in considering them as best practices to implement to obtain a more ESG oriented business. The following section will discuss the related literature. Section three presents the strategy of investigation and details data and methodology. We present the results in Section four. Section five are concludes.

2. Literature review

Although a great amount of academic studies investigated in different ways the linkage between sustainability and financial performance in last decades (Freeman, 1984; Brooks & Oikonomou, 2018; Friede *et al.*, 2015), results still remain not consistent or contradictory (Margolis *et al.*, 2009; Orlitzky *et al.*, 2003; Scholtens, 2008). Several researchers analyzed the impact on financial profitability of one of the different dimensions of ESG and tried to distinguish which factor has the strongest relation to financial performance (Nollet *et al.*, 2016; Velte, 2017; Brogi & Lagasio, 2019). In this respect, some meta-analyses focus on the positive impact of environmental practices on corporate financial performance (Albertini, 2003; Dixon-Fowler *et al.*, 2017; Dixon-Fowler *et al.*, 2013; Endrikat *et al.*, 2014). A positive relationship between the social dimension of ESG and corporate performance is supported by various studies too (Crook *et al.*, 2008; Waddock & Graves, 1997; Fatemi *et al.*, 2015), as well as several articles have investigated the relationships between board composition, board leadership structure and firm performance finding that a higher corporate governance rating indicates better financial performance (Dalton *et al.*, 1999; Nollet *et al.*, 2016). Studies on the association between ESG and firm profitability found less diffusion trough financial intermediaries, and even less so as regard insurance industry (Das, 2011; Obalola & Adelopo, 2012; Jóhannsdóttir *et al.*, 2015; Minor & Morgan, 2011; Nofsinger *et al.*, 2019; Nogueira *et al.*, 2018).

3. Methodology

The strategy of investigation follows a two-steps methodology. Firstly, we create several scoring models in order to evaluate the ESG awareness of the insurance companies included in the sample (Brogi & Lagasio, 2019). Then, we use the scores as dependent variables of a set of regression

models with the purpose of identifying which characteristics of the insurance companies (among performance, solvency and size) are the most significant in determining the level of ESG awareness. We collect data from MSCI ESG KLD STATS, which is an annual data set of positive and negative ESG performance indicators applied to a universe of publicly traded companies. We only select good outcomes (strengths) for the estimation of our ESG scores. We identify several variables including 16 indicators for Environment, 29 indicators for Social and 17 for Governance. Our initial sample included 107 large insurance companies from in US in the period 2010-2018.

The scoring model is based on a binary assessment of the variables included in the calculation, so it is possible to treat each variable as already standardized. Therefore, when the insurance company has indeed applied a specific policy to manage an area of ESG issues, the associated variable is valued "1". Conversely, if the company has not fulfilled the implementation of a specific policy, then the variable assumes the value "0". Berg *et al.* (2019) stress that ESG ratings vary not only in relation to the complexity of the ESG definition, but also vary in: (a) the complexity of the collection of the various category sets or aspects included in "environmental", "social" and "governance"; (b) the quantification of certain categories or aspects within "environmental", "social" and "governance"; (c) the relative weights given to variables in order to measure their relevance in computing the score. We fix these concerns with the suggested approach. First, we do not arbitrarily assign more importance to one of the dimensions (Environmental, Social and Governance) to the scores, because they are equally weighted within the ranking. This helps us to properly observe which dimension is the most important while computing the scores is; second, because the proprietary measurement methods provided by rating agencies are private and apply different weights, ratings generated are always misaligned with each other (Buallay, 2019; Berg *et al.*, 2019), and we avoid an arbitrary choice of one rating over another. Following Brogi & Lagasio (2019), we first compute separately the E Score, S Score and G Score by averaging the values in the related area of investigation. The scores obtained for the three dimensions are then included into the computation of the overall ESG Score for each insurance company by applying a simple average. Moreover, we also look in detail in the composition of other relevant ESG sub-scores, in order to have a deeper understanding of the relationship between ESG components and financial performance, stability and size of insurance companies. Specifically, within the social score we also compute the "Community strenghts" sub-score (COMSCORE), the "Employee strenghts" sub-score (EMPCORE), the "Human rights strenghts" sub-score (HUMSCORE) and the "Product strenghts" sub-score (PROSCORE). Within the Governance score (GSCORE) we identify the sub-scores CGSCORE and DIVSCORE, respectively to assess the corporate governance and diversity strenghts of the firm.

We use an unbalanced panel composed by 2238 firm-year observations. Looking at the descriptive statistics, we can note that almost all the calculated scores range between 0 and 1. The minimum value equal to 0 indicate that there is at least one company in one year that has not applied any of the policies included in the definition of the single score. Conversely, the maximum value equal to 1 indicate that there is at least one company in one year that has applied all the policies included in the definition of the single score. The latter situation does not occur only in the case of the EMPCORE (and consequently SSCORE and ESGSCORE). Nonetheless, the average values of the scores are in general low, ranging from 0.006 (in the case of the average for HUMSCORE) to 0.132 (GSCORE). This confirms that ESG awareness is still too low and deserves careful attention by the firms.

Since scores are calculated in $[0;1]$ variables are highly skewed. That is why we apply a fractional regression model with different specifications (probit and logit; with and without leaded dependent variables). We thus apply a model with a fractional outcome and continuous dependent variables (y). As further detailed, we run the investigation by considering the values of the dependent

variables in both the intervals $[0;1]$ and $(0;1)$, thus assuming or not the extreme values. Then, we fit a regression for the mean of y conditional on x : $E(y|x)$ with the two regression models:

$$\text{Probit: } E(y|x) = \Phi(x\beta)$$

$$\text{Logit: } E(y|x) = \exp(x\beta)/(1 + \exp(x\beta))$$

We have also checked for the consistency of our findings by applying a zero-inflated and one-inflated regressions to our variables. Non-inflated regression is used to predict data with zero counts in excess, which is indeed our case, as also reported in the descriptive statistics. The theory further implies that the excess zeros are produced from the values by a different method and that the excess zeros can be independently modelled. In this way, we can model of regressions by identifying three different paths: the probability that the dependent variable is equal to 0; that the dependent variable is equal to 1; the distribution of the dependent variable is in the range $(0;1)$. The zero inflation and one inflation parts of this model are by default included whenever the dependent variable contains the value 0 and 1 respectively and excluded otherwise. In the zero-inflate and one-inflate equations, respectively, the impact on the log odds of obtaining the value 0 or 1 and a beta-distribution is used to model the remaining proportions as in Ferrari & Cribari-Neto (2004), Paolino (2001) and Smithson & Verkuilen (2006). We use independent variables as calculated in t and scores variables in both $t+1$ (lead1) and $t+2$ (lead2) because the economic reasoning of our research question is to understand whether the financial performance, solvency and size have an association with the decision of implementing ESG policies, which may take time (we suppose one or two years) for companies. Furthermore, this also allows us to check for the stability of the results in the following years.

4. Results

Running the different models of fractional regression, we find that ESG score is positively associated with ROA, both in $t+1$ and $t+2$, and its statistical significance is almost at 1%. Thus, we confirm the previous findings in the field of scientific literature that ESG enhances company performance and creates value for company's stakeholders (Brogi & Lagasio, 2019). Looking at the breakdown in the three different dimensions (E Score, S Score and G Score), it is possible to highlight a positive and significant association – both in $t+1$ and $t+2$ – only for the G Score. Whereas E Score and S Score are positively and significantly associated with ROA only in $t+1$.

Furthermore, we observe that in $t+1$ ROA shows a positive and significant association with EMP and DIV variables (less with CGOV variable), whereas it has a negative and low association on PRO; so, this result must be further investigated. The positive associations of the regression of ROA over all the variables is robustness comparing with the findings in the other models. Paying attention on the Solvency ratio, we observe a positive correlation with the ESG Score both in $t+1$ and $t+2$, even though it is not very significant. After all, looking at the breakdown in the three different dimensions (E Score, S Score and G Score), it's possible highlight the same result only for the S Score, since there is a positive (but not very significant) association with E Score only in $t+1$ and with G Score only in $t+2$. Moreover, there isn't any association of Solvency ratio and the other variables except for PRO both in $t+1$ and $t+2$. These results suggest that ESG practices are not be able to impact in a significant way on the capital level of insurance companies.

Looking at the insurance companies' dimensional variable, we notice that the LnTA stand out - both in $t+1$ and $t+2$ - the highest positively and significantly association not only with ESG Score and the three different dimensions (E Score, S Score and G Score), but also with the other variables. The above considerations are also substantially confirmed when we focus our attention on the other Probit Lead 1 vs Lead 2 model. Indeed, it's possible appreciate a positive and statistical significance of ESG Score and most of the three different dimensions (E Score, S Score and G Score) with ROA and LnTA, whereas there is association with Solvency Ratio is not very significant. The last model,

on the other hand, shows results that are partially different from the previous ones. In particular in zero inflate hypothesis it's possible appreciate on one side a negative and statistical significance between Solvency Ratio and some of ESG Score and some of the three different dimensions (E Score, S Score and G Score) whereas LnTA highlights a negative and significant association with ESG Score and all of the three different dimensions (E Score, S Score and G Score). The following tables report the results of the different analysis above described.

Table 1. Results of the LOGIT model with dependent variables in t+1

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---------------|----------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| | ESG lead1 | E lead1 | S lead1 | G lead1 | COM lead1 | EMP lead1 | HUMS lead1 | PRO lead1 | CGOV lead1 | DIV lead1 |
| RoA | 0.236*** (15.11) | 0.126*** (4.17) | 0.200*** (10.79) | 0.463*** (10.69) | 0.375* (2.09) | 0.300*** (12.11) | -279.9 (-0.53) | -0.317* (-2.32) | 0.552** (3.17) | 0.465*** (6.40) |
| SolvencyRatio | 0.0118* (2.09) | 0.0244* (2.03) | 0.0152* (2.18) | 0.00346 (0.43) | 0.0191 (1.21) | -0.0103 (-1.07) | -0.0194 (-0.38) | 0.0508*** (4.37) | 0.000171 (0.01) | 0.000191 (0.02) |
| lnTA | 0.506*** (11.07) | 0.404*** (4.28) | 0.576*** (10.56) | 0.605*** (9.02) | 0.554*** (3.94) | 0.593*** (8.71) | 0.764*** (3.65) | 0.435*** (4.35) | 0.531*** (6.23) | 0.658*** (7.06) |
| _cons | 10.64*** (-12.39) | 9.530*** (-5.23) | 12.51*** (-12.13) | 11.48*** (-9.38) | 11.72*** (-4.36) | 12.35*** (-9.53) | 15.92*** (-4.01) | -11.38*** (-6.05) | -9.875*** (-6.33) | -12.78*** (-7.23) |
| N | 507 | 507 | 507 | 496 | 362 | 503 | 188 | 488 | 445 | 403 |
| AIC | 346.0 | 301.0 | 240.1 | 428.8 | 247.1 | 220.4 | 44.37 | 190.8 | 438.1 | 272.3 |
| BIC | 362.9 | 317.9 | 257.0 | 445.6 | 262.6 | 237.3 | 57.32 | 207.6 | 454.5 | 288.3 |

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Source: Authors+ research

Table 2. Results of the LOGIT model with dependent variables in t+2

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---------------|----------------------|---------------------|----------------------|---------------------|---------------------|----------------------|--------------------|----------------------|---------------------|---------------------|
| | ESG lead2 | E lead2 | S lead2 | G lead2 | COM lead2 | EMP lead2 | HUM lead2 | PRO lead2 | CGOV lead2 | DIV lead2 |
| RoA | 0.280*** (7.69) | -6.026 (-0.26) | 0.260 (1.92) | 0.441*** (8.26) | 0.407* (2.20) | -0.318 (-1.65) | -675.6 (-0.76) | -0.235 (-1.47) | 0.551** (3.03) | 0.391* (2.44) |
| SolvencyRatio | 0.0157* (2.52) | 0.00942 (0.71) | 0.0173* (2.50) | 0.0191* (2.27) | 0.0187 (1.16) | -0.00481 (-0.50) | 0.0340 (0.52) | 0.0567*** (4.39) | 0.0120 (1.06) | 0.0287* (2.23) |
| lnTA | 0.456*** (9.19) | 0.277** (2.71) | 0.508*** (8.92) | 0.579*** (8.46) | 0.586*** (3.94) | 0.486*** (7.30) | 0.613** (2.73) | 0.416*** (3.41) | 0.520*** (6.22) | 0.642*** (6.76) |
| _cons | 9.997*** (-10.71) | 7.186*** (-3.63) | 11.50*** (-10.73) | 11.52*** (-9.13) | 12.32*** (-4.33) | -10.65*** (-8.39) | 14.70** (-3.10) | -11.46*** (-5.01) | 10.03*** (-6.53) | 13.38*** (-7.35) |
| N | 505 | 505 | 505 | 496 | 372 | 500 | 194 | 485 | 439 | 409 |
| AIC | 330.4 | 281.1 | 230.3 | 421.6 | 246.6 | 223.9 | 35.73 | 163.7 | 429.7 | 260.3 |
| BIC | 347.3 | 298.0 | 247.2 | 438.4 | 262.3 | 240.7 | 48.80 | 180.5 | 446.0 | 276.3 |

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Source: Authors+ research

Table 3. Results of the PROBIT model with dependent variables in t+1 and t+2

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------------|---------------------|---------------------|---------------------|---------------------|--------------------|----------------|--------------------|--------------------|
| | ESG lead1 | E lead1 | S lead1 | G lead1 | ESG lead2 | E lead2 | S lead2 | G lead2 |
| RoA | 0.131*** (15.18) | 0.0638*** (3.93) | 0.102*** (9.35) | 0.264*** (11.78) | 0.143*** (7.55) | -3.418 (.) | 0.127* (2.05) | 0.247*** (8.18) |
| SolvencyRatio | 0.00620* (2.05) | 0.0117 (1.92) | 0.00715* (2.13) | 0.00251 (0.55) | 0.00786* (2.42) | 0.00419 (.) | 0.00779* (2.36) | 0.0109* (2.36) |
| lnTA | 0.270*** (10.89) | 0.200*** (4.14) | 0.286*** (10.26) | 0.347*** (9.32) | 0.237*** (8.84) | 0.134 (.) | 0.246*** (8.52) | 0.328*** (8.43) |
| cons | -5.763*** | -4.899*** | -6.374*** | -6.617*** | -5.306*** | -3.677 | -5.756*** | -6.555*** |

| | | | | | | | | |
|------------|----------|---------|----------|---------|----------|-------|----------|---------|
| | (-12.47) | (-5.29) | (-12.32) | (-9.79) | (-10.68) | (.) | (-10.83) | (-9.25) |
| <i>N</i> | 507 | 507 | 507 | 496 | 505 | 505 | 505 | 496 |
| <i>AIC</i> | 345.9 | 301.3 | 240.0 | 428.5 | 330.5 | 273.3 | 230.3 | 421.4 |
| <i>BIC</i> | 362.9 | 318.2 | 256.9 | 445.3 | 347.4 | 273.3 | 247.2 | 438.2 |

t statistics in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
 Source: Authors+ research

Table 4. Results of the ZOIB model with dependent variables in $t+1$ and $t+2$

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------------|-----------------------|-----------------------|----------------------|----------------------|-----------------------|-----------------------|----------------------|----------------------|
| | ESG lead1 | E lead1 | S lead1 | G lead1 | ESG lead2 | E lead2 | S lead2 | G lead2 |
| proportion | | | | | | | | |
| RoA | 0.141*** (11.35) | 0.000955 (0.07) | 0.0306** (3.22) | 0.0788 (1.46) | 0.104*** (4.05) | 3.160 (0.13) | -0.00593 (-0.27) | 0.0857 (1.52) |
| SolvencyRatio | 0.000814 (0.22) | 0.00210 (0.40) | -0.000888 (-0.25) | 0.00763 (1.42) | 0.000979 (0.23) | -0.00407 (-0.88) | -0.00266 (-0.75) | 0.0114* (2.10) |
| lnTA | 0.250*** (8.47) | 0.0412 (1.40) | 0.114*** (4.54) | 0.192*** (3.91) | 0.226*** (6.11) | 0.0473 (1.49) | 0.0996*** (3.46) | 0.185*** (3.43) |
| cons | -5.582*** (-10.15) | -1.572** (-2.73) | -3.332*** (-7.20) | -3.995*** (-4.46) | -5.263*** (-7.76) | -1.620** (-2.69) | -3.096*** (-5.93) | -4.041*** (-4.12) |
| zeroinflate | | | | | | | | |
| RoA | -26.72 (-0.72) | -0.430*** (-6.63) | -0.545* (-2.18) | -33.41 (-1.14) | -27.29 (-0.78) | 4.582 (0.17) | -0.458 (-1.88) | -33.08 (-1.17) |
| SolvencyRatio | -0.0275** (-2.88) | -0.0379*** (-3.36) | -0.0232* (-2.42) | -0.0124 (-1.24) | -0.0326*** (-3.58) | -0.0416*** (-3.56) | -0.0265** (-2.93) | -0.0277** (-2.81) |
| lnTA | -0.728*** (-8.45) | -0.951*** (-7.78) | -0.783*** (-7.90) | -0.669*** (-7.32) | -0.584*** (-7.39) | -0.806*** (-7.26) | -0.639*** (-7.25) | -0.612*** (-7.27) |
| cons | 11.95*** (7.94) | 17.81*** (7.94) | 13.84*** (7.81) | 11.77*** (7.35) | 9.841*** (7.14) | 15.66*** (7.56) | 11.62*** (7.35) | 11.26*** (7.51) |
| ln phi | | | | | | | | |
| cons | 2.151*** (31.37) | 2.413*** (18.10) | 2.481*** (14.10) | 1.933*** (22.52) | 2.112*** (26.93) | 2.725*** (15.87) | 2.466*** (13.20) | 1.877*** (22.16) |
| oneinflate | | | | | | | | |
| cons | | -2.460*** (-7.46) | | -1.374*** (-7.75) | | -2.217*** (-6.98) | | -1.536*** (-8.12) |
| <i>N</i> | 507 | 507 | 507 | 496 | 505 | 505 | 505 | 496 |
| <i>AIC</i> | 128.9 | 362.6 | 242.5 | 595.4 | 148.6 | 349.1 | 272.8 | 597.3 |
| <i>BIC</i> | 167.0 | 404.9 | 280.5 | 637.4 | 186.7 | 391.3 | 310.8 | 639.4 |

t statistics in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
 Source: Authors+ research

4. Conclusions

This paper paves the way for further research on ESG in the context of insurance companies. Indeed, this is, to the best of our knowledge, the first paper focused in the relationship between ESG and financial performance, solvency and size of insurance companies. We performed a robust investigation of data coming from large and listed insurance companies based in US with a time span ranging from 2010 to 2018. The analysis implies a two-steps procedure, which in the first part we apply a scoring model to several aspects of ESG awareness of the company. Then, we run a fractional regression model to assess the association between the financial characteristics of insurance companies (profitability, solvency and size) and the scores as calculated above. We find a significant and positive association between ESG factors and two of the above financial characteristics of insurance companies: profitability and size. Furthermore, we also appreciate that the decision of implementing ESG policies causes positive effects immediately as we can see from the results obtained from our models both in t_1 and in t_2 .

In summary, the answers to our research questions are: (a) we found a link between ESG awareness and the financial characteristics of insurance companies; (b) specifically, profitability and size are the most important in determining the implementation of ESG policies, solvency ratio is also a relevant but with an exception in the Environmental score, where the relation is positive but not statistically significant; (c) we also further confirmed our results by looking at the sub-scores calculated. Indeed, all the results obtained for the sub-scores are consistent with that identified in the ESG overall score, meaning that there is a strong internal consistency of the proposed model. To check for the robustness of our findings we complement our initial analysis with: (i) the application of a zero-inflated beta regression, which exclude extreme cases that may generate biased results; (ii) the replication of our model in t+2, which is useful to partially address endogeneity issues that characterize our model Ozkan (2007). Nonetheless, in order to answer our research question, endogeneity may not be considered because we are only looking for the association between variables instead of searching for a causality relationship. Apart from endogeneity, another shortcoming may be identified in the sample of the analysis. We only relied on US data, because it is, to the best of our knowledge, the best available case with a database on insurance companies with granular data on ESG and financial information. We encourage future research on this topic by using an alternative geographical setting, which would be interesting in order to compare policies issued and implemented in different countries.

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**APPLICATION OF MULTIPLE REGRESSION ANALYSIS IN EXAMINING
THE IMPACT OF DIMENSIONS OF BUSINESS EXCELLENCE ON
TOURIST SATISFACTION IN BOSNIA AND HERZEGOVINA****PRIMJENA VIŠESTRUKRE REGRESIONE ANALIZE U ISPITIVANJU
UTICAJA DIMENZIJA POSLOVNE IZVRSNOSTI NA ZADOVOLJSTVO
TURISTA U BOSNI I HERCEGOVINI****Abstract**

The primary goal of the author of this paper is to determine the intensity and direction of the impact of key dimensions of business excellence on tourist satisfaction in Bosnia and Herzegovina. The paper will determine and present in detail the correlation between these variables, and establish which of the dimensions has the statistically most significant impact on tourist satisfaction. The central research hypothesis was set: There is a statistically significant impact of the dimensions of business excellence of hotel companies on the satisfactions of tourists in Bosnia and Herzegovina. Independent variables in the research are dimensions of business excellence of hotel companies, while tourist satisfaction is a dependent variable. In order to conduct an objective test of the central research hypothesis, indicators for measuring independent variables were determined. Indicators for measuring the independent variable are: hotel offer - value for money, staff training, process and resource management, quality assurance, social responsibility and continuous improvement. Data collection was performed on the basis of a proportional stratified sample. As a stratification criterion, the categorization of hotel facilities was used, which is determined by the number of stars in hotels. The choice of hotel categorization is based on the results of examinations by experts from the Association of Hoteliers and Restaurateurs of BiH and the Federal Ministry of Environment and Tourism. Empirical research was conducted on a sample of hotels of the first and second category, i.e. it included two strata, as follows: four-star hotels and five-star hotels. Subjects within both strata were selected on the principle of a simple random sample. In conclusion, a survey of hotel managers was conducted in 43 hotels. Finally, based on simultaneous multiple regression analysis, the central research hypothesis was confirmed.

Keywords: dimensions of business excellence, tourist satisfaction, correlation analysis, ANOVA, simultaneous multiple regression analysis.

JEL: C19, A12

Sažetak

Primarni cilj autora ovog rada jeste utvrditi intenzitet i smjer uticaja ključnih dimenzija poslovne izvrsnosti na zadovoljstvo turista u Bosni i Hercegovini. Kroz rad će se utvrditi i detaljno predstaviti povezanost između ovih varijabli, te ustanoviti koja od dimenzija ima statistički najznačajniji uticaj na zadovoljstvo

turista. Postavljena je i centralna istraživačka hipoteza: Postoji statistički značajan uticaj dimenzija poslovne izvrsnosti hotelskih preduzeća na zadovoljstva turista u Bosni i Hercegovini. Nezavisne varijable u istraživanju su dimenzije poslovne izvrsnosti hotelskih poduzeća, dok zadovoljstvo turista predstavlja zavisnu varijablu. Da bi se provela objektivna provjera centralne istraživačke hipoteze, utvrđeni su indikatori za mjerenje nezavisnih varijabli. Indikatori za mjerenje nezavisne varijable su: hotelska ponuda – vrijednost za novac, edukacija kadrova, upravljanje procesima i resursima, osiguranje kvaliteta, društvena odgovornost i kontinuirano unaprjeđenje. Prikupljanje podataka izvršeno je na osnovu proporcionalnog stratifikovanog uzorka. Kao kriterij stratifikacije korištena je kategorizacija hotelskih objekata, koja je određena brojem zvjezdica u hotelima. Izbor kategorizacije hotela zasnovan je na rezultatima ispitivanja stručnih lica iz Udruženja hotelijera i restoratera BiH, te Federalnog ministarstva okoliša i turizma. Empirijsko istraživanje je provedeno na uzorku hotela prve i druge kategorije, odnosno obuhvatilo je dva stratuma i to: hoteli sa četiri i hoteli sa pet zvjezdica. Ispitanici unutar oba stratuma su izabrani po principu prostog slučajnog uzorka. Zaključno, ispitivanje hotelskih menadžera je provedeno u 43 hotela. U konačnici, na osnovu simultane višestruke regresione analize potvrđena je centralna istraživačka hipoteza.

Gljučne riječi: dimenzije poslovne izvrsnosti, zadovoljstvo turista, korelaciona analiza, ANOVA, simultana višestruka regresijska analiza

JEL: C19, A12

1. Introduction

Multiple regression analysis aims to predict the variations of the dependent variable for different combinations of the independent variables values on the basis of the estimated models. Multiple regression models more successfully describe the interdependence of phenomena in reality, but the calculation process becomes more complex with each additional variable included. The multiple linear regression model presents a basic regression model and a large number of nonlinear models are reduced to it by appropriate transformation.

Multiple linear regression do not explain dependent variable with only one independent variable but we use several independent variables - predictors. In principle, by increasing the number of independent (explanatory) variables, we increase an explained variability, however the introduction of new variables presents the problem of connections between independent variables (Prica, Chroneos Krasavac, Petrović & Čolić, 2015, p. 12).

In general, a regression analysis is one of the most commonly used statistical techniques that is widely used in economic research. The multiple regression analysis model is a powerful and flexible procedure for analysing the relation between a metric dependent variable and multiple independent variables that we used to examine the impact of business excellence dimensions on tourist satisfaction in Bosnia and Herzegovina. Namely, knowledge about the multifactorial structure of tourist satisfaction, knowledge about different influences of certain dimensions of business excellence on the formation of overall tourist satisfaction, is an extremely valuable resource in the process of quality management.

In today's business world, providing of services takes more and more of market share, the excellence of the provided services is becoming a crucial factor for market survival and a fundamental determinant of business success and development. An excellence is achieved through continuous learning, continuous improvement, introduction of changes and their adaptation, teamwork, especially in the hotel industry and tourism, which recently has become an extremely expansive area. The excellence of hotel services includes quality products and services, guest safety, the right price - quality ratio of hotel services, friendly behaviour of staff, *etc.* Bearing in mind the fact that the supply and demand for hotel services has grown intensively in the last decades, this has led to a significant development of the hotel industry and fiercer competition, which has greatly influenced consumer behaviour. The dimensions of business excellence represent

the way in which a hotel develops a range of different activities and abilities that influence the creation of an optimal hotel service. The global trend of the world tourist market, within the overall globalization, is focused on the consumer preferences of tourists, which are constantly changing due to rapid economic, technological, cultural, political and other changes.

2. Literature review

Many examples of the application of multiple regression analysis can be found in the literature. In master's thesis, which refers to determining the relation between service quality and consumer satisfaction, (Sekulović, 2009, pp. 45-53) points out that only by providing continuous and complete service quality, preconditions are set for achieving consumer satisfaction (service users), and in that sense by providing the desired quality for consumers, their satisfaction achieve a number of competitive advantages.

In the scientific paper entitled "Regression analysis in the anthropological space of psycho-motor and cognitive abilities of subjects of the high school female students" on a representative sample of 200 high school female students the parameters of mutually achieved influences in the anthropological space of psycho-motor and cognitive dimensions were assessed at the level of learning success, according to representation of kinesiology education in the secondary school curriculum (Bešović, Beganović & Bešović, 2011, pp. 277-293). Regression analysis was used to determine the influence of the predictor system of psycho-motor variables on the criterion variable of learning success. The initial assumption was confirmed, according to the achieved parameters in multiple linear regressions, that there is a statistically significant correlation between the system of psycho-motor variables and the variable of general success of high school female students and it was concluded that in anthropological area there is a positive correlation of psycho-motor abilities and learning success. Also, such a correlation exists between the number of teaching hours assigned to the curriculum in kinesiology education: a larger number of kinesiology education hours will have a greater transfer to psycho-motor abilities, and thus to better learning success. Then, the results of this research indicate the need for transitioning the model of curriculum of the treated population in favour of the bio-psychosocial integrity of its entities.

Ivana Žilić is one of the most important authors in this area, which deals with the topic of business excellence and its impact on all aspects of the hotel business. In his paper "Business Excellence in Highly Categorized Hotels in Croatia" (Žilić, 2012, pp. 123-142), seeks to identify and define the choice of key dimensions of business excellence, explore the attitude of strategic hotel management in Croatia, and determine the impact of strategic dimensions of business excellence on guest satisfaction and hotel product/service. A high degree of importance and need for strategic dimensions of business excellence in the hotel industry was determined by analysing the results, as well as the impact of a set of dimensions of business excellence on hotel guest satisfaction and hotel offer.

The authors of the paper "Quality of services as a determinant of consumer satisfaction in tourism", (Sekulić & Mandarinić, 2013, pp. 231-247) try to point out the importance of quality of services on consumer satisfaction in hotel companies. The results of the research conducted in this paper identify the most important factors that drive consumer satisfaction. The price is marked, as the most significant factor. In addition, the services of hotel staff and the quality of hotel accommodation have been identified as extremely important factors in consumer satisfaction.

Results obtained by applying multiple regression analysis in the paper (Puška, Maksimović & Fazlić, 2015, pp. 101-116) entitled "Influence of quality on student satisfaction and loyalty" present that there is a connection between the independent research variable and perceived quality and the dependent variables of student satisfaction and student loyalty. This model for quality assessment

has proven that the perceived level of quality by students is related to the level of loyalty - satisfaction. In addition to proving that there is a correlation between the independent research variable with the dependent variables, it has been proven that there is a correlation between student satisfaction and loyalty. It has been proven that only satisfied students are loyal students.

Group of authors (Ophodaš, Jerković & Iličić, 2015, pp. 79-89) in the analysis, which was carried out in the paper "Application of regression analysis in forecasting demand in the dairy industry in Bosnia and Herzegovina" confirms that almost all independent variables (except price) are in a linear relationship with milk demand in the Bosnia and Herzegovina market. When we observe obtained results of the model, an increase in prices has the biggest negative impact on milk consumption. Each price increase of 1% reduces demand by 9%, which is an extremely high percentage. In addition to price, quality is the second most important factor influencing milk demand, therefore a 1% increase in quality increases demand by 6%. This model is applicable in practice and can be used in all business environments to reduce uncertainty.

The authors of the paper entitled "The impact of innovation in marketing on the performance of small and medium enterprises" based on the application of standard multiple regression came to the conclusion that innovation in marketing in small enterprises in Serbia has a positive impact on improving their business performance (Mladenović, Mladenović & Roganović, 2015, pp. 104-114). The improvement of business performance of small enterprises was monitored through the growth rate of operating income per employee, after the implementation of innovation activities. The data on the participation of highly educated workers in the total number of employees in each analysed company were taken as a control variable in the research. The results of multiple regression showed that innovations in marketing are a statistically significant determinant of income growth rate per employee, but that the share of highly educated employees in the total number of employees is not a crucial determinant of this business performance. In this way, the basic hypothesis was confirmed: "Innovations in marketing measured by the volume of investments in it represent a statistically significant determinant of income per employee." However, at the same time, the additional hypothesis was refuted: "Apart from innovations in marketing, the share of higher educated employees in the total number of employees is a statistically significant determinant of income per employee - productivity."

3. Research methodology

Analysing the sample of 43 hotel companies of the first and second category (with five and four stars, respectively), we tried to establish the connection between certain dimensions of business excellence, as well as their impact on tourist satisfaction in BiH. Hotels from all parts of Bosnia and Herzegovina were selected, so that the research would cover the entire country, with a special emphasis on the most attractive tourist centres. Starting from the research issues and the established goal, a hypothesis was set: "There is a statistically significant impact of the dimensions of business excellence of hotel companies on the satisfaction of tourists in Bosnia and Herzegovina."

Starting from the central research hypothesis, it was found that independent variables in the research are dimensions of business excellence of hotel companies, while tourist satisfaction is a dependent variable. Accordingly, in order to conduct an objective test of the central research hypothesis, indicators for measuring the independent variable were established. Indicators for measuring the independent variable are: hotel offer - value for money, staff training, process and resource management, quality assurance, social responsibility and continuous improvement. Empirical research was conducted on the basis of primary data collection by field research, using the survey method (written examination technique) using a highly structured survey questionnaire as a form for data collection. Respondents were managers of highly categorized hotels in Bosnia and Herzegovina. Data collection was performed on the basis of a proportional stratified sample,

since it belongs to the category of random samples and allows assessing the degree of reliability of conclusions about the investigated parameters. As the categorization criterion it was used the categorization of hotel facilities, which is determined by the hotel star rating. The choice of hotel categorization as a stratification criterion, it is based on the results of examinations by experts from the Association of Hoteliers and Restaurateurs of Bosnia and Herzegovina and the Federal Ministry of Environment and Tourism. The empirical research was conducted on a sample of hotels of the first and second category, and it included two strata: four-star hotels and five-star hotels. Since this is a concept of business excellence, this research does not cover hotels of lower categories. According to existing data, the total number of hotels of the first and second category in Bosnia and Herzegovina is 95. Respondents within both strata were selected on the principle of a simple random sample. In conclusion, a survey of hotel managers was conducted in 43 hotels, with a selection rate of 45.26%.

Table 1. *Sample size and structure*

| Category | Hotel Star-Rating | Choice | | Sample | | |
|----------|-------------------|------------------|--------|--------|------------------|------------------------------|
| | | Number of Hotels | % | % | Number of Hotels | Number of Hotels in a sample |
| 1 | 5 | 10 | 10.53 | 10.53 | 4.53 | 5 |
| 2 | 4 | 85 | 89.47 | 89.47 | 38.47 | 38 |
| Σ | | 95 | 100.00 | 100.00 | 43 | 43 |

Preferred fraction of choice: $(43/95)*100 = 0.4526*100 = 45.26\%$

Source: Authors' research

In order to establish the impact of business excellence dimensions on tourist satisfaction in Bosnia and Herzegovina, we first tested the significance of mutual correlations of all observed variables, and then analysed the data relying on the procedures of simultaneous multiple regression analysis. The Pearson correlation coefficient was used as an indicator of the strength and direction of the two phenomena. Based on the conducted correlation analysis, we can conclude that the positive relation between the dimensions of business excellence, on the one hand, and tourist satisfaction on the other, has been confirmed, and the final summary table of correlation between tourist satisfaction and dimensions of business excellence speaks in favour.

Table 2. *Statistically significant correlations between the dimensions of business excellence and tourist satisfaction from the aspect of hotel managers*

| Correlations of the observed variables ($p < 0.01$; $N = 43$) | | | | | | |
|--|------------------------------------|---------------------|--------------------------------------|------------------------|----------------------------|-----------------------------|
| Variables | Hotel Offer - Value for Money (P1) | Staff Training (P2) | Process and Resource Management (P3) | Quality Assurance (P4) | Social Responsibility (P5) | Continuous Improvement (P6) |
| Tourist satisfaction | 0.569 | 0.531 | 0.462 | 0.803 | 0.305 | 0.626 |

Source: Authors' research

The previous table shows that from the manager's point of view, tourist satisfaction is in the lowest correlation with the fifth dimension of social responsibility, while the quality assurance dimension is in the highest correlation with tourist satisfaction. Other performance also correlates very well with the dependent variable, which implies the general conclusion that the dimensions of business excellence are positively related to tourist satisfaction, *i.e.*, in essence, the dependent variable is positively correlated with each of the independent variables. Thus, the positive relation between the set of dimensions of business excellence and tourist satisfaction from the aspect of hotel managers, based on the results of research and statistical testing was confirmed.

In order to test the defined hypothesis that there is a statistically significant impact of the dimensions of business excellence of hotel companies on tourist satisfaction, we calculated the

parameters of the model of simultaneous multiple regression analysis, ANOVA and the necessary beta coefficients. In a simultaneous multiple regression analysis, the predictive power of each independent variable is evaluated, and it is measured to what extent it would improve a model consisting of a series of independent variables (McClave, Benson & Sincich, 2008, p. 664).

Multiple regressions actually shows a portion of the variance of the dependent variable explained by the variance of the independent variables (Newbold, Carlson & Thorne, 2010, p. 470). The following table shows the parameters of the model of simultaneous multiple regression analysis.

Table 3. *Model of simultaneous multiple regression analysis for the dependent variable tourist satisfaction*

| Model | R (multiple linear correlation coefficient) | R Square | Adjusted R Square (Adjusted Coefficient of Determination) | Std. Error of the Estimate |
|-------|---|----------|---|----------------------------|
| 1 | .819 ^a | .671 | .617 | .2954922 |

a. Predictors: (Constant), continuous improvement, hotel offer - value for money, process and resource management, social responsibility, staff training, quality assurance. b. Dependent Variable: Tourist satisfaction
 Source: Authors' research

The table shows that the coefficient of multiple linear correlation is 0.819, which suggests that there is a very strong positive linear relation between the observed variables. Thus, a specific indicator of the representativeness of simultaneous multiple regression is the coefficient of multiple determination. The coefficient of multiple determination shows the percentage of variation of the dependent variable which is explained by the combined influence of the independent variables included in the model. It can take values in the interval [0,1]. The model is more representative if the coefficient is closer to unity (Fazlović, 2013, p. 341).

Based on the parameters in the model, we can conclude that the coefficient of determination $R^2 = 0.671$, which means that the selected model of simultaneous multiple regression analysis interpreted 67.1% of all deviations. In fact, this coefficient presents variations of the dependent variable (in our case, tourist satisfaction) and the model that encompasses the variables: continuous improvement, hotel offer - value for money, process and resource management, social responsibility, staff training and quality assurance. The coefficient of determination is 0.671 and in accordance with the Chadock scale, we can conclude that there is a strong relation in terms of direction and intensity of correlation between the observed variables. The table also presents the size of the adjusted coefficient of determination. It is calculated using the coefficient of determination, and in its calculation the number of degrees of freedom is taken into account, and the size of the sample. This value is actually stated for the reason that the coefficient of determination is too optimistic estimate of the actual value of the coefficient of determination in the population when calculated on a smaller sample. The adjusted coefficient of determination corrects this value and gives a better estimate of the actual value of the coefficient of determination.

ANOVA procedure in regression analysis tests the claim that the coefficient of determination in the population is different from zero, and this test checks the general validity of the regression model from a statistical point of view (Soldić A, 2015, p. 202).

Analysis of variance determines that the presented model of simultaneous multiple regression analysis was statistically significant, since the value of sig. less than 0.05 ($p \approx 0$); $F(3.36) = 12.254$. The model is suitable for further data processing.

Table 4. ANOVA- Analysis of Variance of the Model of Simultaneous Multiple Regression Analysis

| Model | | Sum of Squares | df / Degrees of Freedom | Mean Square | F ratio | Sig. / empirical level of significance) |
|-------|------------|----------------|-------------------------|-------------|---------|---|
| 1 | Regression | 6.420 | 6 | 1.070 | 12.254 | ,000 ^a |
| | Residual | 3.143 | 36 | ,087 | | |
| | Total | 9.563 | 42 | | | |

Source: Authors' research

As ordinary regression coefficients do not always reveal the true significance of independent variables, we use standardized Beta coefficients. Unlike ordinary regression coefficients, these coefficients do not depend on the unit of measurement of variables, *i.e.* the level of occurrence, and in that sense provide a better insight into the comparison of the significance of individual independent variables in predicting the dependent variable (Soldić & Chroneos, 2009, p. 152).

In the following presentation, we will try to determine how much each variable in the model contributed to the prediction of the dependent variable based on standardized beta coefficients. Standardized beta coefficients mean that the values of the variables are converted to the same scale so that they can be compared, while non-standardized coefficients are used to set up the multiple regression equation. In our case, we want to compare the contributions of all the independent variables, and therefore we used the beta coefficients.

Table 5. Results of simultaneous multiple regression analysis-evaluation of independent variables

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------------------------|-----------------------------|------------|---------------------------|-------|-------------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.571 | ,693 | | 2.266 | ,030 |
| | Hotel Offer - Value for Money | ,423 | ,165 | ,540 | 2.565 | ,013 |
| | Staff Training | ,625 | ,249 | ,424 | 2.504 | ,015 |
| | Process and Resource Management | ,206 | ,161 | ,235 | 1.276 | ,210 |
| | Quality Assurance | ,928 | ,309 | ,885 | 3.001 | ,005 |
| | Social Responsibility | ,021 | ,017 | ,047 | 1.239 | ,216 |
| | Continuous Improvement | ,163 | ,074 | ,350 | 2.205 | ,034 |

Dependent Variable: Tourist satisfaction

Source: Authors' research

Based on the previous table, we can determine how much each variable in the multiple regression model contributed to the prediction of the dependent variable. Therefore, we will use the beta coefficients to compare the contributions of all independent variables, and to establish their influence on the dependent variable. Based on the presented beta coefficients, we can conclude that the highest beta coefficient is 0.885, which is actually the value for the variable "quality assurance". This means that this variable individually contributes the most to the explanation of the dependent variable "tourist satisfaction", and the variables "staff training", "hotel offer - value for money" and "continuous improvement" also has a significant contribution. The same conclusion can be made on the basis of significance. Namely, if the value of sig. less than 0.05 we can state that the independent variable has a significant impact, *i.e.* if sig. greater than 0.05 that the variable has no significant effect. Therefore, based on the conducted simultaneous multiple regression analysis, it is concluded that the variables "quality assurance", "hotel offer-value for money", "staff training" and "continuous improvement" have a statistically significant impact, and the variables "process and

resource management ", while "social responsibility" do not have a statistically significant effect on tourist satisfaction in the observed sample.

The conducted simultaneous multiple regression analysis presented a statistically significant impact of four dimensions of business excellence of hotel companies on tourist satisfaction in Bosnia and Herzegovina. Therefore, finally, based on the results of empirical research, we confirm the research hypothesis and conclude that there is a statistically significant impact of the dimensions of business excellence of hotel companies on tourist satisfaction, with statistically significant quality assurance, hotel value for money, staff training and continuous improvement.

4. Conclusions

Reviewing the current scientific and professional literature, various authors point to the need to create awareness of the concept of business excellence, but also to understand the importance of the dimensions of this concept in the process of customer satisfaction, and thus tourists. Many studies point to the need to incorporate key dimensions of business excellence into the hotel business, emphasizing that hotel managers should strive to ensure the optimal combination of dimensions of business excellence (hotel offer - value for money, staff training, process and resource management, quality assurance, social responsibility and continuous improvement) in order to operate more successfully. It is a notorious fact that the situation with the application of the concept of business excellence in the practice of hotel companies in Bosnia and Herzegovina is not particularly favourable, since this issue has not been addressed at all. Although we can see a progress in improving the quality of services in hotels in Bosnia and Herzegovina, the very concept of business excellence has not been sufficiently researched, and therefore not represented in the hotel business.

The results of quantitative analyses showed that the positive relations between the analysed variables was confirmed, *i.e.* it was found that the dimensions of business excellence are positively correlated with the satisfaction of tourists in Bosnia and Herzegovina. Considering the above, we can conclude that using multiple regression analysis, we found a significant statistical impact of the dimensions of business excellence of hotel companies on tourist satisfaction, with statistically significant quality assurance, hotel offer - value for money, staff training and continuous improvement.

Finally, it is important to emphasize once again that the evaluations of all variables included in this research are based on the attitudes of hotel managers, *i.e.* their perception. Ultimately, everything points to the conclusion that business excellence is based on improving the entire hotel business, with special attention to quality assurance, hotel offer - value for money, staff training and continuous improvement to achieve long-term success through the satisfaction of both tourists and all employees.

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Umjesto zaključka

Smatra se da je kriza izazvana korona virusom univerzalna u dosadašnjoj ekonomskoj nauci, jer je i po svom uzroku i brzini nastanka, te po svojim posljedicama zahvatila, cijeli svijet. Kriza uzrokovana pandemijom COVID-19 je, u prvi plan, naznačila strukturne slabosti svjetske ekonomije, prijeteći pri tome produbljenjem podjela između formalne i neformalne ekonomije, javnog i privatnog sektora, te između velikih i mikro/malih preduzeća. Posebno je zabilježena fragmentiranost tržišta rada, što se do danas odrazilo u vidu veoma niskih stopa zaposlenosti. Dakle, kriza uzrokovana pandemijom COVID-19 produbila je cjelokupne ekonomske odnose koji u ovom trenutku trpe posljedice, nesagledivih razmjera.

Zemlje iz regiona jugoistočne Evrope se također, suočavaju sa krizom izazvanom pandemijom virusa COVID-19. Sve to ovu regiju jugoistočne Evrope čini posebno podložnom sektorskim rizicima. Čak, šta više, neke se ekonomije suočavaju sa problemima u turističkom sektoru, zapošljavanja, fiskalnim rizicima, itd. Ni u Bosni i Hercegovini još uvijek nije moguće predvidjeti oporavak od krize izazvane pandemijom. Posljedice se još uvijek sagledavaju u privatnom sektoru, sektorima trgovine, usluga i poljoprivrede.

U tom smislu, razmjenom ideja i iskustava kroz kritičko mišljenje, Sedma naučna konferencija ICEI 2021 imala je za cilj pružiti odgovore i set makroekonomskih mjera u borbi protiv krize COVID-19.

Na kraju, za nadati se da će ako ne svi, onda barem većina zaključaka i preporuka radova sadržanih u ovom zborniku, poslužiti nosiocima različitih nivoa vlasti, kreatorima ekonomskih politika, privednim subjektima, visokoškolskim institucijama i svim drugim interesentima, kako u BiH tako i u drugim zemljama regiona Jugoistočne Evrope, u pravcu jačanja saradnje, i to ne samo na deklarativnoj osnovi, već i kroz konkretne projekte i aktivnosti.

In lieu of a conclusion

It is believed that the corona virus crisis is universal in the past economic science, as its outbreak and consequences were felt in the entire world. The crisis caused by the COVID-19 pandemic highlighted the structural weaknesses of the world economy, threatening to deepen the divide between formal and informal economy, the public and private sectors, and large and micro/small businesses. What was particularly evident was the fragmentation of the labor market in terms of extremely low employment rates. Therefore, the crisis caused by the COVID-19 pandemic has deepened the entire economic relations, which are currently suffering the consequences of immense proportions.

The countries from South East Europe are also facing the crisis caused by the pandemic of the COVID-19 virus. All this makes this region particularly susceptible to sectoral risks. Moreover, some economies face problems in the tourism sector, with employment, fiscal risks, etc. In Bosnia and Herzegovina as well, it is still not possible to predict the recovery from the crisis caused by the pandemic. The consequences are still being analyzed in the private sector, trade, services, and agriculture sectors.

In this respect, by exchanging ideas and experiences through critical thinking, the Seventh Scientific Conference ICEI 2021 aimed to provide answers and a set of macroeconomic measures in the fight against the COVID-19 crisis.

Finally, we hope that at least most (if not all) conclusions and recommendations of the papers in this Proceedings will be of use to different levels of government, economic policy makers, economic entities, higher education institutions and all other interested parties, both in Bosnia and Herzegovina and other countries in South East Europe, in strengthening cooperation, not only declaratively but through concrete projects and activities.

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